Knowledge hub
-
Collection of best practices

Summary of the best practice

1. Title of the best practice (e.g. name of policy, programme, project, etc.) *

   Assessment and development of digital skills with Pix

2. Country or countries where the practice is implemented *

   Benin, Madagascar, Morocco, Togo, Tunisia

3. Please select the **most relevant** Action Track(s) the best practice applies to *

   ☐ Action Track 1. Inclusive, equitable, safe, and healthy schools

   ☑ Action Track 2. Learning and skills for life, work, and sustainable development

   ☑ Action Track 3. Teachers, teaching and the teaching profession

   ☑ Action Track 4. Digital learning and transformation

   ☐ Action Track 5. Financing of education

4. Implementation lead/partner organization(s) *

The Pix platform is developed and made available by the "Groupement d'Intérêt Public" (non-profit, French-based public organization) PIX. Its international version, accessible in French and English, has been developed with the support of UNESCO.

The implementation in these countries took place in the framework of the Global Skills Academy created by Unesco in the framework of the Coalition for Education launched in Spring 2020 to support education during the Covid crisis, in response to the educational deficit caused by school closures and the growing awareness of the importance of digital education.

Partner institutions were national authorities in charge technical and vocational education and training in these countries. These authorities selected around 15 training TVET training institutions in each country, in different sectors (agriculture, industry, services), to take part in the project.

These training institutions were supported by the GIP Pix in the use and deployment of the platform with the learners.

5. Key words (5-15 words): Please add key descriptive words around aims, modalities, target groups etc. *

digital skills
digital literacy
digital divide
assessment
online learning
transversal skills
employability
TVET

6. What makes it a best practice? *

It is a best practice because it relied on a freely accessible platform and a co-construction approach, to allow both learners and trainers to gain in autonomy in the teaching and learning of digital skills.

Description of the best practice

7. Introduction (350-400 words)
   This section should ideally provide the context of, and justification for, the
   practice and address the following issues:
   i) Which population was affected?
   ii) What was the problem that needed to be addressed?
   iii) Which approach was taken and what objectives were achieved? *

The need for digital skills is a global issue affecting all countries, given the always faster digitalization of economies and societies. Nowadays, having a minimum background in digital skills is necessary in every dimension of life - personal, social, professional. However, an important digital divide exists, both between countries and inside each country.

Then, providing not only pupils and students but also adults with the relevant digital skills - including the capacity to use digital tools in a conscious and responsible way - is a key mission of education and training systems.

In many countries, however, the importance of digital skills is not fully recognized and teachers and trainers are in lack of adequate tools and training to address them. As a result, students are not equipped with appropriate digital skills. That was the case in the different countries (Morocco, Tunisia, Madagascar, Togo and Benin) were Pix was implemented in the framework of the Global Education Coalition launched by Unesco, especially in the technical and vocational education and training (TVET) sector, with an impact on employability of students. Then, the targeted audiences were students in secondary or short higher education courses.

The goal of the project was to use the Pix platform as a means:
- to improve the teaching of digital skills in a competence approach way
- to evaluate and develop basic, as well as job specific, digital skills among TVET students to strengthen their readiness to enter the job market.

The approach of Pix is to propose a service that allows students to develop their digital skills online, through a platform that is freely accessible and allows more specifically:
- to assess their digital skills through fun online tests and challenges, whatever their level (from beginner to expert);
- to develop their skills, via a formative assessment approach and access to online tutorials.

Then, around 15 training institutions in each participating country (63 in total) were given the possibility to use Pix with their learners. For trainers, a specific interface, "Pix Orga", allowed them to manage the increase in skills of users by monitoring their activity and accessing their results.

8. Implementation (350-450 words)
   Please describe the implementation modalities or processes, where possible in relation to:
   i) What are the main activities carried out?
   ii) When and where the activities were carried out (including the start date and whether it is ongoing)?
   iii) Who were the key implementation actors and collaborators? (civil society organizations, private sector, foundations, coalitions, networks etc.)?
   iv) What were the resources needed (budget and sources) for the implementation?
   *

Within the framework of the Global Skills Academy, various activities were carried out jointly by UNESCO and Pix.

The main objective of the project was to make the Pix platform, for students, and the Pix Orga dashboard, for teachers, available in different training institutions pre-identified by the local UNESCO offices. In total, 63 institutions in 5 countries had access to Pix and Pix Orga to support the development of students' digital skills. In order to ensure a successful implementation, online training sessions were organized with school heads and trainers of each country to introduce Pix, provide training on how to use Pix Orga and reflect on the way to implement and use Pix to reach the targeted goal of improving learners' skills. Participants were also equipped with appropriate documents to support them in understanding the functionalities of the platforms and the content of the different tests provided. First training sessions were held in October 2020.

In order to enable schools to monitor the level of digital literacy of their students, specific evaluation tests were designed in coordination with Pix teams and national partners, to assess students on the essential skills they need and based on their year of study. Based on the results of the test, teachers could see where students were experiencing the most difficulty.

Then, every national team of trainers and master trainers undertook specific work to define the relevant way to use the Pix platform, by answering different questions:
- which training paths would be the most relevant
- how the platform would be use in accordance with the curricula
- which skills would have priority

Then, implementation plans were defined and communicated to trainers.

First training sessions were held in October 2020 and implementation with students started in December 2020. It is still ongoing in Tunisia and Morocco.

At sector level, in two countries (Morocco and Tunisia), sectoral analysis were also conducted to elaborate digital skills profiles for different occupations: based on job profiles, Pix framework was used to identify key digital skills for specific occupations, so that to focus the training on these specific skills.

The different actors involved in the project were UNESCO and its local offices in the countries, Pix teams, national coordinators in national authorities (curriculum designer, master trainers) and teachers and school heads in training institutions.

9. Results – outputs and outcomes (250-350 words)
   To the extent possible, please reply to the questions below:
   i) How was the practice identified as transformative? (e.g., impact on policies, impact on management processes, impact on delivery arrangements or education monitoring, impact on teachers, learners and beneficiary communities etc.);
   ii) What were the concrete results achieved with regard to outputs and outcomes?
   iii) Has an assessment of the practice been carried out? If yes, what were the results? *

   The main concret results were that 200 trainers were trained on how to use Pix with their learners, in 60 institutions, and 20 000 learners had the opportunity to improve their skills using Pix.

   The implementation of Pix has been identified as transformative at different levels.

   At pedagogical level, teachers and trainers who used Pix were encouraged to move towards a competence-based approach instead of a knowledge-based approach. They also recognised the interest of initial assessments to have an exact idea of the level of learners, that allowed them to better adapt the content of the training delivered. Finally, they developed their use of online resources, for instance using tutorials available on Pix as training materials they could use with learners.

   At national level, in some countries (e.g. Morocco) reflections were engaged about the modernization of the curriculum regarding digital skills in some training paths, based on the introduction of Pix reference framework and platform, notably to enlarge the scope of themes addressed so that to include new topics and stakes such as cybersecurity, online collaboration or data protection.

   At sector level, in two countries (Morocco and Tunisia), sectoral analysis were conducted to elaborate digital skills profiles for different occupations: based on job profiles, Pix framework was used to identify key digital skills for specific occupations, so that to focus the training on these specific skills.

   The main impact has been observed on learners with, according to trainers themselves, a real interest in the platform and a real improvement of digital skills at the end of school year, compared to students who did not have the opportunity to use it.

10. Lessons learnt (300 words)
   To the extent possible, please reply to the following questions:
   i) What were the key triggers for transformation?
   ii) What worked really well – what facilitated this?
   iii) What did not work – why did it not work? *

The main trigger for transformation was the the fact that most trainers were convinced by the renewed approach of digital skills proposed with Pix platform :
- the evaluative component of Pix made it possible to measure the level of the learners, and to better adapt the content of the lessons;
- the training component made it possible to support the progress of learners, in support of their own training strategies and according to an approach centered on skills.

Different key factors of success were also identified in the implementation itself:

- the co-construction between Pix teams, Unesco and local actors was at the heart of the success : the content and implementation methods best suited to the context and objectives of each country or even training institutions was decided by national actors, while Pix only provided support and expertise. In particular, trainers could design their own test adapted to their curricula and teaching approach (by selecting relevant topics inside the Pix reference framework), then ensuring a good integration into the lessons. This dimension appeared crucial, so that not to impose a ready-to-use tool with no flexibility, but allowing national and local actors to use it and implement according to national priorities and strategies, and to each trainer's practice and pedagogy in the classroom.

- the strength of the political impulse and the quality of the project coordination at national level were key. In countries were the initiative was not strongly endorsed by the authority in charge of TVET or the national coordination was deficient, implementation was made complicated because local actors did not understand the objectives of the project

- adequate training of trainers was also a key element to ensure proper appropriation of the project and the platform

- proper involvement of school heads was important, as they had a role of coordination and impulse in their institution

- constant support to trainers from Pix team, to answer questions and to help with technical issues, helped to the smooth implementation of the action

One of the main triggers for transformation was the support and involvement of the trainers. The more they were convinced and interested in Pix, the better the implementation with learners went in the ground.

On the other side, the design of digital skills profiles for different occupations was difficult because of the difficulty to gather all relevant expertise - including the ones of the private sector - in many countries.

Finally, the main difficulties were due to lack of devices and/or connectivity. Indeed, some training institutions were not equipped with appropriate computers, or lacked proper internet connection ; then students were not able to go on the internet to use Pix platform.

11. Conclusions (250 words)
    Please describe why may this intervention be considered a "best practice".
    What recommendations can be made for those intending to adopt the
    documented "best practice" or how can it help people working on the same
    issue(s)? *

This intervention can be described as a "best practice" in different respects.

The first one are the proper characteristics of Pix platform, that convinced national and local actors to use it :

- the easiness to use the platform and its accessibility on smartphones and tablets

- an adaptive test algorithm (adapting the level of difficulty of questions according to previous answers), that maintains a kindly approach for each learner

- the combination of the strength of a standard - Pix reference framework is declined from the European DigComp - and the possibilities of adaptation and personalization that make it possible to adapt its implementation to varied teaching programs and training objectives:
- by giving trainers the possibility of creating tailor-made tests adapted to their learners, or tests for specific job profiles (by selecting the relevant subjects and levels within the Pix reference framework) ;
- by allowing the creation of additional modules on digital skills specific to a sector of activity, a profession, an organization, etc. (that was not implemented in this project)

- the fact that the Pix platform is continuously enriching its content to evolve at the same pace as digital technologies and uses, in a lifelong learning perspective.

- the fact that the GIP Pix is a non-profit organization and the Pix platform does not host any advertising or collect any information for commercial purposes ; that the source code of the platform is open and access to the Pix platform is completely free for end users, with no time limitation ; and that it complies with the highest standards in terms of personal data protection, were also much appreciated by participants in all countries.

Other aspects related to the implementation of the project itself:

- extensive communication and preparation was made with partner countries and institutions, so that national authorities and local institutions had a clear understanding of the planned actions and were fully committed to the objectives of the project

- participation of training institutions was made on a voluntary basis, then garantying a strong commitment of every actor to the project

- a good balance was found between the national directives at national level and the autonomy each trainer had in the use of the platform with his own students. For instance, Pix tests could take place sometimes in the classroom during lessons, or outside the classroom (at home or in computer room).

12. Further reading
    Please provide a list and URLs of key reference documents for additional
    information on the "best practice" for those who may be interested in knowing
    how the results benefited the beneficiary group/s. *