



Good Practice on the Move

Lessons Learnt



GOOD
PRACTICE
ON THE MOVE



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1. Introduction

The future of vocational training requires long-term planning for educational institutions and institutional development, whereby the international exchange of experience is becoming increasingly important.

Therefore, our strategic project partnership “Good Practice on the Move” dealt with the analysis of the needs and the collection of ideas for capacity building in vocational schools, in order to then make the findings available as recommendations to the educational actors and regulatory bodies for institutional development.

2. Experience Reports from the Partners

EVALUATION OF THE IMPLEMENTATION OF ONLINE LEARNING

Several months into the pandemic, we stopped to reflect on the use of digital tools and methods so far during the outbreak. The teaching of digital skills and the evaluation of good practice so far could be assessed in the light of the pandemic restrictions which brought about an intense discussions with interesting insights, both positive and negative.

GENERAL CONCLUSIONS

1. Teachers had been unprepared for online teaching. There were no tools to engage the learners at that time. The teachers put together materials for the trainees to take home so that they could prepare for the lessons as soon as school was allowed to open again.

The software used was Microsoft, and a tool from Electude was used for the labs.

When schools were allowed to reopen, they started testing a hybrid teaching approach. This was originally planned to last for 3 months, but has now turned into an over 6 months' situation. As the classrooms are too small to teach with the required people distancing, classes were split in two groups, teaching in the first room took place with a teacher and a smartboard, this was streamed into a second room (like an online lecture). The groups switched every day.

Webinar for hybrid was used - here several screens could be used. However, there is usually no funding for multiple screens. Most schools have not yet found a feasible solutions. Now action education authorities is needed!

DIGITALISATION & COMPETENCIES OF TEACHERS

The VET sector is evolving - it is becoming increasingly digital. Teachers need support for this. It is a matter of selecting and using suitable digital tools. Such tools are already available. However, teachers are not familiar with them and often do not know how to use them.

In the context of another project, research was conducted on suitable digital tools and a compendium was created (e.g. VAVM Vilnius Kohoot). This can also be used for exchange within GPoM and other projects.

USE OF THE SELFIE TOOL

In order to measure the status of digitalisation in VET institutions, the project surveyed management and teachers as well as learners (e.g. in DE/LT/HR). Improvements were noted over time.

However, the implementation of the system has not been easy. Before starting the SELFIE surveys, it is important to explain to the participants what SELFIE is, why it should be done and what the added value (the benefit for the participants themselves) is.

However, this requires effort. Unfortunately, the tool is also not known by most education authorities. Alternatively, an exchange between vocational schools (also internationally) can offer support.

ORGANISATION OF ONLINE LEARNING

Most VET institutions usually only use Moodle for financial reasons (decision of school management in most EU countries).

Otherwise, some ministries provide Microsoft Teams to schools free of charge (e.g. in Lithuania). Trainees can also use the platform to assess themselves. We found that such a possibility is motivating for the trainees. However, the implementation is connected with personnel costs.

In many countries there are currently (e.g. in Croatia) no decisions to integrate online systems into the VET system).

There were several recommendations from the Ministry on the use of tools. According to the ministry, the recommended tools should all be free of charge. Usually they are, however, proprietary and require a fee.

Teachers tried several tools and chose the ones they were most comfortable with. The problem was that the teachers were now using different tools and the students had to learn how to use many different tools.

3. Experiences from Digital Teaching

WEBINARS WITH TRAINEES

Positive Issues:

1. corona-compliant teaching contactless with minimum distance
2. savings on paper-based documents, documents are distributed digitally
3. lower costs, as no training rooms are necessary
4. lessons can be recorded and easily replayed for quality assurance or repetition.
5. participants with a handicap (sick, on holiday, etc.) can also take part in the lessons.

Negative Issues

1. the condition of the advanced functions of the transmission technology and the use of all features (uploading films, questioning participants online) is more suitable for those with an IT affinity.
2. the interaction of the lecturer with the participants is more difficult and requires more attention from the lecturer than in the classic variant.
3. the motivation of the participants decreases, the control of the participants by the lecturer is more time-consuming.
4. the learning disadvantages of the weaker participants/students are more difficult to determine, the personal learning progress adjustment of the individual participants is not easy to realise.
5. only purely theoretical teaching topics can be taught digitally; for haptic-based teaching components (touching tools and equipment), the classic form of teaching is more suitable.
6. group work among participants, e.g. in joint role plays, is not possible or only to a limited extent.
7. the stability of the Internet connection is of utmost importance for a proper functioning of the transmission.
8. checking the presence of the participants in front of the computer does not guarantee efficient participation in the lessons.

BUILDING DIGITAL TECHNICAL SYSTEMS

As an example, the experience of the HTW Berlin: The University bought licences for an online system. There is an academic network that supports some platforms. If you have an email address with an academic extension, you can use it for free.

There was also a survey there about what problems occur with online learning and using digital tools. Among other things, it was mentioned that communication often takes place asynchronously - teachers prepare lessons without seeing the students. They send something, the students send something back. This massively limits active participation. Online, teachers often feel they are talking almost only to themselves (especially because cameras are rarely used).

The following was found: A big problem is making labs accessible to students online. In the summer semester of 2020, the mechanical engineering faculty of HTW Berlin developed a Raspberry Pi platform together with Master's students for the topic of batteries that can be used for learning from home. For digital learning and learning about digital processes (such as online control), tools and instruments must be available for both VET and HE. A good example is the telematics box developed in the Car-2-Lab project. The hardware is available at the HTW, but currently the system for online connection and the integration of learning scenarios is missing (which cannot be done during ongoing teaching).

4 Improving the Quality of Online Learning

HOW WELL DOES ONLINE LEARNING WORK? WHAT TECHNOLOGY IS USED? HOW WELL DO THE TEACHERS/TRAINERS KNOW ABOUT IT?

Nobody could imagine what all of us would be confronted with due to Corona. First thoughts were about 2-3 months of mobility restrictions.. But weeks became months, and then a year and a half.

EXPERIENCE

There are help pages on Moodle and also training courses on it (mainly on the technology, hardly on didactic aspects), but these are not related to the needs in the VET sector and you have to take care of it yourself. Therefore, hardly anyone at the vocational schools has done any further training or training on online learning. In the past, this was not an issue in teacher training either (even the younger members in the college had nothing on this in their training).

SUPPORT FOR SCHOOLS

VAVM currently uses an external trainer (for the technology aspects). In Poland, the vocational schools received written handouts from the Ministry on how to work with Moodle. The teachers at the school in Zagreb had no one to support them - a technician installed the system, then the teachers had to set it up and teach themselves how to use it. Sometimes there were colleagues who knew a bit better, internal workshops were organised to show each other what worked and how.

If schools have an active IT administrator who provides technical support for the software and opens the programme for the teachers, the teachers can use such a system, but they have to make the didactic preparations by themselves. However, dealing with the technology is not that easy. Some teachers forget to switch off the system after use - and thus block it. Therefore, in practice, there are many reservations about more online learning after the pandemic.

TRAINERS

With young people as "digital natives", it is often assumed that they can easily find their way around online. But this is not true. Learning with online systems is also new for trainees, and needs guidance. When learning at home, divided attention is the rule. At the beginning of the lockdown, many trainees thought it was good to stay at home (e.g. to be able to sleep longer). In the course of time, however, it became clear that they miss the classroom with the support of classmates and teachers for learning success.

Equipment is also a risk. 80-90% of the trainees have a PC or laptop at home (or access to it), but not all of them. And 40% use their mobile phone as a digital platform - but this small screen is rather unsuitable for learning as they cannot read the material well with it - and material adapted to smartphones is mostly not available.

If there is no coordinated system for the whole school, the teachers often use different systems (each with which they are most familiar and where they have found material), and the students then have to find their way through different systems. This, too, is detrimental to motivation. There is a recent survey of trainees at the school in Zagreb where 40% say that their performance is worse because of the pandemic and digitalisation.

WHAT WILL HAPPEN WHEN NORMAL OPERATIONS ARE BACK - WILL THEY CONTINUE TO USE DIGITAL LEARNING?

Teachers and trainees have learned a lot about online learning in the last few months. Many teachers want to expand their competencies in this area. However, many are also not sure if they should/will continue to offer online learning on a regular basis. An important argument is that teachers need more time to prepare good online learning and to use the tools they have learned.

5 Recommendations for Users

WORKING WITH TABLETS / MOODLE

In online teaching, a drawing tablet can be used to present the content as if it were on a blackboard. However, it should be noted that the learning content should be presented in even smaller proportions in order to maintain a certain level of attention.

In general, a parallel asynchronous format on a learning platform such as Moodle is suitable for the online lecture. Here, the students cannot only work through the contents of the lecture in small chunks. The possibility of including tests and other ways of checking learning progress gives the learning activity a playful component that motivates students to continue working. Of course, such asynchronous formats are also suitable for classroom content.

In detail, of course, more complex content such as extensive formulas cannot be implemented directly in the learning platform. However, a diversion via graphic exports with copy & paste is always possible. One should also be aware that the creation of such course-accompanying learning activities, including learning progress checks, is extremely time-consuming and that a concept for the learning unit should already be available in advance.

DIGITAL LECTURES

How can you ensure that you can still reach the students who do not have any technical equipment, do not have a camera or only work with a smartphone, etc.?

When it comes to lectures or general seminar-based forms of teaching, video formats can mainly be used, e.g. via BigBlueButton or other tools. In this case, it is possible to hold online lectures via Zoom or Skype, as is usually done at the blackboard.

The lecture is supported on the whiteboard, like a blackboard picture, so that the content is conveyed there. Old slide sets can be used, subsequently added sound and then uploaded to a video platform.

Alternatively, work materials can be compiled and exercises given out to the students, which then are supposed to work with them within a certain period of time.

Afterwards, open questions can be answered accordingly. Depending on how much effort one can and wants to put in, these three formats are the main ones.

It is up to each teacher to decide which of these contents will be prepared by Moodle as a learning unit and which will be done directly in an online synchronous manner.

6. CONCLUSION

We have learned that digitisation is and can be useful. Many tools can support teaching and be helpful for students, but they cannot replace a teacher and in-person communication. And they need to be professionally introduced and integrated.

- **TECHNOLOGY:** There is a lack of systematic support for teacher training and equipping vocational schools with e-learning resources (human, technical, financial) Every school needs a good internet connection, a cloud (moodle, yammer or similar) where all learning materials are available and good equipment with hardware and software for teachers and students.
- **LEARNERS:** There is a risk that especially weaker trainees are left behind - due to lower motivation, lack of technology (up to 10% of trainees do not have access to a computer, a camera and/or a suitable internet connection. And up to 30% have problems organising their online learning on their own.
- **TEACHERS:** Teachers need to be involved in the development and integration of digital systems at VET institutions - aligned to their needs. The majority of teachers are aware that online learning will play a greater role in the future.
- At the same time, it is clear that they do not yet have enough knowledge. Some teachers have already prepared themselves well (but it still depends on the individual teacher).
- Appropriate training must be provided to ensure the necessary acquisition of skills for digital teaching. One way to do this is to use eTwinning - they have many webinars that are free for network members.

Now it's up to the education policy actors in the EU countries!

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