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From black screens to mediating means: A classroom study of Media Literacy 2.0 in higher education

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Abstract

The paper reports on an empirical case study that explores innovative teaching practices in higher education, including digital, physical, and blended learning activities. The study followed the cross-disciplinary Master's course 'Experts in teamwork' at NTNU in Norway. Students from different fields of study worked with practical assignments based on real-life challenges formulated by an external collaboration partner, which included actors from the health care department, the school management, and the ICT management in the local municipality. The students also gained experience with creative media production and worked with various digital tools and software, such as Zoom and Teams for video communication and various creative software for creating posters and other media content.

The findings show that the students experienced the project as motivating, highly educational and relevant to working life. It seems that digital tools contributed to flexibility, particularly for interactivity with the external partners and for group work. Both for students and the teachers the use of screens and software like Zoom and Teams opened for new ways of thinking about collaboration and provided an extended learning space and increased learning potential. However, screens also imply limitations, for example in terms of communication noise, possible passive forms of participation or even withdrawal from some of the students. Moreover, practices that include digital, physical and hybrid learning activities are highly complex, which require that the activities are particularly well planned and thoughtfully organized. The learning situation is

therefore characterized by increased demands and expectations - for both students, teachers, and the institutions.

Keywords: Higher education, screens, working life relevance, creative digital literacy activities, Media literacy 2.0, blended learning

Introduction

The COVID-19 pandemic closed schools and universities worldwide to varying degrees in the years between 2020 and 2022. In many countries, teaching in higher education became fully digital over a long period of time. Studies reporting on teaching in higher education during the pandemic suggest that many students experienced that traditional methods were common and many students experienced the most used teaching methods as relatively unsuitable for digital platforms (Rapanta et al., 2021). Also, 'black screens' became a phenomenon (Svihus, 2023; Vold et al., 2021), referring to the problem of students logging into the digital teaching, remaining invisible or passive to both the teacher and fellow students. However, quite a lot of students report that they had some courses with new and innovative activities, which were well designed for using digital tools and platforms in meaningful ways, and further: quite a lot of teachers in higher education used and learned new methods and developed innovative practices (Gudmundsdottir & Hathaway, 2020; Rapanta et al., 2021). But it is still unknown to what extent teachers have adopted and applied innovative digital learning activities suitable for digital platforms in 'post-pandemic' times (Islam et al., 2023).

In this paper I explore 'post-pandemic' teaching in higher education, in a course where both digital, physical and hybrid activities were used. The paper reports on an empirical case study that explores a project conducted in higher education in Norway. Innovative practices were carried out with a mix of digital tools, traditional physical methods and hybrid approaches. 26 master's students in the compulsory cross-disciplinary course called 'Experts in Teamwork' (EiT) worked with practical assignments based on real-life challenges formulated by an external collaboration partner, which included actors from the health care department, the school management, and the ICT management in the local municipality. The data was collected during three weeks in January 2023. The students gained experience with creative media production through the topic '*Media Literacy 2.0. Growing up and learning in a new media culture*', where the most important product was a poster in which they presented their projects responding to the challenges from the municipality. More details on the project are elaborated later, in the section 'the student project'.

The course was carried out as an intensive project, implying that the entire course was completed in three weeks. These weeks were entirely dedicated to this course. The course was organized with partial physical attendance, digital and blended practices, where one day per week was fully digital, carried out in Zoom. The external partners mainly participated digitally - through dedicated lectures, meetings, and interactions with groups of students. In the project, the students thus gained experience with both digital-, on-campus-, and blended learning activities.

I have collected data from written reflections, observations, logs and oral presentations and the students' creative products. The research question that I explore is: *How did students in higher education experience the digital, physical, and blended learning activities in the course 'Experts in teamwork', and in which ways can digital screens expand but also limit the students' practices?*

The article explores a learning environment in the borderline between a number of different forms of learning; digital, face-to-face, or on-campus teaching, business collaboration, and student-active forms of learning. A term that is often used for such flexible and diverse forms of learning is *blended learning* (Dumford & Miller, 2018). I keep a particular focus on the role digital screens play in the learning practices.

Previous research

Higher education is met with ambitious and increasing demands. The policy level is urging universities and education institutions to innovate, offer research-based, student-active, and working-life relevant teaching, and emphasis is also placed on collaboration, interdisciplinarity and technological competence (Biesta et al., 2009). These requirements have become even more stringent in recent years, and the pandemic led to a further emphasis on innovative forms of learning in higher education across Europe (Islam et al., 2023).

Experts in teamwork

As a response to the expectations for higher education, the Norwegian University of Science and Technology (NTNU), developed the interdisciplinary course Experts in Teamwork as early as in 2001 (Verhulst et al., 2023). The course has since been developed into a compulsory, collaboratively oriented and multidisciplinary course for all master's students across all faculties and disciplines. EiT is organised around different thematic 'villages' and is carried out either as semester-based or intensive villages (NTNU, 2023). The semester-based villages are organized with teaching once a week for one semester, while the intensive villages are completed in three weeks full-time teaching. During the pandemic, EiT was offered as fully digital courses. After the pandemic, the teaching is more or less "back to normal", although some of the digital learning activities have been retained; some villages are still fully digital, while the intensive villages are partly characterized by blended learning (Verhulst et al., 2023), as one day a week is digital, while the rest of the teaching is carried out on-campus.

EiT is oriented around experience-based learning, the topics are relevant to working life, and the course is based on self-defined and student-driven projects, and often on collaboration with external partners in private or public businesses (NTNU, 2023). EiT is also research-based, and a number of research results have over the years been published on findings from EiT (Holen & Sortland, 2022; Otte, 2016; Veine et al., 2020; Verhulst et al., 2023). The findings are diverse, but some key findings are that the interdisciplinary organisation works well, and the courses are well structured, and moreover, EiT seems to be well suited to stimulate and develop reflection skills, both individually and in groups (Veine et al., 2020). The previous research on EiT is applied in the data analysis to contextualise the findings.

Digital and hybrid forms of learning in higher education

As mentioned, blended learning is an important principle in the present project. According to Graham (2005, p. 5), blended learning systems "combine face-to-face instruction with computer-mediated instruction". Bernard et al. (2014) argue that blended learning in some cases have been assigned a specific distribution of face-to-face versus computer-mediated teaching, but in the current study it is difficult to specify a specific distribution. While the students did spend more time on the on-campus activities, I would argue that digital communication and media production were equally important for the present project's completion.

Bernard et al. (2014) did a meta-study of blended learning in higher education and concluded that with well-planned and structured programs, students in blended learning environments had

marginally better results than students that had more traditional teaching. According to Nortvig et al. (2018), a number of other studies confirms these findings. Seemingly, there is a kind of consensus among researchers that blended learning contributes to increased learning outcome and higher motivation. However, other studies (Adams et al., 2015; Powers et al., 2016) show the opposite; if blended learning leads to less interactivity with what is being studied, or to the activities becoming more individual (the students become less part of a clearly defined learning environment), the students are likely to become less motivated and to have lower learning outcomes. Nortvig et al. (2018) thus argue that it is difficult to conclude whether traditional on-campus, digital or blended learning provides the 'best' learning outcomes. The student assignments, learning activities and the teacher role often differ quite significantly, and the prerequisites for the teaching are so different that comparison becomes difficult. According to Nortvig et al. (2018), it is more important to evaluate other aspects than to compare learning outcomes. Researchers simply should ask other questions - quality in education depends on a number of other aspects more complex than whether the teaching is digital, face-to-face, or blended. For example, as students that have participated in blended learning programs report that they develop areas of expertise other than the traditional academic forms of work (Nortvig et al., 2018), it can be explored in which ways blended learning is relevant for working life and development of analytical and practical competences.

In the study from which this article reports, working with digital tools or with 'screens' were not the objective alone, the project rather had an overarching goal related to real-life challenges formulated by the external collaboration partner. The primary driving force for the students were a kind of responsibility towards a customer or a partner, while at the same time it was an important goal to collaborate with fellow students and to work interdisciplinary. Thus, the digital communication platforms, screens and digital production tools were parts of a larger learning environment.

The project was essentially a student-active project. Student-active learning can be defined in different ways, but an often cited definition is from Prince (2004, p. 223), who defined student active learning as "any instructional method that engages students in the learning process […] The core elements of active learning are student activity and engagement in the learning process. Active learning is often contrasted to the traditional lecture where students passively receive information from the instructor". Although student-active forms of learning have weaknesses, it is for example often experienced as demanding and time-consuming (Sointu et al., 2022), several studies have emphasized several advantages of such forms of learning. For example, Sointu et al. (2022) found that student-active forms of learning can be both functional, flexible and goal-oriented. Baepler et al. (2014) found that student-active learning can, if accompanied by trained teachers and institutional support, be both more effective and motivating than traditional teaching. Børte et al's (2023) systematic review shows, however, that there is no straight-forward recipe for succeeding with introducing student-active learning forms in higher education. Student-active forms of learning can perhaps to a greater extent meet expectations in society and from current and future students (Baepler et al., 2014; Børte et al., 2023; Holen & Sortland, 2022; Rapanta et al., 2021), but that requires both that the teachers adapt their pedagogical approach and that the institutions genuinely support such ways of teaching (Børte et al., 2023; Lee et al., 2018). Concepts such as blended learning and student-active forms of learning are applied in the analysis as analytical or 'sensitizing' concepts.

Theoretical perspectives

According to Biesta et al. (2009), there are today increased demands on educational institutions to, among other things, develop partnerships with external partners and to strengthen interdisciplinarity and transdisciplinarity. Also, developing competence and skills that working life needs is often emphasised. In line with this, the traditional teaching forms are challenged, whereas more student-active and innovative ways of conducting teaching often are endorsed.

Didactic perspectives

As mentioned, student-active learning, and innovative learning is a key aspect in EiT and in this project. According to Lee et al. (2018), student-active learning basically is about teachers applying teaching practices that stimulate students to be actively engaged in their learning process, often through collaboration and discussion rather than by passive reception of information. Bonwell and Eison (1991) claim that student-active learning shifts the focus from the teacher's dissemination of information to the development of the students' skills. Furthermore, Bonwell and Eison (1991) argue that students who actively take part in the learning activities to a greater extent also will engage in 'higher-order thinking', which involves analysis, synthesis and evaluation.

The development of skills is also emphasized in the present project, particularly skills related to media production and understanding of the media culture. Lately, education scholars (de Block & Buckingham, 2010; Dezuanni, 2017) have emphasized how the increasing current dominance of media culture in society have contributed to the need for people to develop critical media literacy skills. Hoechsmann and Poyntz (2012, p. 1) emphasize both creative and critical aspects of what they call media literacy 2.0:

> media literacy is a set of competencies that enable us to interpret media texts and institutions, to make media of our own, and to recognise and engage with the social and political influence of media in everyday life.

The students in the present project exercised their media literacy skills through the practical task, but media literacy was also an important topic in the village and in the challenges formulated by the external partner.

Affordances

Including digital tools and communication platforms in the classroom, adds something to the teaching situation, but also contributes to limitations and challenges. *Mediational means* and *affordances* are therefore useful concepts in this respect. Wertsch (1998) argued that mediational means, such as computers and mobile phones, but also semiotic tools like language, enable us to interpret the world, to make decisions and thus act. Mediational means, according to Wertsch (1998), both constrain and stimulate meaning making. Related to this is the concept of *affordances* (Gibson, 1986/2014), which refer to the various technical and modal possibilities and limitations of a mediational means, such as a digital tool, can imply. The concept of affordances can help to analyse the consequences of, for example, the use of digital tools in teaching situations.

Time and space

When communicating with the world in and through mediational means such as digital tools, the fundamental human dimensions of time and space are put into play. People can communicate with each other at the same time from different locations. The *primary* and *secondary* zones of operation are according to Schütz and Luckmann (1974) basic dimensions of our lifeworld. The primary zone is often referred to as 'the world within reach' and represents the immediate physical surroundings where one finds oneself. The primary zone includes face-to-face interactions and communication. The secondary zone encompasses a world that can potentially be accessed through technology-mediated communication, and thus potentially expands beyond physical proximity. These spatial dimensions should not be viewed as mutually exclusive dichotomies. In fact, in modern life it is possible to operate simultaneously within both the primary and secondary zones. For example, a student can engage in a classroom conversation (primary zone) while simultaneously participating in a virtual interaction on a social media platform (secondary zone).

These theoretical aspects are touched upon in the following analysis, where both didactics, media literacy, affordances and time and space as well as student active learning become important sensitizing concepts.

Method and research design

Context of the study

As mentioned in the introduction, the study was conducted in the context of higher education, more specifically in an EiT-village, i.e., a cross-disciplinary master's course at NTNU. The village that this article explores is called '*Media Literacy 2.0. Growing up and learning in a new media culture*'. The data was collected during three weeks in January 2023. 26 students participated in the course. The students worked in groups of 4 to 5 students with practical assignments based on real-life challenges formulated by an external collaboration partner. The village collaborated with the local municipality, with actors from the health department, school administration and the childcare sector in the local municipality.

The student project

The course was carried out as an intensive project, meaning the course were completed in three weeks. The students had full days in this period, i.e., their teaching is thus organized on the institutional level, allowing for the teaching being periodised with three weeks dedicated to the implementation of EiT. Each group provided two products for assessment;

1) a *written report* regarding the collaboration, the group process, and reflections on the students' learning, and

2) a *poster*, which was to be presented on the last day of the project together with an oral exam. The poster was expected to be planned, designed using digital design tools and printed at a professional printing house.

These two products counted equally and formed the basis for the teachers' assessment. The students were ultimately assessed with one group grade. The project's goals were formulated by the external partner, and were linked to real challenges with:

a) digital media, media consumption and mental health among youth,

b) creative activity and the ambition of developing create new digital meeting places, and

c) challenges for the school health service in the digital culture.

Halfway in the project, the groups made a pitch, which was submitted for feedback from the municipality and the teachers. The feedback took place digitally, with a session pr group.

As the author of the article, I was the main teacher, but there were three other teachers involved, as well as two learning assistants. As the 'facilitator team', our main task was to facilitate the learning process for the students, and there was little traditional teaching involved, in the sense of regular lectures. Apart from an introduction to the village's theme and the project's aims and requirements, most of the activity was independent, student-active learning activities.

One day per week was organized completely digital, but the student groups could meet physically if they wanted to. The learning environment was maintained by all the students being logged into Zoom, with several joint meeting points during the digital days. In this way the facilitator team kept in touch with the groups in flexible ways. The village can thus be termed as a so-called blended learning environment, as it was organized with partial physical attendance, digital and hybrid practices. The external partners mainly participated digitally - through dedicated short lectures, meetings, and interactions with groups of students, although the actors from the municipality attended on campus on the final day when the students presented their projects. This means that the students gained experience with both digital, physical and hybrid learning activities.

Data collection

To explore the research question, which involves the students' perspectives on digital, physical and blended learning activities, I believe it was necessary to collect qualitative data such as reflection notes, student products and observation data.

Reflection notes

As part of the compulsory assignments in the project, the students wrote both individual and group-wise reflections related to their learning, experience of collaboration and motivation. This forms an important part of the data collection. The groups wrote a written reflection note for each village day, and in total 5 notes for each of the days in the three weeks except for the first and last day, i.e., a total of 65 written notes. In this article, I have primarily analysed the group reflections, although the students also wrote individual reflections.

Assignments

The groups' *posters* and *written process reports* are also important data sources. As mentioned above, the students worked with the posters throughout the period, and the posters were an important part of the groups' final presentation of their projects. The posters were expected to formulate main points from the groups' project, and were planned, designed, and produced by the groups. As a data source they could provide information about the groups' coping with digital tools, as well as about the students' learning process.

Observation

Observation of the group processes and the dynamic of the classroom is an important data source. In this article, the observations however play a secondary role and are not analysed explicitly. As a researcher, I was present in large parts of the project, which allowed for open observation of the contextual aspects and for sensing how the various tasks in the project developed and "worked" for the various groups.

Researcher role

It is important to explain my role as a researcher, particularly as I have also been involved as a teacher. For that reason, I am biased when I conduct research on data from the project. Nevertheless, I claim that I have assumed a relevant researcher position that allows for a fruitful analytical distance. Experts in teamwork have established an academic tradition, where the teachers often research their own practices (Veine et al., 2020). I also early on informed the students that I was also going to explore their learning processes and their reflections during the project. Moreover, the teacher role that characterized the period allowed for a more withdrawn position that enabled me to take an analytical position.

Analysis process

The data analysis was inspired by *reflexive interpretation* (Alvesson & Sköldberg, 2008), meaning it included several layers of interpretation; the students' reflections are interpretations and written formulations of their experiences of the process. In turn, I interpreted the students' reflections and products based on my assumptions, theoretical insights, and preconceptions. The analysis was as I see it characterized by abduction (Alvesson & Sköldberg, 2008), which means there was a continuous interplay between theory and data, and research questions, categories, and concepts developed reflexively. The abductive process led to a gradual recognition of the relations between the students' creative processes, their products and reflections. By applying the sensitizing concepts as analytical lenses, the following categories emerged as particularly important: *affordances of digital communication tools*, *creativity in higher education*, and *critical reflection and meaningfulness*.

Ethical perspectives and research quality

In empirical studies, such as the present project, reliability is most often assessed by examining the coherence between empirical data, analysis, and findings (Creswell, 2014). *Transparency* is

thus a crucial goal, hence the analysis process and underlying theoretical perspectives are thoroughly explained, enabling readers to assess the credibility of the research (Creswell, 2014). Another critical aspect of the research is *validity*, which pertains to whether the study effectively examines its intended subject matter. The primary aim of this research is to achieve *analytical generalization*; to add nuanced perspectives to existing theories or concepts, to contribute to the development of new concepts, or confirm prior studies. Furthermore, the findings have the potential to be applied in the analysis of similar situations (Yin, 2014).

The research project was approved by SiKT (the Norwegian Agency for Shared Services in Education and Research) (SiKT, 2023) and followed the GDPR principles as well as the principle of informed consent. Prior to commencing the project, the students were provided with an information letter that they signed to indicate their understanding and agreement. To ensure confidentiality, the participants' identities are anonymized, and fictitious names are used.

Findings

The findings in the study are diverse but provide a basis for discussion the research question in a relevant way. The research question was formulated as follows: *How did students in higher education experience the digital, physical, and blended learning activities in the course 'Experts in teamwork', and in which ways can digital screens expand but also limit the students' practices?*

As accounted for in the methods section, the main categories from the analysis were: *Affordances of digital communication tools*, *creativity in higher education*, and *critical reflection and meaningfulness*. The findings section is structured by these categories. The quotes from participants have been selected because they either represent the general findings, or because they stand out and thus both say something about the variation in the data material, as well as.

Affordances of digital communication tools

The way EiT was organized both during and after the pandemic, seems to have overcome some of the challenges of 'black screens' (cf. Vold et al., 2021) and the concern about making the students passive. Rather, it is more relevant to employ the concept of digital tools or mediating means (cf. Wertsch, 1998) in a broad sense. In the project, a number of different digital tools were used; Zoom, digital editing tools and layout tools, and word processing for report writing. During the relatively few joint lectures that were done in Zoom, however, I observed that most of the students were quite anonymous and passive, and the students did not experience the Zoom room as particularly suitable for collaboration and collective activities.

The different digital tools served different purposes and provided different opportunities and limitations (cf. Wertsch, 1998), or as Gibson (1986/2014) described it; all technology have inscribed different affordances. The students' and teachers' media literacy skills (cf. Hoechsmann & Poyntz, 2012) can also play a role in how they were able to use the tools and, in the next step, take advantage of the tools' various possibilities.

All groups seem to have had sufficient competence to get started and to cope with digital communication, as well as to work creatively and practically with digital tools throughout the

project period. But it is worth noting that several groups chose to reorganize the work process somewhat to be productive and effective. For instance, some groups worked mainly individually on the digital days. Overall, it seems like Zoom proved to be useful for the groups that were able to organize the day practically and meaningful for the tasks at hand. Several groups mentioned that it was often quite effective to work digitally because they could switch between individual and group work relatively flexibly, but also between types of tasks, for example between working creatively and with writing the process report. For example, group 3 expressed that they had found what they considered a good way to organize the digital days:

> The group is motivated, and this day has been very efficient, the day has gone quickly. It's nice that we had good communication even though we were digital and working alone.

It thus seems that the groups that learned about and mastered the affordances (cf. Gibson, 1986/2014) of the different mediating means (cf. Wertsch, 1998), also found relatively meaningful ways to use the tools. Several groups however found it unsatisfactory to work together while communicating through a screen when each member sat alone by themselves. Some of the groups also found it best to meet each other face-to-face on the digital days. These groups logged into the Zoom classroom as one group and could thus communicate with the rest of the class in that way. As I see it, this kind of flexibility was possible because the students had sufficient competence to make fruitful choices, but also because the course was organized in a way that allowed for quite a lot of autonomy and thus gave opportunities for the student groups to organize their projects that suited them without compromising the goals of the project.

In line with current research (cf. Svihus, 2023; Vold et al., 2021), the students express that the student-active activities were more fruitful than what they associate with more traditional teaching forms, like for example lengthy lectures, which were experienced as rather unsuitable for digital platforms. In this project, there was, apart from an introductory lecture on the first digital day, quite few lectures. Nonetheless, group 1 expressed that they found it challenging:

> Several of us felt a little tired and struggled to concentrate during the presentations, but it was interesting because Ola and George felt this at the start of the class, while Caroline, Eva and Julie felt like this more towards the end of the lecture.

Similarly, group 3 expressed that simple structured measures such as breaks are of great importance for the quality of teaching.

> The communication [on Zoom] is perceived as a bit more demanding. It could therefore be a good idea to include the "rounds" we have had on the on-campus days, where each of us take a round to say what we mean or speak up if we have something to say. It can also be a good idea to re-introduce short breaks on Zoom like we had in the previous days.

As I see it, group 3 expressed that they had experienced and learned something important about the affordances of Zoom as a mediating means (cf. Gibson, 1986/2014; Wertsch, 1998). Zoom seems to be experienced as quite well suited for quick communication between the students, between students and teachers, as well as between the students and the external partners. It is also platform-independent, so it seems to function relatively well as a meeting place. But Zoom was experienced as less suited for traditional lectures, and as group 3 expressed, it became tiring

to sit together in the digital space for a lengthy period, especially if they wanted to work effectively with the group product.

Collaboration

An important principle in EiT, is that it requires cooperation in groups of 4 to 5 students. It seems clear that for the students, collaboration is both rewarding and demanding. This is mentioned by all groups, both in the process reports and in the group reflections. For some groups, the collaboration appears to have been particularly challenging, and it seems that working on digital platforms have to some extent been an additional disruptive element. In communication via screens, the elements of body language and the more dynamic social interaction that is possible in a physical classroom are lost. However, I also find that digital communication in other situations seems to be experienced as a fruitful mediating means; it enables dividing the day into different phases and switching between, for example, individual and group-based work tasks. For example, group 3 wrote this in a group reflection note:

> Good to have a break from the physical, perhaps it's easier to collect one's thoughts when we work individually. Good to not have the background noise from the classrooms. It has been efficient, and we came up with good ideas.

There also were personal variations in that some students were more comfortable with working with digital tools than others. Simon in Group 5, for example, expressed that working digitally in a group could present challenges for him:

> I also realized that I have a great need for visualization. Especially on the days we worked on Zoom, I struggled with the discussions because I felt that we were unable to understand each other only through conversation. When we were physically together, we often used pen and paper to draw figures and write notes, which made it easier to follow each other's thinking.

Hence, *variation* seems to stand out as a key aspect; the groups that managed to make choices to utilize the digital means in sensible ways seem to experience a meaningful whole, and the different digital tools mediated an experience of relevance to real life, and these groups also experienced the collaboration as mainly positive. In these groups, the digital aspect did not necessarily become an obstacle for the project process, but rather functioned more as a meaningful part of a bigger whole.

Extension of time and space

To some extent it seems that the various digital tools mediated the experience of an extension of the time and space dimensions (cf. Schütz & Luckmann, 1974) of the learning activities that took place during the project. The 'flow' of activities was different when digital tools were involved. Several new opportunities opened up in the learning environment, particularly regarding interaction with the external partners. The digital platforms allowed for collaboration with the external partner both face-to-face and through digital screens. Most students claim they experienced the communication with the municipality as flexible. Digital tools also made it easier for "busy" partners to find time to participate in student projects such as this.

Hence, many of the students experienced this as positive, effective, and motivating. For instance, Peter from group 4 wrote this:

> Actively working with a real problem, given by the municipality, gave the project an increased significance in my eyes. It was very rewarding to feel that the project you have created is realistic and well planned.

The external partners could in this way relatively easily join the classroom through Zoom and give feedback during the process. The external partners met the students groups-wise and gave concrete feedback to each group halfway through, on the basis of the pitches the students had sent them. The collaboration partner could thus prepare in advance and use the time with the students in an efficient way.

Creativity in higher education

Creativity was a key aspect of the project, and is also an important part of media literacy as defined by Hoechsmann and Poyntz (2012). For all the groups, the work with visualization of the group's ideas through the pitch, and ultimately, the poster, were important for motivation and learning. As such, this project shows that using digital tools for creative work can contribute to reducing the problem of black screens or passivity in higher education practices. Most groups expressed that working with something practical and creative was rewarding and was experienced as different from traditional academic work. However, the project was also experienced as relatively demanding; Some students felt they did not have sufficient media literacy skills, which in some cases meant that more experienced students did the main part of the creative work. This was expressed, for example, in group 3's group report:

> Caroline, who considers herself not very creative when it comes to designing the presentation and the poster, expressed a strong desire to work on the process report because processing text is something she prefers to creating a presentation.

This can be read as positive because these students could utilize their strengths, but also as negative because students with less experience didn't get to practice their skills in media production.

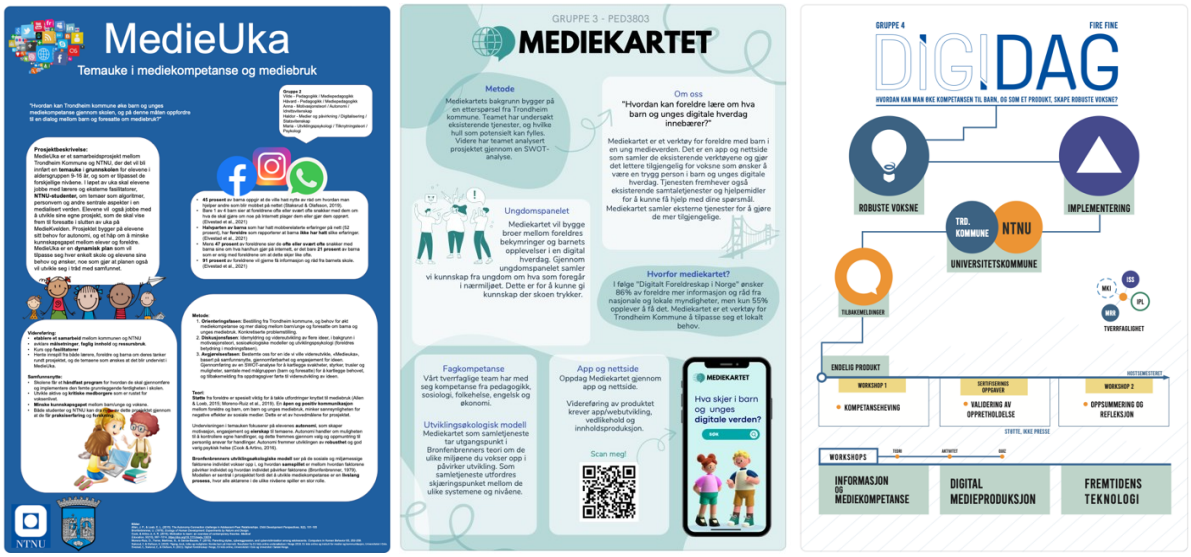
Posters

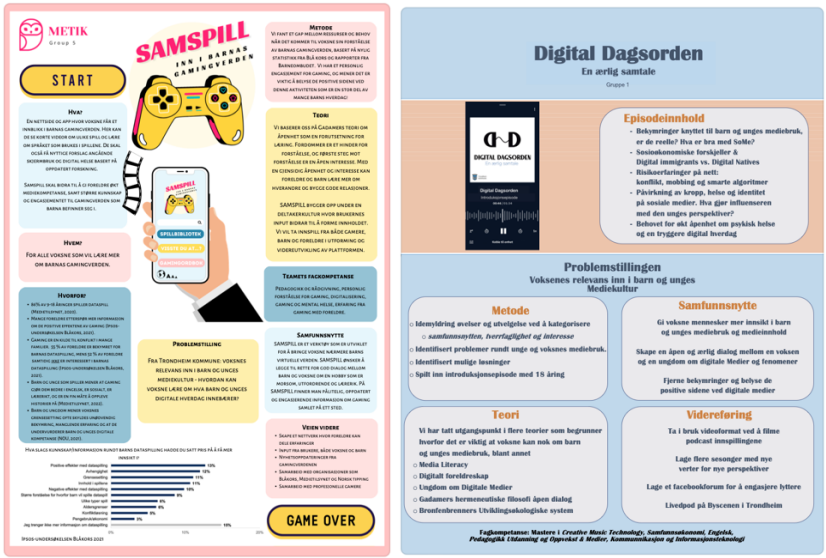
Figures 1 – 5 show the groups' posters. They visualize the ideas responding to the challenges presented by the external partner, related to growing up and learning in the media culture. The groups' ideas were as formulated as follows:

- *Medieuka* ('the Media Week'): A thematic week for practicing digital literacy skills, level-adjusted for pupils in primary and secondary school.
- *Mediekartet* ('the Media Map'): An application and a website for parents with up-to-date information and guides relating to children and young people's digital everyday life.
- *DigiDag* ('Digital Day'): A workshop for teachers designed to increase their competence in media production, media use and future technology.

- *Samspill* ('Interplay'): A website and an application where adults can get information and knowledge about gaming with current examples.
- *Digital agenda*: A podcast with relevant guests dealing with various contemporary issues related to today's media use among youth.

Figure 1 – 5 Group posters





The interdisciplinary aspect became apparent in the posters. The aim was not for the groups to end up with a complete product, but rather to present an idea for a product, as well as a visualization of this idea. They groups worked on the ideas and the visual presentation throughout the three weeks and presented them on the last day of the project. The teachers, fellow students and external partners were all present during the presentations. The posters show that the creative part of the project meant that the students were able to use different mediating means, such as digital image editing tools and programs for layout, and the students also obtained a lot of information from different online sources about similar products in the idea process. In summary,

the students largely expressed that the creative work was perceived as positive but also as time-consuming and demanding.

Motivation

In the group reports, all groups expressed that they experienced engaging in a project with external goals in addition to the more traditional academic requirements, as motivating. For example, group 1 expressed that it was very motivating to work digitally and practically, and to present their ideas and poster for a "real" collaboration partner:

> As a group we discussed that it was very rewarding and positive to have a product to show on the poster session […]. We also experienced that it was positive and fun to be able to do a different type of work than what we had done before.

The findings thus suggest that having the opportunity to work digitally can be experienced as motivating. The data indicates that the groups who incorporated a shared idea of the project and an overarching goal, seemingly mastered both the on-campus work and the digital work quite well. These groups express that they remained motivated more or less throughout the project period and found ways of working digitally that worked well for the group members and for the various tasks that were part of the project.

Critical reflection and meaningfulness

Critical reflection seems to be a prerequisite for coping with the complexity of a project such as the EiT-projects. Critical reflection emerged as important both individually and in the groups to find out what the different digital tools were suitable for and not, to make choices and to not be "overpowered" by the technology. Critical reflection is also closely related to the experience of meaningfulness.

Meaningfulness

In this EiT village, although screens and digital tools were important mediating means, it seems that most students experienced the project as a "meaningful whole". An example of this is the following statement from John in group 4:

> Experts in teamwork, and this village, has resulted in a positive experience. I have gained a better insight into how future work situations may occur, and I feel that my expectation of mastery in future projects has increased.

Many of the students express that the perceived the project as meaningful and relevant to 'real life' issues, which is similar to what other research on experts in teamwork finds (cf. Verhulst et al., 2023).

What emerges as particularly important is that the different mediating means, such as digital screens, communication platforms, learning management systems, digital editing tools and others, challenged the students, but also opened for a diverse learning practice in and out of the classroom. The forms of learning were both individual and collaborative. The students expressed that the project was meaningful and important. For example, group 3 wrote that:

> A lot of us experienced that it helped to have a more concrete goal as to our mood and enthusiasm. We managed to relate the project to a concrete problem from the municipality. Generally, it feels very good to have a common goal, and our mood has improved.

In other words, it is a clear finding that the groups expressed that they found it motivating and educational to work with academic material in a different way than through traditional learning forms in higher education. Thus, the project supports the assumption that screens in themselves do not perhaps contribute to improved academic achievement (Bernard et al., 2014; Nortvig et al., 2018), but learning activities where screens are involved and are given meaning can have a major impact on the students' meaning-making, learning process and motivation.

Concluding discussion

In this project, digital tools had relatively clear areas of use, and for most groups these tools seem to have worked well to solve various sub-tasks that were part of the larger project. Digital platforms, such as Zoom, seemingly made the practicalities of the collaboration with the external partner easier to organize and made the partners' participation flexible and feasible. EiT is, as mentioned, developed over a period of over 20 years (Veine et al., 2020). As such, the practices are well organized, and are supported by the university institution at all levels. In this way, a lot of prerequisites for succeeding with complex projects are met. Nonetheless, it seems important to note that to implement blended learning practices in higher education, it is crucial that the classroom activities are supported by all levels of the educational system; the institutions, infrastructure, technology and platforms, colleagues, students and if relevant; external partners.

The project shows that in the context of higher education "a screen is not a screen". The phenomenon of 'black screens' (cf. Vold et al., 2021) were merely relevant in small parts of the present study, while more meaningful uses of digital tools emerged as important. I found that it seems like when digital tools have a well-defined role in the learning environment, while allowing for some student flexibility, digital forms of communicating and media production tools can have a significantly positive impact on student motivation, on the 'flow' of activities and, and ultimately on the final product. This corresponds both to research on student activity and digital tools in higher education (Dumford & Miller, 2018; Nortvig et al., 2018; Rapanta et al., 2021), as well as on EiT more specifically (Veine et al., 2020; Verhulst et al., 2023).

It also seems clear that higher education in the future could benefit from including a variety of digital as well as blended learning forms. This project gives support to the research emphasizing the advantages of blended learning practices (Bernard et al., 2014; Nortvig et al., 2018). Based on my local findings, I would say that including both the invaluable qualities of face-to-face teaching, for example in constructing a safe, social, and developing learning environment, as well as the unique advantages of digital communication and media production, can have great rewards. This does not mean that one should not consider the potential downsides with blended learning; blended learning is necessarily more complex than pure face-to-face teaching or pure digital learning activities, thus such learning forms require thoughtful didactic choices and well-planned projects.

For higher education, the COVID-19 pandemic led to major changes in a short time. It has therefore been interesting to examine teaching practices in higher education in the aftermath of the pandemic. Has anything been learned from the digital teaching? Which practices have been kept and which practices are “back to normal”? One qualitative project cannot alone answer these questions fully, but the present study can provide some clues in terms of highlighting important affordances of employing a blended learning environment in higher education. The project indicates that connecting to digital communication platforms such as Zoom is experienced as relatively easy and involves quite little noise. Such platforms can, according to this project, advantageously be used to communicate with external collaboration partners in a flexible way. Digital communication platforms also give the actors a form of agency - if they are used in a way that allows flexibility and a degree of on- and off- connection. The ‘digital teaching days’ in this project were experienced as positive if they were varied and well planned, with breaks and the possibility to switch between individual and group-based activities. Creative work in digital tools were experienced as demanding and students who already have good media skills had an advantage, but nonetheless; creative activities were generally experienced as positive, motivating, and meaningful.

Limitations

Future studies should explore blended learning activities in a way that can clarify more specifically which aspects of digital and face-to-face activities are suitable for different types of learning goals. Moreover, the project that is analysed here is a short-term project, carried out intensively over three weeks. The findings therefore have their limitations and a follow-up study over a longer period of time would be valuable. Comparative and larger quantitative studies are also welcome.

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