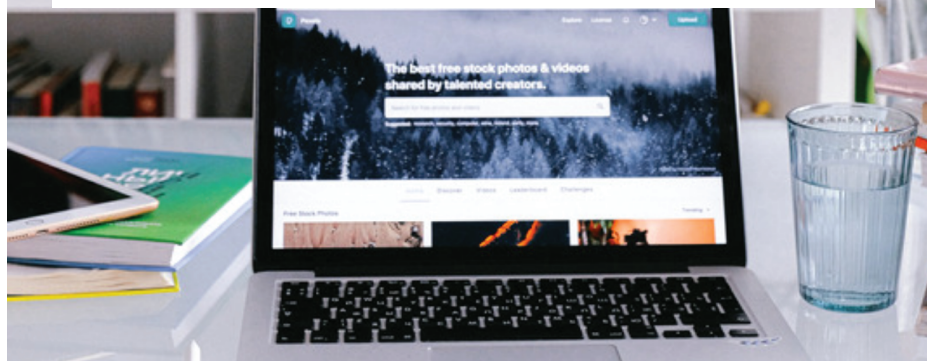


DEVELOPMENT OF DIGITAL LEARNING MATERIALS

LIMITED ICT
INFRASTRUCTURE AND LOW
DIGITAL SKILLS: HOW TO
ADAPT?



A Project from the Swiss Agency
for Development and Cooperation SDC



Agencia Zëritare për Zhvillim
dhe Bashkëpunim SDC

In partnership with



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The lack of a complete and well-functioning ICT infrastructure and the low digital skills, both for teachers and students, are one of the biggest challenges in terms of ensuring the effectiveness of digital learning materials and learning process overall. Usually, the consequences of these limitations are multiple, ranging from issues that are closely related to the effectiveness of classes and learning process:

- difficulties in transferring and understanding of the new information;
- low interactivity between teacher and students, among students and between the student and the material;

up to more complex and long-lasting effects, such as:

- lack of motivation;
- a feeling of inferiority compared to others;
- a feeling of being excluded;

or even:

- dropping out of school.

WHAT TO DO WHEN THERE IS LIMITED ICT INFRASTRUCTURE?

Many schools, especially in less developed countries and remote areas, have limited ICT infrastructure. We will focus on two main situations related to this issue, trying to suggest how we can face this challenge.

SITUATION A: LIMITED ICT INFRASTRUCTURE AT SCHOOL

Case 1: There are no computers/laptops at school/classroom for the students

1| Try the “Bring your own technology” initiative. In order to compensate the lack of infrastructure at school, students could be asked to bring their own technology devices, e.g. laptops, tablets, iPads etc.

A plan B: what we would like to call the “All for one and one for all” strategy. If bringing the technology at school still does not ensure that each student uses his own device, the students could be divided into groups working on the same device.

2| Encourage the use of mobiles. If the learning materials are placed in a platform managed by the school, pay special attention in adapting the structure, the functionalities and the look of the platform for a mobile use (easy-to-navigate components, readable fonts etc.)

Case 2: There is an unstable internet signal at school

1| Make hard-copies of the digital learning material. Teachers could print the digital learning material from the platform and distribute copies of it to the students. Students could work on the hard-copy and try to simulate as much as possible the interaction activities as if they were working on the platform (e.g. face-to-face discussions, asking each-other questions included in the tests etc.).

2| While working on the digital learning materials, it is suggested to avoid long videos that consume too much internet data and insert the script as a back-up.

SITUATION B: LIMITED ICT INFRASTRUCTURE AT STUDENTS' HOME

Case 1: The student has no internet access or has a weak internet signal, but he/she does own a computer/laptop.

1| Opt for using or developing platforms where learning materials can be downloaded or printed. If the students have no internet access at home, students could download or print the learning materials somewhere else and then work on them afterwards, while being offline.

2| Choose platforms that also have offline features. This allows students to still explore and use some of the platforms' features although being offline, such as: reading a text, viewing the assignments etc.

3| Create podcasts. Especially in case of synchronous online teaching, teachers could also create podcasts and send them to the students so they can listen to them when possible.

Case 2: The student has internet access and regular signal, but he/she only owns a mobile

1| Adapt the structure, the functionalities and the look of the platform for a mobile use in case students have no PCs, laptops or tablets. As mentioned above, if the students will use their mobiles to work on the digital learning material, a special attention should be paid in how the material will appear and how easy it will be to explore it on a mobile.

2| Insert the scripts of the videos included in the learning material. This is especially helpful when students have no access in internet at home and use their mobile data to work with the learning materials. In certain cases, students can read the video script without having to watch the video, which would consume more data.

Case 3: The student has no internet access or has a weak signal and does not own any device

1 | Make hard-copies of the digital learning material to distribute to this category of students.

2 | Try to adapt the hard-copy version so it could replicate as much as possible the digital version. For example, if the digital learning material includes discussions, the teacher could create a blank space for the student to write its opinion.

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John goes to school in the town, but he lives in a remote rural area, where the internet signal is poor. Due to the pandemic, the district' schools are now applying the blended learning scenario, combining one week of face-to-face classes to one week of synchronous online ones. John is very eager to learn, but he is having difficulty to catch up with the classes because he can't always take part in the online classes. At least, he owns a mobile.

How can we help John?

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WHAT TO DO IN CASE OF LOW DIGITAL SKILLS?

When it comes to developing and using digital learning materials, we constantly face the problem of low digital skills. There is always a considerable part of teachers and students that have difficulties in adapting to this technology-based learning approach. What to do? How to help this category to be part of these innovative ways of learning? Here are some helpful suggestions.

SITUATION A: THE TEACHER HAS LOW DIGITAL SKILLS

Case 1: The teacher is engaged in preparing the digital learning material

- 1| Organize the work in groups, where at least one member has higher digital skills.
- 2| Within the group, assign the tasks according to each member's skills: one could work on the text, another one on the assignments/tests, another one on the illustrations and interactive media etc.
- 3| Assign a high-skilled person to the group if necessary, in order to provide technical assistance.
- 4| The teacher should opt spending more time in finding already-made illustrations (videos, animated gifs, schemes, graphics etc.) rather than creating new ones.
- 5| Opt for an easy-to-manipulate digital learning material, so the teachers will be able to use in their classes.

Case 2: The teacher has to use a digital learning material in his/her classes

- 1| Organize a short training or create video tutorials on the platform's main functionalities and most used media.
- 2| Create a teachers' forum lead by an ICT expert or a high-skilled digital teacher where teachers could ask questions and share their experience.
- 3| Encourage the teacher to assist in classes of more digitally-confident teachers.
- 4| Associate a high-skilled student to the teacher, at least during the first classes.
- 5| Encourage the teacher to try the flipped classroom strategy: this way, the students will be more familiar with the learning material and could also assist the teacher if he/she struggles with the platform.

SITUATION B: THE STUDENT HAS LOW DIGITAL SKILLS

1| Organize the classes in groups, where at least one student has higher digital skills: inserting group assignments, projects etc. in the digital learning material could support this approach.

2| Create a students' forum lead by an ICT expert or a high-skilled digital teacher or student where students could ask questions and share their experience.

3| Opt for an easy-to-manipulate digital learning material, so that the students will be able to work on it even independently.

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The ABC project is currently collaborating with a VE school. The project's coordinator just presented to the school a proposal to create a platform for digital learning materials in order to support online classes during the pandemic. The schools' staff is thrilled by the idea but most of the teachers are worried. Their digital skills leave much to be desired and they hesitate to engage in this initiative. Moreover, they are worried on how they will use the digital learning materials in their classes...

What would you suggest to the project and the teachers to support the process?

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