



## Lessons Learned at the DIU

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### Abstract

Es ist notwendig, ein Umdenken im Bereich der Bildung zu erreichen - nicht zuletzt aufgrund der permanenten und schnellen Veränderungen, die durch Technologie möglich geworden sind. Die Digitalisierung ist dabei nur ein Teilstück, welches die Anpassungen zum einen begünstigt, zum anderen aber auch erfordert. Wissen ist jederzeit abrufbar. Zu jedem Thema findet man Informationen im Internet. Deshalb ist es zum einen wichtig, Kompetenzen zu entwickeln im Umgang mit der Vielfalt der Daten, aber auch zu erkennen, dass das reine Lehren von Wissen nicht mehr zeitgemäß ist und unsere Kinder und Jugendlichen nicht auf das vorbereitet, womit sie in ihrem Arbeitsleben konfrontiert sein werden. Die Erlangung von Kompetenzen wie Kommunikation, Kreativität, kritisches Denken und Kollaboration (4 K) rückt in den Vordergrund und löst reinen Wissenserwerb ab. Wie können wir nun mit Hilfe von Tools und Methoden ein neues Zeitalter der Bildung zumindest einmal einläuten? Wie können wir erreichen, dass Digitalität als Unterstützung und nicht als in der Pandemie notwendiges aber vorübergehendes Übel betrachtet wird? Welche Ideen haben wir für hybride Lernsettings entwickelt? Wir haben seit März 2020 sehr viel lernen dürfen und einiges ausprobiert und möchten unsere Learnings im folgenden Bericht teilen.

It is essential to rethink in the field of education - not least because of the permanent and rapid changes that have become possible through technology. Digitalisation is only one part of this, which on the one hand favours the adjustments, but on the other hand also requires them. Knowledge can be accessed at any time. Information on every topic can be found on the internet. Therefore, it is important to develop competences in dealing with the diversity of data, but also to recognise that the mere teaching of knowledge is no longer up-to-date and does not prepare our children and young people for what they will be confronted with in their working lives. The acquisition of competences such as communication, creativity, critical thinking and collaboration (4Cs) move to the front and replace pure knowledge acquisition. Therefore, the question arises, how we can use tools and methods to usher in a new age of education. How can we achieve that digitality is seen as a support and not as a necessary but temporary evil in the pandemic? What ideas have we developed for hybrid learning settings? Since March 2020, we have been able to learn a lot and try out a few things and would like to share our learnings in the following report.

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## 1. Our initial situation

The initial situation at DIU is somewhat different from that at Dresden University of Technology, since as a private university we work with freelance lecturers who often only teach one course per degree programme with around 20 teaching units or less. The following experience report therefore deals with our learning in general with regard to digital or hybrid learning and shows one thing more than clearly: simply providing a platform to have presentations given digitally is by no means enough.

In the virtual world, the danger of being distracted is even greater if the course is not interesting enough. Since you're sitting at your PC anyway, you can also quickly process the incoming email or take care of your twitter profile. With one click, the participants are there or gone again. This means that it is important to create exciting formats that are as interactive as possible to take the participants along with you. That is why we like to talk about learning as a journey and not a lecture.

However, the discussion is no longer just about digital, hybrid or analogue, it is about what education should look like in both school and higher education contexts.

For us, it is clear that students need more individual support and that collaborative projects and self-directed learning are more effective than the constant cramming of knowledge that students forget immediately after the exam. In order to be able to solve tomorrow's problems in today's fast-moving times, a rethink is needed in the education sector and also a new understanding of roles. Students are given more responsibility for achieving learning goals, and teachers become learning facilitators.

The following quote can be found in the method book for digital lessons[1]:

"An education to solve problems that we don't even know about at the moment."

The following table shows what is meant by this:

Away from	Towards
Knowledge	Competence
Mediate & Teach	Find out
Analogue	Digital & hybrid
Rigid structures	Linked and flexible educational contexts
Learning in sync	Individual learning
Lone-wolfism	Cooperation
(Third-party) control	Self-organisation and co-determination
One-dimensionality	Multi-perspectivity and networking
Teacher-centredness	Learner-centredness
Fixed results	Openness to results
Given meaning	Personal sense
Teachers	Learners

Tab. 1: Education of the future [1].

But how can we achieve this?

In the following sections we have gathered some of our thoughts and ideas, but we are always learning new things. Therefore, from our point of view, the first step towards a rethinking in education is that teachers also see themselves as learners and get into an open and trusting exchange with each other in order to share knowledge, to develop learning concepts together and to give up being lone fighters.

To this end, DIU regularly offers DIUTalk and has created a LinkedIn community. In addition, we pass on our knowledge to interested lecturers in free workshops.

Our motto: Sharing knowledge is culture!



Fig. 1: Logo of the DIU workshop format

## 2. Future Skills - the 4 Cs

Particular attention should be paid to the 4 Cs - critical thinking, creativity, collaboration and communication - in both school and university contexts. How do we get our students to think critically about issues, come up with creative solutions, network to overcome challenges together and communicate clearly and appreciatively to be able to collaborate with others?

Using a digital tool does not necessarily lead to an exciting learning scenario. So digitalisation alone is not enough to bring about the long-needed change in education. Rather, digitalisation requires us to find new ways in education to acquire competences that are useful and meaningful for us and our students in today's and tomorrow's world. The goal is not to collect certificates and degrees or hoard knowledge, but the learning journey as such and the deep understanding of the learning topic through intensive engagement with it, so that learners are able to understand concrete issues and solve problems and ask others for targeted support.

In the following sections, we show some methods, tips and hints on how "New Learning" can succeed from our point of view and how digitality supports us in this.

## 3. Ice-breaker and warm-up

If you meet a new study group exclusively in the digital environment, some information is lost that normally is automatically perceived in personal interaction. It is therefore more difficult to get to know a person virtually because points of reference are missing and, of course, also the breaks spent together in which people exchange ideas.

But it is not impossible to build up closeness and get to know each other even in virtual space.

It is helpful to start with warm-up exercises so that everyone can get to know each other in a relaxed atmosphere. There are numerous collections of ideas for this on the internet, e.g. also at <http://tscheck.in/> or <https://internetquatsch.de/>.

Methodologically, we recommend "Impromptu Networking" from the Liberating

Structures toolbox. In "Impromptu Networking", all participants are brought together, at best randomly and automatically, in groups of two to talk for four minutes about any introductory question, which may initially be completely independent of the learning field. There are three rounds, i.e. three questions. The group composition is redistributed three times so that as many participants as possible have already met. The descriptions of all Liberating Structures can be found at <https://liberatingstructures.de/>. These 33 microstructures help to work specifically on challenges and to ensure that everyone is included.

The integration of live survey tools such as Mentimeter <https://www.mentimeter.com/> or <https://invote.de/> can also be useful in order to get off to the most relaxed start possible and to enable people to get to know each other well. Personal questions, e.g. about the favourite holiday destination, are useful before moving on to the subject matter. This makes it easier for the students to find points of contact and build trust with each other through common ground. Our conviction is that a good bond can also develop online if you leave room for trusting and happy togetherness.

Of course, this does not mean playing too many games and forgetting about learning. Good planning of the icebreaker phase is essential. This applies equally in the analogue, hybrid and digital learning space. If certain tools and methods are to be used, enough time should be planned to introduce and explain them calmly. This should not be underestimated, because cooperation can only work well if everyone is familiar with the application.



Fig. 2: Online etiquette of the DIU

Rules for online events can also be very helpful. The DIU has developed the following online etiquette guide, which can be used for meetings but can also be applied to learning events:

### 3. Cameras on

The topic of "camera" is also anchored in our online etiquette guide.

When all participants leave their cameras off, it is difficult for lecturers to build a bond and get feedback. People feel like they are talking to a silent black wall and fall into monologue. Often it is enough to ask the participants to turn on their cameras. This should not be worded reproachfully, but rather with a friendly hint that one would be very happy to see the participants. If, contrary to expectations, this does not lead to at least the majority showing up, there are some tips.

Playful exercises that include the camera image are particularly helpful, e.g. the lecturer can ask yes/no questions and those who answer yes switch on the camera and those who answer no leave it off for the time being. In this way, it can be asked right at the beginning which topics are particularly interesting for the participants or are absolutely necessary to catch up on, and in addition, the participants now use the camera. Another game to start with is to hold objects up to the camera and ask all participants to look for a similar object and show it as well. This can even bring real movement into the learning event and one or two happy laughs will also be heard.

A wonderful method, originating from improvisational theatre, is the participants speaking their names one after the other and perform a gesture that also serves to remember the names of the others.

Planning such playful approaches already into the icebreaker phase is a double win from our point of view.

### 4. Activation of the participants

In analogue events, it is said that attention wanes after 20 minutes. In online events, according to Andrea Heitmann in one of her workshops on digital rhetoric, this is already the case after 7 minutes.

Therefore, it is important to regularly include interactions in the learning event. This does not mean that you should permanently embed games or elaborate surveys. Even short queries, smaller polls or the like are enough to maintain or regain attention. With live reactions, most online platforms offer a good opportunity to give or solicit feedback in between. A chatstorm is also a wonderful option. A question is asked, the participants are given a short time to formulate their answer in the chat, but only all click on send at the same time on command. This avoids ideas being copied.

Nevertheless, playful approaches with a challenge character are very popular with the students. There are many tools such as <https://kahoot.it/> that can be used to generate a live quiz in between. Nevertheless, the playful character should always go hand in hand with a critical examination of the question posed if you want to incorporate a quiz not just for fun, but actually as a method to support learning.

Here are some more examples:

<https://jeopardylabs.com/>, Monday painters at <https://skribbl.io/> or <https://stadtlandfluss.cool/>.

Especially the latter can be fun because of the option to include your own categories. Creativity is unleashed and speed is rewarded.

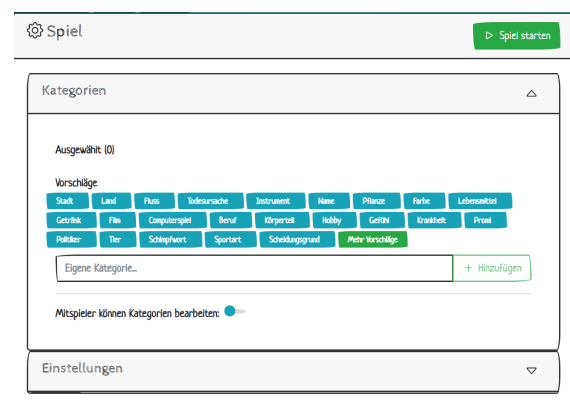


Fig. 3: Categories for urban-rural-flow digital

### 5. Work in small groups

Small group work in between is an important means of bringing students into an exchange that otherwise tends to take place at the coffee machine. This is therefore not necessarily only didactically helpful. Nevertheless, it should be

well considered whether the respective question is suitable for group work. It is also important to communicate clearly what kind of documentation is desired and when to return to the main room. Most platforms offer the possibility to automatically close the breakout rooms so that all participants get directly back to the event, but a time limit and at best also a note in between with the remaining time, help the students to structure the joint work.

The aim of group work is to enable all participants to contribute their ideas and knowledge. This is the purpose of all methods in Liberating Structures. The composition of the group changes depending on the method and the goal or question.

Digital whiteboards or pinboards are indispensable for supporting and documenting the results. Tools such as Mural, Miro or Padlet or the whiteboards integrated in the learning platforms are important for recording what the participants take away from the group work, just as in the analogue environment.

Digital whiteboards achieve a particularly positive dynamic in our view, as the many possibilities stimulate creativity. A well thought-out structure of the board and a patient introduction to its use are essential to ensure that everyone enjoys participating. We are convinced that a digital whiteboard can be an excellent basis for learning journeys and that the 4 Cs (communication, creativity, collaboration and critical thinking) can be promoted with the help of boards.

## 6. Learning journeys on the whiteboard

Digital whiteboards can be used to design learning journeys for learning events in which the lecturers' content and presentations, suitable videos, podcasts or books or work surfaces with concrete questions are anchored in the board. This enables students to learn independently at any time, as the synchronous and asynchronous learning phases can be cleverly linked with the help of a digital whiteboard.

To collaborate, a link to the whiteboard is generated and sent to all participants, e.g. via the chat function of the video conferencing tool. The participants can use this link to access and

edit the board either anonymously or by name.

Digital whiteboards have numerous functionalities that you should know well yourself. Although the tools used by the DIU, Miro and Mural, are basically intuitive, it is advisable to deal intensively with the chosen tool in advance and, at best, to send an explanatory video to all participants in advance so that not too much time is lost in the learning event for explanations. Experience has shown that the first application is always associated with many questions about the use of the tool. This should be taken into account when planning the concept.

Especially for elaborate layouts with many different building blocks, we recommend showing and explaining the board first, e.g. via a split screen, before publishing the link.

Digital whiteboards can be designed according to the theme. There are hardly any limits to creativity. It is advisable to place an agenda or an overview plan at the beginning and to link from there to the relevant exercises, tasks, information, recommendations, etc. on the board so that it is as easy as possible for users to find their way around the board. A test beforehand is useful to make sure that everything is fixed that belongs to the structure of the board and that the links on the board work. If there are many participants on the board, it can otherwise become chaotic.



Fig. 4: Extract from the DIU team meeting template (mural)

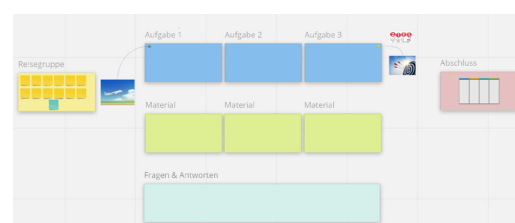


Fig. 5: Learning journey simplified on a Miro-Board

All whiteboard tools offer numerous ready-made templates that can simplify the design of a learning journey. The areas and templates can be saved, so we recommend saving consistent basic content and then using it again and again. This saves valuable time and achieves a high recognition effect.

We have always included an area for feedback, questions and recommendations in our templates, so that the interaction is encouraged and we can also develop ourselves and our workshops further.

Students and teachers can usually benefit from free educational licences.

## 7. Self-organised asynchronous learning

"Give learners back their learning." (K. Pape, Managing Director of the Corporate Learning Community, slogan in his LinkedIn profile)

Part of the knowledge transfer should take place asynchronously, e.g. via learning videos that students can watch independently. It is helpful to include a question about the video, which then finds a place in the synchronous course and leads to an exchange among the students. This blended learning principle combines self-organised learning with joint learning time. Initially, it is completely irrelevant whether this is done digitally or analogue. Digitisation basically only increases the diversity of the preparation of the learning content.

Since there are different types of learners, it makes sense to provide information not only as a copy from a book, but also audiovisually as a video or aurally as a podcast.

This goes hand in hand with the fact that it is not expedient to conduct full-day courses synchronously in digital form. The flipped classroom principle is a far more sensible method and enables students to learn in a self-organised way and still repeatedly exchange what they have learned with lecturers and fellow students and also put it to the test.

In the exchange with part-time students at DIU, it was nevertheless clearly communicated that firmly planned learning time is necessary in order to create space for learning alongside the job and also to keep to it. This is where the principle of regular joint learning events comes

into play. In WOL (working out loud) or lernOS circles, a one-hour weekly meeting of the circle is arranged to motivate, exchange and give impulses. The circle meets and supports each other regularly for 12 weeks. With the help of guidelines with small exercises, a clear framework is set for the meetings. During the rest of the week, each circle member invests as much time and energy as they want in achieving their personal goal.

Due to the success of these circles, it has evolved into a seven-week learning-out-loud cycle that can be adapted for own learning journeys.

We are convinced that in the future teachers will become learning guides who motivate, support, listen and provide impulses and a framework for the learning experience of their students. Similar to the aforementioned circle methods, the learning guides regularly bring the students together and encourage exchange and, if necessary, correct the direction of the learning journey. In this way, students are given the freedom to formulate their goals, contents and methods independently and to work out their learning processes.

## 8. Use of MS teams

At DIU, Office365, especially MS Teams, is mainly used for learning events. Many helpful apps are already integrated here, which enable lecturers to design the learning event interactively and promote self-organised learning outside the actual learning event. Students and lecturers receive a free education licence.

With MS Teams, meetings can be planned with a calendar function that is synchronised with Outlook. In a team, the respective students and lecturers are added and can add a variety of functions there, such as OneNote for notes, a task planner or a survey tool to the menu. Contributions can be published for everyone, but there is also the option of using the chat with one or more people. Files can be exchanged and also edited together at the same time - e.g. Word documents, Excel tables or Power Point presentations.

Meetings (video calls) can be started from any point in MS teams to clarify questions in person.



Of course, it is also possible to be unavailable at some point and to leave a suitable status message.

## 9. Hybrid scenarios

We have given a lot of thought to hybrid learning in particular, as this will be the order of the day at DIU in the future.

Hybrid learning refers to a synchronous setting in which some people are in the seminar room in analogue form and others connect digitally.

With the digitalisation of learning events, some students and lecturers who previously had to plan for a long journey would like to stay in the digital space. Even in the event of illness, being able to switch on temporarily and at least listen is a good option for students. Other participants are very much looking forward to seeing and exchanging ideas in person in the seminar room. We want to offer a pleasant and substantial setting for both groups.

Good hybrid formats should be designed in such a way that all participants - whether they are on site or digitally connected - are equally involved in the teaching process. In our view, there is no way around embedding digital aids and tools in the originally purely analogue events. For this, it is advisable that the students on site also have a terminal device with which, for example, live surveys can be conducted digitally. A smartphone is usually sufficient. For group work in which digital and analogue participants are to be mixed, it is necessary that each group has at least one notebook or tablet (with camera and microphone) available. Instead of the blackboard, a tablet with a pen can be used so that both the participants on site and the digitally connected students can see what is being written or drawn. This rethinking and the resulting redesign of the learning process are initially costly, but necessary.

## Literature

- [1] Adam, Björn; Holle, Judith; Köpnick, Franziska: Das Methodenbuch für digitalen Unterricht. Dein Praxisbegleiter für gute digitale Lernräume, 1. Auflage, Lüneburg 2021

## Links to tools and methods: Overview

- <http://tscheck.in/>
- <https://internetquatsch.de/>
- <https://liberatingstructures.de/>
- <https://www.mentimeter.com/>
- <https://invote.de/>
- <https://kahoot.it/>
- <https://jeopardylabs.com/>
- <https://skribbl.io/>
- <https://stadtlandfluss.cool/>
- <https://www.mural.co/>
- <https://miro.com/>
- <https://de.padlet.com/>
- <https://cogneon.github.io/lernos/>
- <https://workingoutloud.com/>
- <https://learningoutloud.de/>
- <https://www.microsoft.com/de-de/microsoft-teams>