European Commission

Country report for SELFIE WBL piloting

Poland

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2021

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EUR 30769 EN

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JRC125795

EUR 30769 EN

PDF ISBN 978-92-76-40322-7 ISSN 1831-9424 doi:10.2760/815307

Luxembourg: Publications Office of the European Union, 2021

How to cite this report: Proença, MJ, Zimšek, M, Goltnik Urnaut, A, Sauli Miklavčič, AL, and Hippe, R. *Country report for SELFIE WBL piloting. Poland*, EUR 30769 EN, Publications Office of the European Union, Luxembourg, 2021, ISBN 978-92-76-40322-7, doi:10.2760/815307, JRC125795.

Abstract:

This report presents the results of the pilot study of SELFIE for work-based learning carried out in Poland between September and December 2020. The study aimed at testing the tool before its launch online. In total, 16 VET colleges and 16 companies (operating in different sectors) were engaged in the pilot, involving 2417 users (teachers, students, school leaders and in-company trainers). In addition, 304 individuals (students, teachers, school leaders, school coordinators and in-company trainers) participated in the qualitative research carried out after the pilot. This research included interviews and focus groups, with the purpose of collecting further feedback. The overall results indicate that SELFIE WBL tool is user-friendly and easy to understand, well designed, and inclusive with its 360-degree reflection, as it engaged all those involved in WBL activities in the Hungarian WBL system. The SELFIE WBL tool and the report provided support to school leaders in the development and monitoring of the school's digital strategy as well as provide relevant information to all stakeholders in the SELFIE WBL pilot, contributing to increasing the effectiveness of learning in VET schools and companies.

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Acknowledgements

We would like to thank all vocational education and training (VET) schools and companies that, on a voluntary basis, have participated in the SELFIE for work-based learning (WBL) piloting experience during the most challenging period of the last century. A word of appreciation goes to the national coordination team who, tirelessly, assured the engagement and continuous support to participating schools and companies and provided the valuable information without which the pilot experience and the report would not have been possible.

We would also like to thank DG Employment, Social Affairs and Inclusion and the European Training Foundation (ETF) for the effective collaboration all along the piloting phase and DG Education and Culture for the support. In addition, we would like to thank the national coordinators of all nine piloting countries for the fruitful exchanges and opportunities of mutual learning that have facilitated the piloting process. Finally, the active involvement and support of national VET and WBL stakeholders has been crucial in this endeavour of piloting SELFIE WBL during the COVID-19 crisis.

Note: This report was produced in the framework of the contract agreement 939681 – 2020 BE between European Forum of Technical and Vocational Education and Training (EfVET) and European Commission's Joint Research Centre (JRC)- "Piloting SELFIE for work-based learning contexts in VET (SELFIE WBL), Lot 3: Poland.

Executive summary

SELFIE is an online self-reflection tool developed to support schools, including Vocational Education and Training (hereafter, VET), to reflect on their digital readiness and preparedness by looking at different dimensions such as VET school strategies, infrastructure, teaching practices, equipment and the experience of learners.

The tool was developed in 2018 by the Joint Research Centre –JRC- and the Directorate-General for Education, Youth, Sport and Culture. In early 2020, in cooperation with the Directorate-General for Employment, Social Affairs and Inclusion, it was adapted to include a module on work-based learning which adds the views of in-company trainers. The aim has been to help improving coordination between VET schools and training companies, and to discuss how they could jointly embed digital technology in their training and apprenticeship programmes. This also means bringing VET teachers and in-company trainers closer together.

Throughout 2020, the JRC launched a pilot experience of SELFIE for work-based learning contexts in VET (SELFIE WBL) in nine different countries. EfVET in collaboration with JRC organised them in France, Poland, Hungary and Germany. In addition, JRC managed the pilot in Romania. Four additional non-EU countries (Georgia, Montenegro, Republic of Serbia, and Turkey) piloted SELFIE WBL managed by ETF and JRC.

The piloting of SELFIE WBL in Poland was launched in July 2020 and effectively rolled out in September 2020. It entailed three main phases:

1. Translation of all supporting documents and the tool itself
2. Selection and engagement of stakeholders (including VET schools and companies).
3. Piloting of the SELFIE WBL in the selected VET schools and companies. In addition:
    a. Qualitative research consisting of the organisation of focus groups with students and teachers in each one of the VET schools, in-depth interviews with school heads/principals and in-company trainers and additional desk research on similar self- reflection and other digital tools in use in the country.

The main emphasis of the piloting experience was on the qualitative research as it allowed to collect quality information with the view of contributing to practice development and improving the SELFIE WBL tool and its further development. 16 schools were involved in the qualitative research, 32 focus groups (totalling 133 teachers and 142 students) and 17 semi-structured interviews with school leaders and company representatives were organised which allow the collection of relevant feedback regarding the tool. It is necessary to say that the outcomes of the pilot are not representative at national level for the education and training systems.

The pilot process was disturbed by the COVID-19 pandemic with the confinement measures taken by the government impacting on the data collection process and requiring great effort from the national team and the school coordinators to assure the delivery, as planned, of all activities. This also had a massive impact on the educational community's state of mind making it difficult to motivate and engage participants to fill out the SELFIE WBL tool.

The overall feedback received was that the SELFIE WBL tool is user-friendly and easy to understand, well designed, and inclusive with its 360-degree reflection, as it engaged all those involved in WBL activities in the Polish WBL system (students, teachers, school leaders and in-company trainers).

The main challenges for companies and VET schools proved to be pedagogical support, resources, the digital competences and knowledge of the teachers, the digital learning skills of students and the overall implementation of digital technologies in the classroom. Likewise, for in-company trainers, the biggest challenges mentioned were the continuing professional development (CPD) together with infrastructure and equipment.

The SELFIE WBL tool and the report provided support to school leaders in the development and monitoring of the school's digital strategy as well as provide relevant information to all stakeholders, contributing to increasing the effectiveness of learning. School leaders have also expressed the intention to use it on a regular basis.

School leaders have also expressed their interest in the next steps of SELFIE WBL, to explore further opportunities to facilitate engagement of and impact on all stakeholders. Next to the technological aspect and competences, teachers' attitudes towards the "digital world" and digitalisation in general have to be taken into consideration.

School leaders shared their perspective regarding the importance of digitalisation not only because of the pandemic, but rather as encouragement for all stakeholders (schools, companies) to increase the effectiveness of teaching and learning.

Feedback provided was that the SELFIE WBL pilot came at the right time, not only for schools and their leaders, but also for teachers, students, and in-company trainers. The next challenge will be to act based on the SELFIE WBL report results.

1. Introduction

The pilot of SELFIE for work-based learning contexts was carried out in nine countries. The European Forum of Technical and Vocational Education and Training (EfVET) in collaboration with European Commission's Joint Research Centre (JRC) have organised them in France, Poland, Hungary and Germany. JRC has managed the pilot in Romania. In addition, the European Training Foundation (ETF) in collaboration with JRC has piloted the tool in four non-EU countries namely Georgia, Montenegro, Republic of Serbia, and Turkey.

EfVET carried out the overall management of the SELFIE WBL pilot in Poland in collaboration with JRC. The pilot was coordinated at national level by Polska Fundacja Osrodków Wspomagania Rozwoju Gospodarczego (OIC Poland Foundation). The qualitative research and reporting of the pilot was led by EfVET member in Slovenia Skupnost višjih strokovnih šol Republike Slovenije (Skupnost VSŠ).

Overall Management of SELFIE WBL in Poland - specific responsibilities allocated to each organisation were as follows:

EfVET was the project coordinator and responsible for the overall project management, quality, and reporting. More specifically, the Project Manager was responsible for the implementation of the work plan, for all administrative and financial management of the proposal and for assuring each member of the team was provided with the support needed to implement the tasks. EfVET had one member of the governance responsible for overseeing the piloting process and one project manager responsible for the operations, ongoing support to the national coordinators and the liaison with JRC.

Skupnost VSŠ – Skupnost višjih strokovnih šol Republike Slovenije was a research partner. It was responsible for the qualitative research (including the conduction of the case studies) and for the final report, summarizing the process followed and lessons learnt from the piloting of SELFIE WBL in VET schools and companies and comprising the list of digital tools used in the work-based learning (WBL) sector for each country. Skupnost VSŠ had three members who were part of the research team (one senior plus one junior researcher and a senior WBL expert), working directly with EfVET and the national coordinators.

OIC Poland Foundation – Polska Fundacja Osrodków Wspomagania Rozwoju Gospodarczego was the national coordinator for Poland. Its main responsibilities were the translation/adaptation of SELFIE WBL and supporting materials into Polish, reaching out and engaging the stakeholders, VET schools and companies, overseeing the piloting of the SELFIE WBL tool and supporting the research component. The national coordinator had a pivotal role in the piloting process for the ongoing support to VET schools and companies. OIC Poland Foundation had two members of staff dedicated to the SELFIE WBL pilot - one senior VET expert and one member responsible for overseeing the operations at national level.

Management at national level - responsibilities were defined as follows:

The national coordinator had a pivotal role in the SELFIE WBL piloting process and in the selection of VET schools and companies on national level. The national team was responsible for the ongoing support to VET schools, the engagement of national stakeholders and the preparation and delivery of planned webinars. It also acted as a liaison between Skupnost VSŠ and VET schools in everything related to the research component (including the translation of support materials developed for that effect). The national team was responsible for the conduction of the interviews with school leaders and company representatives.

The school coordinators were the main organisational force on institutional level engaging and mobilising companies, school leaders, teachers and students and offering them ongoing support during the pilot process. The school coordinator was also responsible for the organisation of the focus groups that took place in schools – one with teachers and the other one with students. The school coordinators were also responsible for the management of the relationship with companies and the eventual support that might was required throughout the SELFIE WBL pilot.

2. Digital education and WBL policies

The Polish education system has undergone a series of considerable changes since early 2017. The changes are based on 2 legal acts: Act of 14 December 2016 – Education Law (Polish Government, 2017a and 2017b). The reform influenced many aspects of the Polish education system, including the VET sector. With regard to the VET sector, the key changes are as follows (Chłoń-Domińczak, 2019):

- Secondary education programs (general and vocational) were extended by 1 year;
- 3-year Level I Vocational School was introduced (sectoral VET learning system, which allows to obtain professional qualifications);
- 2-year Level II Vocational School was introduced (students can attend this school after graduating from Level I Vocational School in order to improve their qualifications and prepare to take the Matura exam);
- Dual vocation training in collaboration with the business sector was started to be more widely promoted;
- The Fund for Vocational Education Development was established as a means of increasing the participation of employers in subsidizing vocational education.

Nowadays, the VET system in Poland at the secondary level is implemented by means of the following programs (Chłoń-Domińczak, 2019):

- 1st stage sectoral program (3 years)
- 2nd stage sectoral program (2 years)
- Vocational upper secondary program (5 years)
- Special job-training program (3 years)
- Work preparation classes
- Post-secondary non-tertiary program (12-30 months)

As far as Work-based Learning in Poland is concerned, special attention is placed on apprenticeships. It is provided in the following forms (Chłoń-Domińczak, 2019):

- Training for a profession – type of an apprenticeship. Theoretical training is provided at school (at Level I Vocational School) or outside the school system (by means of courses, etc.). Practical training is provided by an employer (an employment contract is concluded). Training for a profession lasts up to 36 months and ends with a state vocational exam. An employer may organize the practical training in the craft trades – in this case an employment contract is concluded for a maximum of 36 months. It ends with a journeyman exam.
- Training for a specific job – it is an uncommon form, limited to a small number of young people. The aim of the training is to prepare students to perform only certain tasks within a given job. It lasts 3 – 6 months and ends with a verifying exam.

A juvenile employee is entitled to a pay for the duration of the training period (4 – 6% of the national average salary – it depends on the subsequent year of training), social security benefits, holiday leave. It is possible for an employer to be repaid for the costs incurred (juvenile employee's salary and social security contributions) by the Labour Fund for the period of vocational training. However, the Ministry of Labour establishes financial limits on the repays (Chłoń-Domińczak, 2019).

For more detailed information on the VET system in Poland see Figure 10, Annex 1.

The Digitalisation Strategy for VET and WBL in Poland is under the auspices of the Ministry of Digital Affairs. The Ministry of Digital Affairs together with the Ministry of Development; Digitalization; Finance; Infrastructure and National Education developed a programme "From Paper to Digital Poland" in 2015. Its main objective was to develop the e-State and digitalization of the economy. The premise of this initiative was that the administration modernization is crucial to guarantee efficiency – an essential aspect of any sustainable country. The primary objective of services digitalization is to solidify the grounds for the development of a digital country, i.e., providing wide access to high-speed internet, efficient and user-friendly public e-Services and increasing the digital literacy level in society. Numerous actions and initiatives were undertaken under the "From Paper to Digital Poland" program framework. They proved that Poland's position is much lower that other member states' concerning the application of the ICT developmental possibilities, specifically (European Commission, 2019):

- Low-fixed broadband reception;
- Quite low public administration efficiency;
- Quite low e-Government usage level;

- Only a few percent of adults involved in long life learning.

In the report, it was advocated to develop broadband networks and advance public services' quality and efficiency through digitalization. The implementation of e-Services will cover the following approaches: mechanisms to prevent 'digitalization bureaucracy', enhancing the positive influence of projects on administrative processes, training as many people as possible to use ICT to improve the quality of their life and improve the competitiveness of the job market (European Commission, 2019).

The digitalization strategy is a part of a more extensive program "Responsible Development" implemented by the Polish government. The primary aim of this initiative is to make Polish citizens wealthier and diminish the number of people who face or might face poverty and social exclusion by 2020. The modernization and digitalization of current systems constitutes measures ensuring that this investment was made to provide equal possibilities and access of the regions to various initiatives introduced by the government (European Commission, 2019).

The "From paper to digital Poland" program covered 9 working fields and the following actions: Digital Public Services/e-Services; e-Reporting; Distributed Registers; e-Transport and e-Flow of goods; Increasing Cashless Turnover deals; e-Invoice and e-Receipt; e-Education; Artificial Intelligence and Internet of Things. The following streams "e-Tribute and e-Benefits", "IT Architecture", "Digital Identity", "National Scheme", "Cybersecurity", "e-Health" achieved the expected outcome and are now being reviewed according to the information provided by the Ministry of Digital Affairs from 2019 (European Commission, 2019).

The e-Education stream encompasses all stages of education (also VET) and advocates the introduction of a comprehensive education system modernization strategy. It does so by producing and circulating IT tools to enhance the effectiveness of the teaching and learning process of all engaged individuals: children, youth, adults, the elderly and the disabled. The e-Education stream was implemented under the "National Education Network" project. It was supported and assisted by the Scientific and Academic Computer Network, National Research Institute. E-Education was approved in 2017 and started in 2018. It concentrates on 2 primary actions (European Commission, 2019):

- Equipping schools with access to the internet (100 Mb/s minimum) and security services.
- Equipping schools with learning and teaching materials, providing support with regard to acquiring/improving digital skills by students.

The two actions reinforced the transition to the digital education system. They guaranteed that schools:

- Have sufficient and good equipment; teachers and students have appropriate skills and competences.
- Implement new educational and teaching forms and schemes in order to improve digital competences and skills (e-handbooks, e-learning platforms, etc.).
- Even educational opportunities for all Polish students, especially students who live in low-populated areas and attend schools with not many students. Access to updated sources and streams of knowledge is key to enhance the potential of such students.
- Use modern technologies in order to provide and transfer knowledge between educational entities.

It constituted an investment of PLN 320 million (around 70 million Euros), which was received from the Digital Poland Operational Program, and its operation (i.e., purchase of services from telecommunications operators to equip schools with free internet access) - over PLN 1.3 billion (around over 0,25 billion Euros) from the state budget planned for a 10-year period (European Commission, 2019).

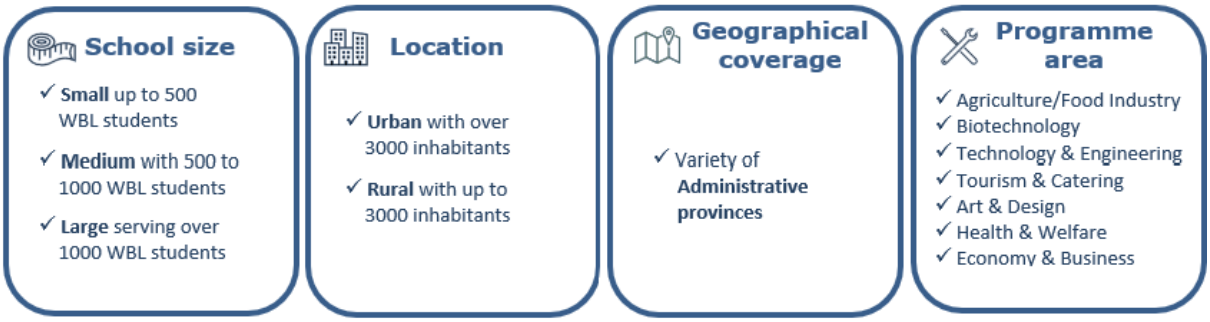
3. Set up of the pilot

3.1 Methodology for selecting the pilot schools and companies

Selection criteria for VET schools were set to capture and reflect the diversity of VET schools (see Figure 1) and their environment according to:

- Size of VET schools (as defined in the SELFIE WBL tool),
- Location (as defined in the SELFIE WBL tool),
- Geographical coverage (result of agreement within the SELFIE WBL pilot team),
- Programme area coverage (result of agreement within the SELFIE WBL pilot team) and
- Number of VET schools (at least 12 VET schools).

Figure 1. Selection criteria for VET schools.



Source: Skupnost VSŠ. (2020)

Regarding the school size and location, the decision was to apply the same criteria as defined by JRC in the SELFIE WBL tool. Regarding the different programmes offered by the different VET Schools, this was the result of a consultation with the SELFIE WBL pilot team in the 4 countries where the pilot is being overseen by EfVET. It does not intend to be an exhaustive list of all the programmes in the country but rather reflect the common areas identified by the SELFIE WBL pilot team. The agreed minimum number of VET schools to be engaged in the SELFIE WBL pilot was 12. One important consideration was the voluntary participation of schools in the pilots which meant, on a practical level, that the ultimate criteria would be the school's availability and willingness to participate in the pilot and commitment to the proposed responsibilities.

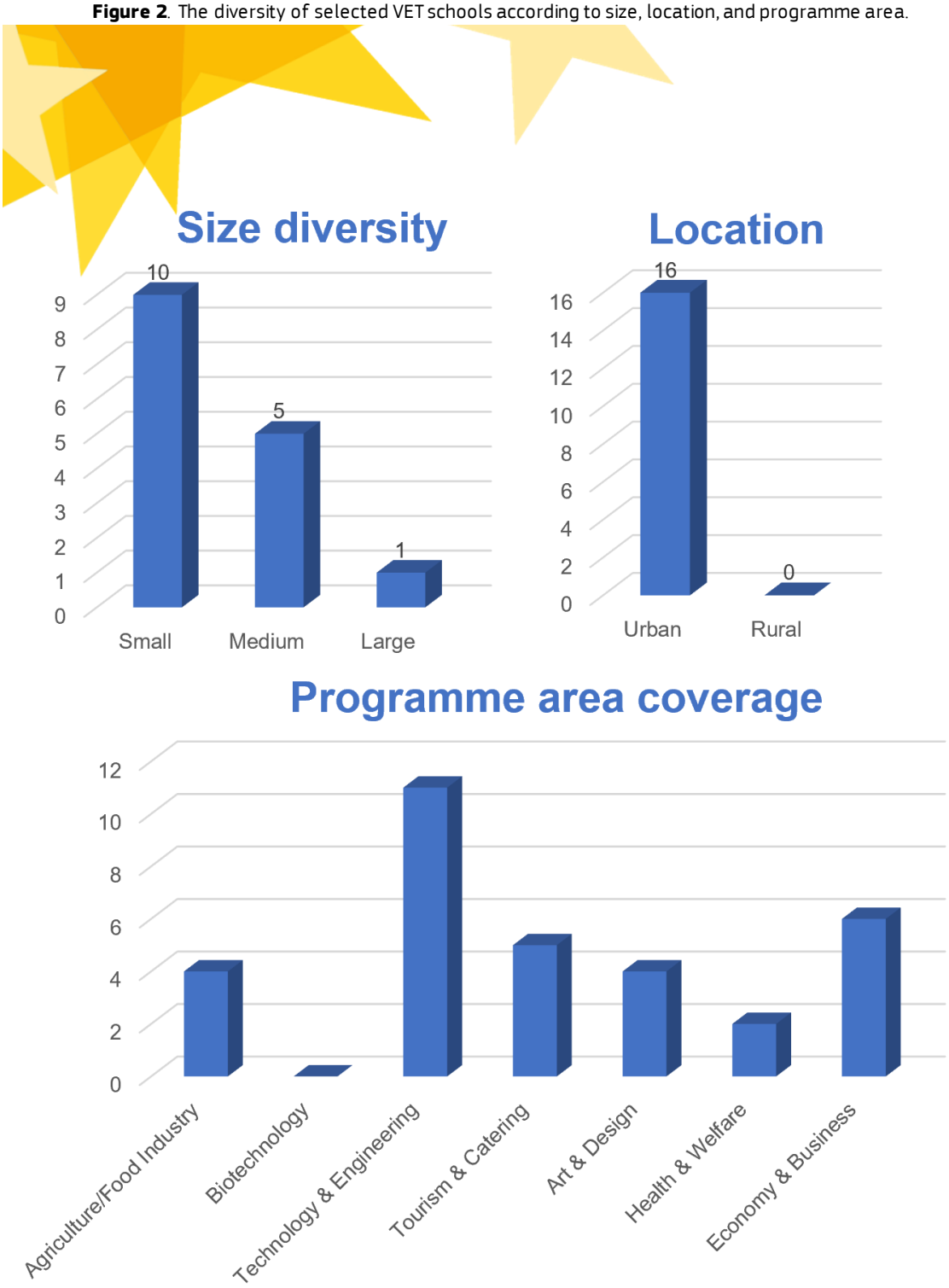
Mapping VET Schools in Poland was done by the national coordinator OIC Poland Foundation via the 16 Regional Education Offices in Poland who have, from the very beginning, expressed their interest and willingness to the piloting process. A call for VET schools to engage in the pilot was launched by OIC Poland Foundation, via their website, that was further disseminated by the regional offices. Even though a public lists of VET schools in Poland[1] exists, the above-mentioned approach consisting of reaching out to existing national networks of VET schools, was considered as best given the limited timeline of the SELFIE WBL pilot. CEDEFOP reports that there are almost 670,000 students in VET in 2018 (Chłoń-Domińczak, 2019). The number of VET students decreased by 40 % since 2005 (Chłoń-Domińczak, 2019). This is partly a consequence of a demographic trend and partly due to the increase of students enrolling in general education. The registration process was managed by the national team under the patronage of the Ministry of National Education. The regional offices were fundamental in facilitating and providing access to VET schools and were contacted by the national SELFIE WBL coordinator. The ultimate decision to participate was made by VET schools.

Outreach and Engagement – OIC Poland Foundation has established one-to-one communication with each VET school that expressed interest and availability to participate in the SELFIE WBL pilot, providing additional information regarding the piloting process and the qualitative research, explaining the advantages and benefits of the SELFIE WBL pilot and also providing information on the type of support available for the participating VET schools. This on-going communication was critical to assure VET schools' engagement and commitment to participate in the SELFIE WBL pilot. The decision was to engage all VET schools that registered until the set deadline. A Memorandum of Understanding was sent to all VET schools to be signed, to formalize the cooperation between EfVET, OIC Poland Foundation and each of the VET schools.

[1] The public list of VET schools in Poland is available at https://rspo.men.gov.pl/.

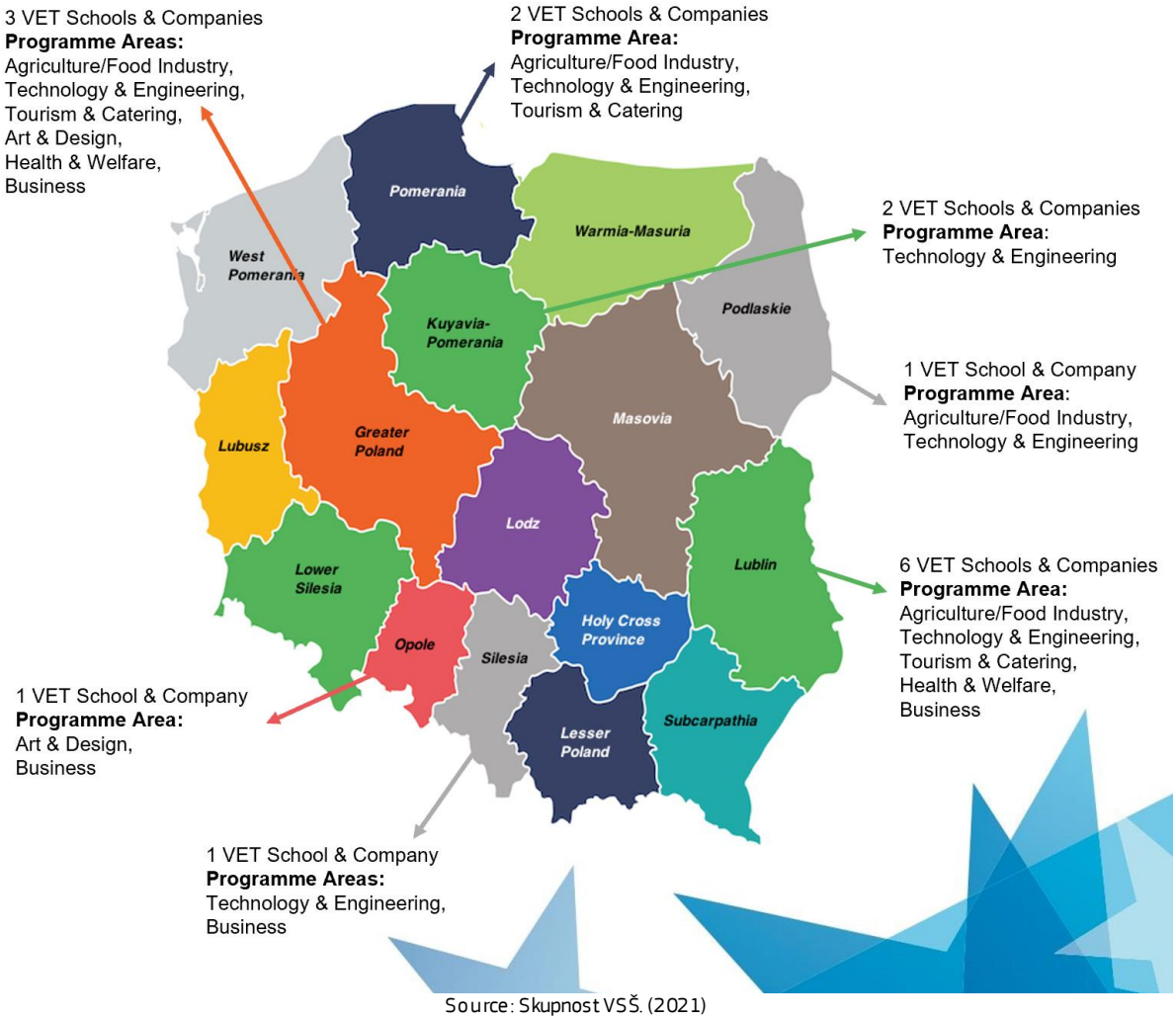
Overall, 16 VET schools from 7 different provinces have been engaged in the SELFIE WBL pilot, the majority of which with having up to 500 students in WBL. Although 63% of selected VET schools can be considered small according to size, all of them are located in urban areas. In terms of programme areas full diversity is almost achieved as no registered VET school covers the programme area of biotechnology. The summary of VET schools engaged in the SELFIE WBL pilot and the diversity of coverage according to above set criteria can be seen in Figures 2 and 3.

Figure 2. The diversity of selected VET schools according to size, location, and programme area.



Source: Skupnost VSŠ. (2021)

Figure 3. The diversity of selected VET schools and companies according to geographical coverage.



Source: Skupnost VSŠ. (2021)

Selection criteria for companies were set to cover and reflect the diversity of companies prioritising the relevant national economic areas (see Annex 2) and the diversity thereof. The selection criteria for the diversity of companies (see Figure 4) were set to:

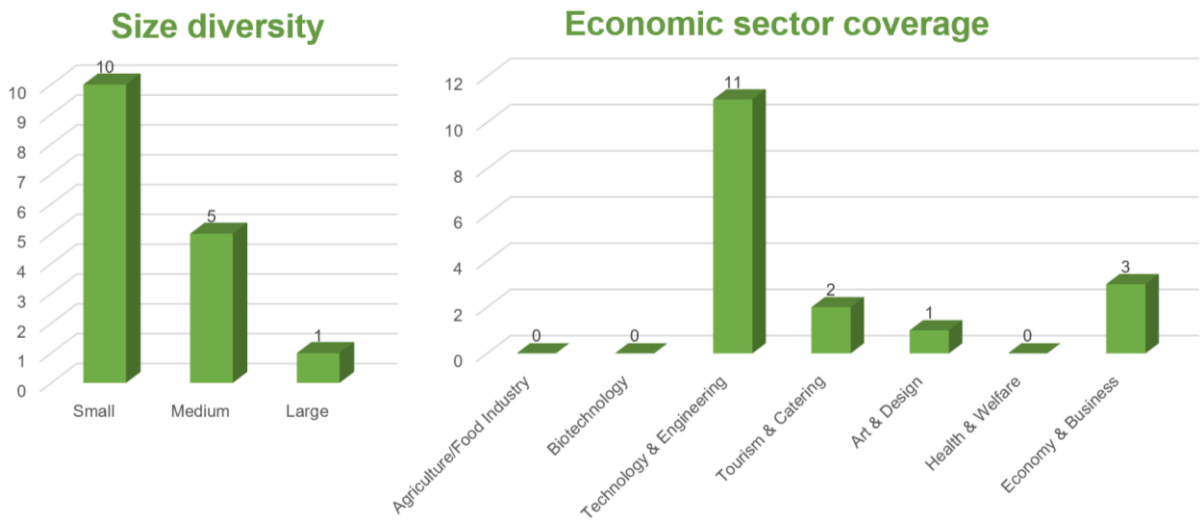
- Company size (Commission Recommendation of 6 May 2003, 2003) and
- Economic sector coverage (result of agreement within the SELFIE WBL pilot team).

Figure 4. Selection criteria for companies.

Source: Skupnost VSŠ. (2020)

Engagement of companies was managed by selected VET schools from the pool of companies each VET school works with. The above criteria were presented to each VET school by OIC Poland Foundation. The minimum requirement set for the SELFIE WBL pilot was to engage at least one company per VET school involved. Their engagement was based on their availability and willingness to participate and aligned with criteria set above, despite the additional measures taken as a result of the COVID-19 pandemic. The number of companies engaged was 16 and the diversity of coverage according to above set criteria can be seen in Figure 5.

Figure 5. Selected companies per selection criteria.



Source: Skupnost VSŠ. (2021)

Overall, there was an effort at national level to be as diverse as possible regarding the economic sectors. As Figure 5 reflects, a great diversity was achieved regarding the companies' size but rather moderate diversity regarding economic sectors. Nevertheless, the most dominant sectors such as business services, tourism, logistics, machine industry, telecommunications, construction, and IT are represented (see Annex 2).

Each VET school engaged one company resulting in 16 companies from 7 different provinces (see Figure 3). Initially, it had been planned to have companies' representatives signing a Memorandum of Understanding. Given the feedback received by the national coordinator regarding the challenges may be faced in the process of having companies signing this document and the wish of VET schools to take responsibility for the management of the communication and relationship with the companies engaged in the SELFIE WBL pilot, EfVET decided not to proceed with this formalisation on the basis that it was not needed, and it was adding an unnecessary administrative burden.

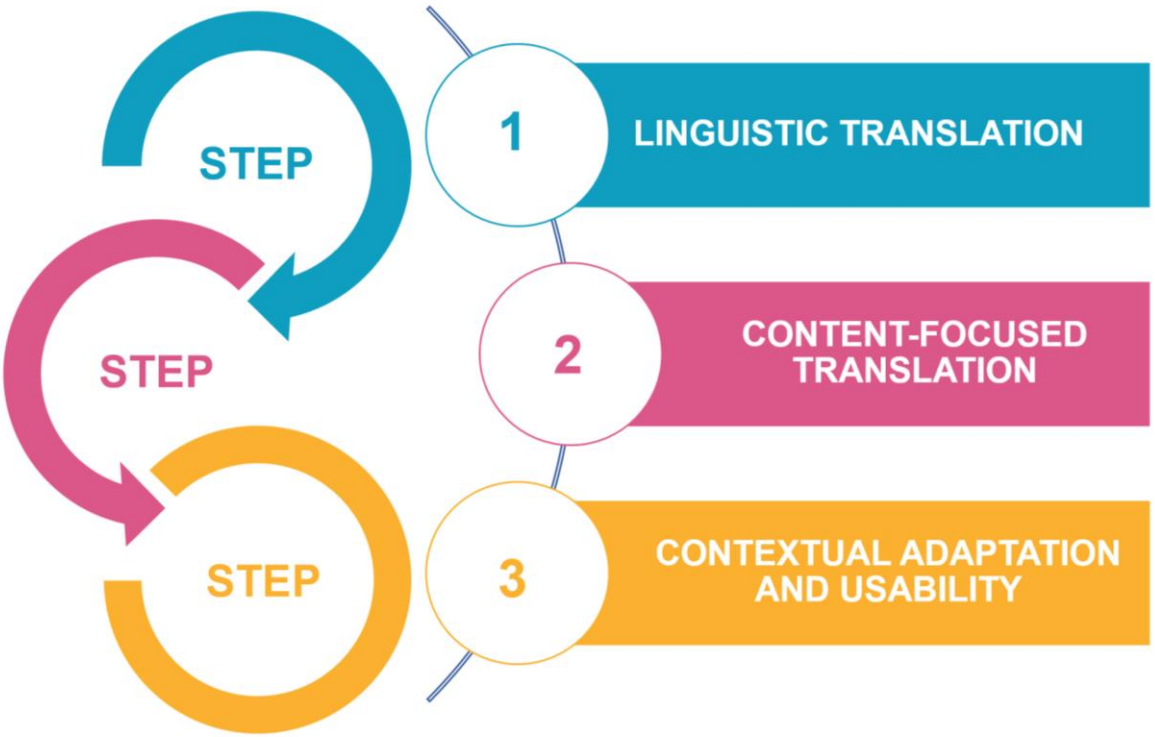
3.2 Methodology for translating and adapting SELFIE materials

The translation and adjustment of SELFIE WBL consisted of 3 main actions namely: (1) linguistic translation, (2) content-focused translation and (3) contextual adaptation and usability. The first one refers to the translation of the documents provided by JRC and was carried out by OIC Poland Foundation. The second and third actions related to the translation were carried simultaneously and brought together VET and WBL experts from 2 different VET schools and 1 expert representing the employers' association.

The involvement of external VET and WBL experts was done to assure the language and the terminology used were clear and understandable by all those involved and in line with the official ones used in the country. Initially, the plan was to involve the Regional Department of Education in the process of review but due to the timing set for the task, overlapping with summer holidays, this was not possible.

The linguistic translation took place in the first 2 months of the project. There was an initial misunderstanding regarding the deadlines set for the different actions and some delays were observed on steps 2 and 3.

Figure 6: Translation process

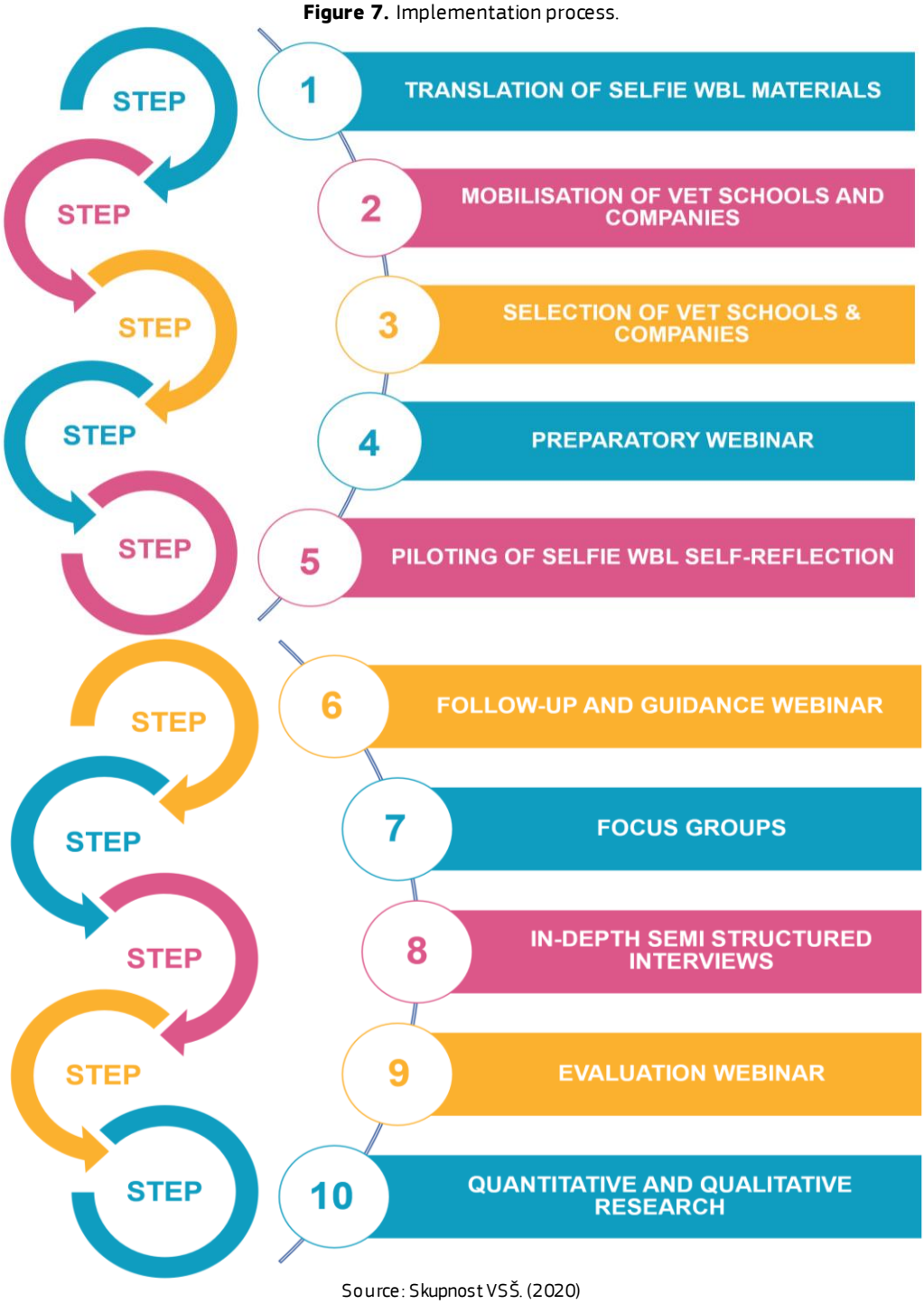


Source: Skupnost VSŠ. (2020)

4. Pilot implementation

The SELFIE WBL pilot was implemented in the following steps (see Figure 7):

Figure 7. Implementation process.



Source: Skupnost VSŠ. (2020)

Step 1) Translation of SELFIE WBL materials was done from August to September 2020 (see chapter 3.2 Methodology for translating and adapting SELFIE materials).

Step 2) Mobilisation of VET schools and companies took place from July to September 2020 (see chapter 3.1 Methodology for selecting the pilot schools and companies).

Step 3) Selections of VET schools and companies were conducted from July to September 2020 (see chapter 3.1 Methodology for selecting the pilot schools and companies) and the Memorandums of Understanding were signed with each selected VET school defining roles and commitments of each VET school to formalize this cooperation after the selection in September 2020.

Step 4) Preparatory webinar was organised by the national coordinator to bring together all national stakeholders, EfVET, JRC, European Commission as well as VET schools, companies, and the research team on 15th September 2020. The main objective was to present the aim of the SELFIE WBL, provide an overview of implementation steps, school self-reflection report, personalized certificates and digital badges, schools' and companies' commitments and timeline. Furthermore, feedback from each representative on eventual concerns and expectations was discussed as well as the mapping of digital tools for WBL used in the country, schools, and companies.

Step 5) Piloting of the SELFIE WBL self-reflection exercise began by VET schools registering into the SELFIE tool, planning the activation period, announcing the SELFIE WBL pilot within the school and among partner companies and motivating them to participate by explaining the benefits of their participation. When activating the SELFIE WBL self-reflection exercise, school coordinators monitored and reported the participation rate (40 % of WBL students, 40 % of VET teachers and at least 1 in-company trainer) and further motivated and promoted the participation among the target groups needed. Most difficult to motivate proved to be in-company trainers as they are not in school and under the management of the school. The SELFIE WBL process took place from September till October 2020, and the feedback from the exercise is presented in chapter 52 Quantitative results.

Step 6) Follow-up and guidance webinar was organised by the national coordinator addressing only VET schools and company representatives on 15th October 2020. The aim was to follow-up the piloting experience, gather initial feedback from school coordinators, address eventual challenges that may have arisen during the process, confirm the overall figures in terms of completion of the questionnaires and prepare school coordinators for the conduction of students and teachers focus groups and semi structured interviews for school leaders and company representatives. The school coordinators were asked to provide feedback on their experience during the implementation process through the list of challenges provided by the research team. The research team also provided the guidelines and reporting templates for focus group implementation as well as the list of challenges to school coordinators, guidelines and reporting templates for semi-structured interview implementation to the national coordinator. The guidelines, report templates, and the list of challenges can be found in Annex 3.

Step 7) Focus groups were coordinated by school coordinators in November and December 2020. Two focus groups were organised per VET school, one with students and one with teaching staff, to reflect and discuss their interpretation and in-depth understanding of the relevant report results. Due to COVID-19 pandemic the school coordinators struggled to organise focus groups and reach the agreed participation rate of 10 students/teachers per focus group (see chapter 7. Implications of COVID-19). In total 32 focus groups were organised involving 142 students and 133 teachers. The feedback from the focus groups is integrated in chapter 5.3 Qualitative results.

Step 8) In-depth semi structured interviews were managed by national coordinators from November to December 2020. The aim was to conduct 16 interviews with 4 in-company trainers and decision-making staff in VET school (4 pedagogical managers/directors, 4 sector heads/managers, 4 board heads/directors) to reflect and discuss their interpretation and in-depth understanding of the report results and to plan improvements based on those results. Interviews were conducted online. Due to COVID-19 pandemic the national coordinators struggled to engage in-company trainers (see chapter 7. Implications of COVID-19). In total 17 interviews were conducted involving 13 decision-making staff in VET schools and 4 in-company trainers. The feedback from the interviews is integrated in chapter 5.3 Qualitative results.

Step 9) Evaluation webinar brought together all national stakeholders, EfVET, JRC and the research team on 15th December 2020. The main purpose was to evaluate the experience, collect information and recommendations regarding the SELFIE WBL tool from policy makers and other institutional representatives at national level, the opportunities they see for the broader use of the tool in the WBL sector and identify possible dissemination actions that could take place. The research team presented the preliminary results and discussed those with the participants. The feedback from the webinar is integrated in chapter 5.3 Qualitative results.

Step 10) Quantitative and qualitative research was conducted simultaneously and upon the receipt of feedback from all above activities from September 2020 to January 2021. The research team prepared the quantitative analysis based on the results of the SELFIE WBL self-reflection exercise provided by JRC and the qualitative analysis based on the feedback from focus groups (teachers and students), semi-structured interviews (school leaders and in-company trainers), the list of challenges (school coordinators), the follow-up and evaluation webinars (for details see chapter 5 Follow up: quantitative and qualitative analyses).

The timeline of the SELFIE WBL pilot was severely affected by the COVID-19 pandemic which delayed the implementation of focus groups, semi-structured interviews, the evaluation webinar and in consequence the qualitative and quantitative research. It also affected the engagement of participants (see chapter 7. Implications of COVID-19).

5. Follow up: quantitative and qualitative analyses

5.1 Methodology

This project aimed to explore a broad scope of aspects of the SELFIE WBL tool to contribute to practice development and to improve the tool itself and its further development. To reach these aims and to increase the internal and external validity of the research results, the research design is based on methodological triangulation of using several different methods. The research team and its project partners used as approach of integrating the quantitative and qualitative methodology. Therefore, the following methods and techniques were used (Majchrzak, 1990):

- Analysis of primary sources: analysis of anonymized data provided by JRC.
- Analysis of secondary sources prepared by JRC: 4 reports showing aggregated graphs of SELFIE WBL pilot data which were: *Participation* (numerus and percent according to different demographic variables), *Satisfaction* (percent and mean for values of overall score and further recommendations), *Main Areas* (percent of positive responses for area and each variable) and *Additional Information* (percent of answers).
- Analysis of school reports generated by school coordinators, involved in SELFIE WBL pilot.
- Semi-structured interview reports, involving 2 respondent groups (school leaders and in-company trainers) provided by the national coordinator.
- Focus groups reports, involving the 2 other respondent groups (teachers and students).

The **quantitative data** were collected through the SELFIE WBL questionnaires, which were answered by school leaders, teachers, students, and in-company trainers. The SELFIE WBL tool provides state-of-the-art information as perceived by the respondent groups. Respondents were selected in a manner that it is possible to make a representative conclusion (Ragin, 2007) at institutional level.

We used univariate methods in this study. They are primarily intended to present the distribution of variables' values; hence the tables in chapter 5.2 and Annex 6 display the number of valid values and additional statistics that we selected: mean (the average value) and standard deviation. In our database, the number of valid responses varied between the variables. When answering the questions for which the quantitative analysis is presented, the respondents had a help text and answered mostly on a 5-level scale with the additional option "prefer not to say" or "not applicable" (and in two cases on a 10-level scale, one question being for all respondent groups and another for two respondent groups). For some questions they had the possibility to select the answer or not (multiple choice).

In the following quantitative part (see chapter 5.2) we present frequency tables and descriptive statistics. The tables with descriptive statistics display:

- N = number of valid responses from the respondents
- Mean (M) = the average value of the data points or numbers
- Standard deviation (SD) = a measure of the dispersion of a dataset relative to its mean

The **qualitative research** component of the SELFIE WBL pilot had as goal to collect feedback in view of improving the SELFIE WBL tool before it is launched online. The qualitative data were collected through desk research, feedback from school coordinators, focus groups and in-depth semi structured interviews.

The main goal of the desk research was to map out existing similar self-reflection tools in the country used in WBL contexts and to identify other existing digital tools. This mapping and listing were done in two different ways. On the one hand the research team conducted a comprehensive online desk research on all official and available websites from governmental institutions responsible for overseeing WBL in the country. On the other hand, by collecting this information from the different respondent groups engaged in the pilot (see Annex 8).

Focus groups brought groups of people together with the main purpose to collect feedback regarding the SELFIE WBL tool from users' perspective. The proposal was to conduct two separate focus groups in each VET school,

one with teachers involved in the pilot and the other with students (each gathering 10 persons). The selection of the students and teachers did not follow any criteria. The selection was left to the school coordinators according to the guidelines, they invited first 10 teachers/students who applied. Facilitators of focus groups were given guidelines (how to conduct focus groups, how and what to report) and templates for reporting the feedback of the focus groups (see Annex 3).

The qualitative research method of in-depth semi structured interviews consisted in posing a series of open and closed questions to targeted individuals, i.e., pedagogical managers/directors, sector heads/managers, board heads/directors and in-company trainers, with the goal to gain some insight regarding their perspective on the topic of digitalisation, their willingness to further explore SELFIE WBL and to integrate the tool in their current work, as well as to gather recommendations regarding possible ways to improve it (see Annex 3).

There were two open questions in SELFIE WBL for students (digital technology they find useful for learning and ideas and suggestions to further improve SELFIE WBL). We analysed them using thematic analyses. The thematic analysis is a method for examining the content of responses from data collected from open-ended questions, focus group discussions, or interviews. It enables identifying emergent topics not explicitly stated in SELFIE WBL questions. It is based on organizing key issues in data and grouped under themes reflecting important relations in the research questions (Braun and Clarke, 2006). Results of the thematic analysis were included in the qualitative part of the report (see Annex 4).

The qualitative research method of analysis of school reports generated by school coordinators consists of gathering challenges, advantages of the implementation of SELFIE WBL, and further feedback on the SELFIE WBL process from the perspective of school coordinators, who organised and monitored the SELFIE WBL process within their institutions. To collect feedback, a template was prepared and provided to school coordinators (see Annex 3).

The data collection took place from September 2020 until January 2021. The analyses started in December 2020. All responses to the SELFIE WBL self-reflection exercise, focus groups, semi-structured interviews, and analysis of school reports generated by school coordinators remained anonymous and disconnected from contact details to ensure confidentiality.

5.2 Quantitative results

Participants in the quantitative analysis were from 12 VET schools. There were 2417 respondents in the database. The participation of school leaders, teachers, students, and in-company trainers was as follows:

- 41 school leaders
- 277 teachers
- 2084 students
- 15 in-company trainers.

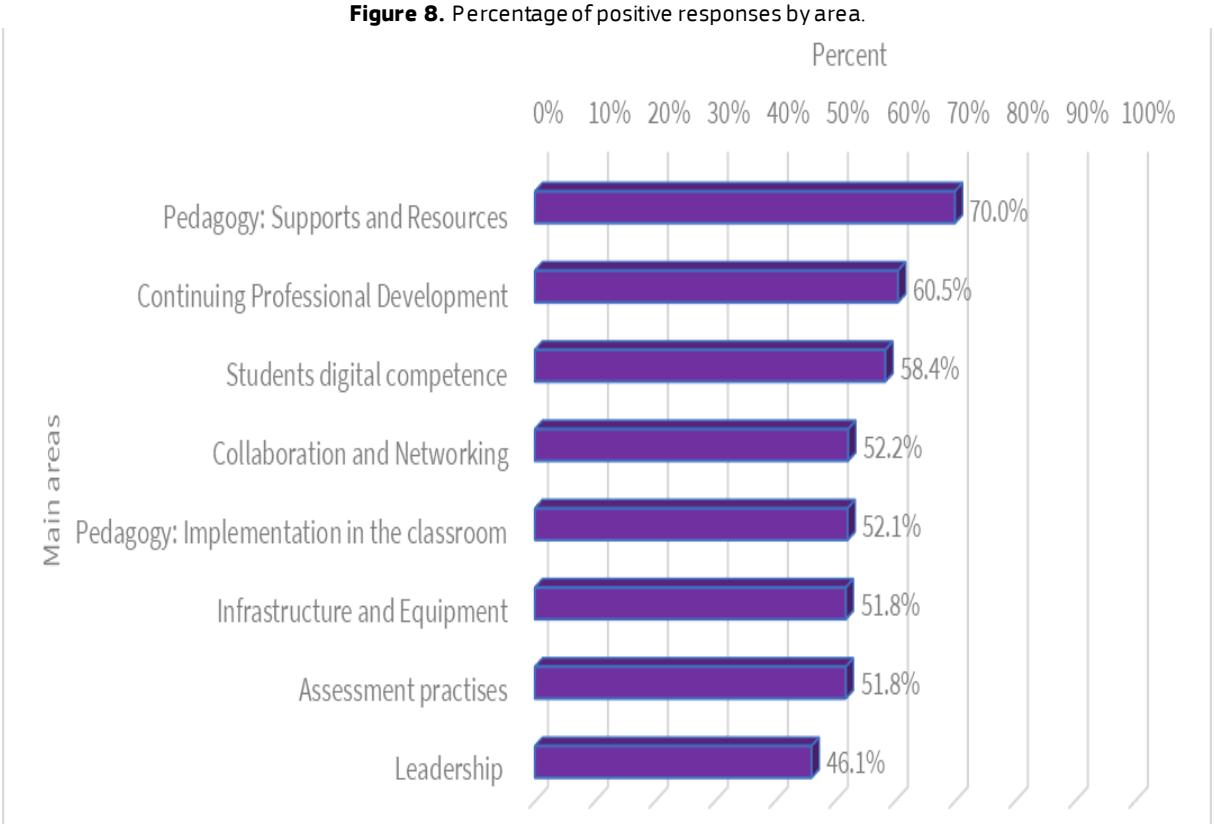
In the SELFIE WBL pilot the sample of respondents from public schools prevail with 87.2% meaning only 12.5% of respondents originated from private VET schools. The respondents' sample is very comparable with the national one where 88.8% of VET schools are public and 12.7% are private (Statistics Poland, Statistical Office in Gdansk, 2020).

53.6% of respondents were from schools located in cities (100,001-1,000,000 inhabitants), 43.8% of respondents from towns (15001-100,000 inhabitants), and 2.6 % of respondents from small towns (3,001-15,000 inhabitants).

Respondents were mainly (68.4%) from schools located in towns (15001-100,000 inhabitants), 20.8% were from cities (100,001-1,000,000 inhabitants), 5.5% from small towns (3.001-15,000 inhabitants) and 5.3% from villages (1,000-3,000 inhabitants).

The SELFIE WBL self-reflection exercise consists of eight areas on a five-point Likert scale (1-5). Figure 8 displays the percentage of positive responses (i.e., responses on 4 and 5) by main areas. The most positive responses from all respondents are in the area "Pedagogy: Supports and Resources" (70.0 %), which is followed by the area "Continuing Professional Development" (60.5 %). On the other hand, the least positive responses from the respondents are seen in the area "Leadership" (46.1 %)

Figure 8. Percentage of positive responses by area.



Source: European Commission (2020). SELFIE database, special extraction for SELFIE WBL national coordinators.

Table 1 displays average values for main areas per respondent group. The number of questions in the areas differ between the respondent groups.
There are some differences in the areas which different respondent groups rated the highest. The area with the highest mean in the group of school leaders and teachers is "Pedagogy: Supports and Resources" (school leaders M=4.2, teachers M=4.1). Students rated the highest "Pedagogy implementation in the classroom" (M=3.6) and in-company trainers "Infrastructure and networking" (M=3.8). The lowest mean is in the area "Assessment practices" for school leaders (M=3.5), for teachers and for in-company trainers in the area of "Leadership" (teachers M=3.4, in-company trainers M=3.0) and for students "CPD" (M=3.4).

Average values per respondent groups for all variables are the highest from school leaders and teachers (M=3.7) and the lowest from students (M= 3.5).

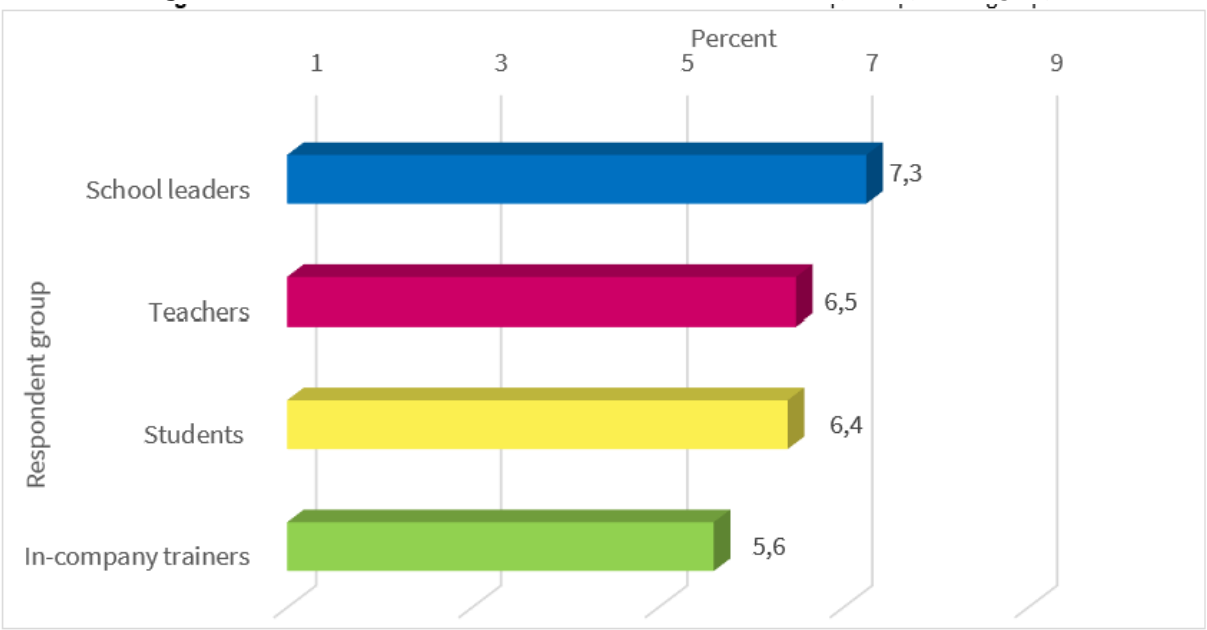
Table 1. Descriptive statistics for main areas per respondent group.

Main Area	School leaders N=53		Teachers N=262		Students N=2789		In-company trainers N=17	
	M	SD	M	SD	M	SD	M	SD
Leadership	3.3	1.3	3.4	1.3	/	/	3.0	1.8
Collaboration and Networking	3.6	1.6	3.5	1.7	3.5	1.3	3.7	1.9
Infrastructure and equipment	3.7	1.1	3.5	1.2	3.4	1.9	3.8	2.1
Continuing Professional Development	4.1	1.8	3.8	2.0	/	/	3.2	1.5
Pedagogy: Supports and Resources	4.2	0.7	4.1	1.8	3.4	1.5	3.5	1.7
Pedagogy implementation in the classroom	3.8	0.9	3.7	1.5	3.6	1.7	3.4	1.4
Assessment practices	3.5	1.8	3.5	1.9	3.5	1.9	3.3	1.6
Students' digital competence	4.2	0.8	3.9	1.1	3.6	1.9	3.6	1.9
All areas	3.7	1.4	3.7	1.7	3.5	1.9	3.6	1.9

Source: European Commission (2020). SELFIE database, special extraction for SELFIE WBL national coordinators.
Note: M=mean, SD= Standard Deviation; Green: the highest score, Grey: the lowest score.

Figure 9 displays means for overall satisfaction with SELFIE WBL on a 10-level scale per respondent group. The highest satisfaction is indicated by school leaders (7.3) and the lowest, yet still above the middle of the 10-level scale, is given by students (5.6).

Figure 9. Mean overall score for overall satisfaction with SELFIE WBL per respondent group.



Source: European Commission (2020). SELFIE database, special extraction for SELFIE WBL national coordinators.

The likelihood for further recommendation of the SELFIE WBL on a 5-level scale was the highest among school leaders (M=3.4) and the lowest among in-company trainers (M=2.6). The percent of positive responses ("Very likely" and "Extremely likely") in the group of school leaders was 39.0%. On the other hand, the highest percent

of negative responses ("Not at all likely" and "Not very likely") was given by in-company trainers (40.0%). The percent of answer "prefer not to say" was the highest among in-company trainers (20.0%).
Students and in-company trainers were asked about their opinion about the questions included in SELFIE WBL (see Table 2 in Annex 6). They rated the relevance of questions on a 10-level scale. Students' average score was 6.3 and in-company trainers' average score was 5.9.

The SELFIE WBL self-reflection exercise included also questions about respondents. Teachers indicated usefulness of Continuing Professional Development (CPD) activities on the pedagogical use of digital technologies. The percentage of positive responses (i.e., responses on 4 and 5) was the highest for "Learning through collaborating" (80.2%), followed by "Online professional learning" (73.4%) and "Face-to-face professional learning" (73.1%). "Study visit" was chosen with the lowest percent of positive responses (50.4%). The answer "Did not participate" was the most often used for "Accredited programmes" (54.2%).

Teachers and in-company trainers were asked about their confidence in the use of digital technologies.[2] Teachers feel the most confident in using technology for "Communication" (85.3%). In-company trainers feel the most confident in using technology for "Communication" and "Preparing lessons" (84.6%). Teachers are least confident in using digital technology for "Class teaching" (58.4%), in-company trainers for "Feedback and support" (76.9%).

Teachers and in-company trainers were asked "For what percentage of teaching/training time have you used digital technologies in class in the past 3 months?" There were five possible answers.[3] 30.0% of teachers and 13.3% in-company trainers chose answer "11-25%" of teaching/training time. 30.8% of teachers and 13.4% of in-company trainers chose answer "51-75%" or "76-100%".

The students reported that they used technology in and out of school most frequently for fun (83.1%). 66.2% of students had access to technology outside the school.

Answers to the question "Is teaching/training with digital technologies in your school/company negatively affected by the following factors?"[4] display some differences in evaluation among target groups. School leaders found "Lack of funding" as the most influential negative factor (21.9%), teachers "Insufficient digital equipment" (21.6%) and in-company trainers "Lack of time for trainers" (25.0%). The negative factor for teaching or training with digital technology which school leaders rated with the lowest share of positive responses was "Students' space restrictions" (2.6%), teachers "Low digital competence of teachers" (5.9%) and in-company trainers "Low digital competence of trainers" (3.6%).

Answers to the question "Is remote teaching and learning/training with digital technology negatively affected by the following factors?"[5] display that remote teaching and learning is most often negatively affected by "Limited student access to reliable internet connection" (school leaders 23.4%, teachers 21.4%) and "Limited student access to digital devices" (school leaders 18.2%, teachers 19.0%). In-company trainers chose most often "Limited student access to digital devices" (20.0%). For school leaders (3.9%) and teachers (4.8%) the least influential negative factor is "Teachers lacking time to provide feedback to students". In-company trainers chose "Difficulties in supporting families in helping students" with the lowest share (6.7%).

The percent of chosen positive factors for remote teaching, learning, or training[6] displays disagreement between respondents from schools and companies. School leaders rated as the most positive factor "Teachers collaborate within the school on digital technology use and creation of resources" (20.0%). Teachers rated the same factor the highest (19.4%). In-company trainers chose "Company has access to well organised online of digital resources" (20.7%) most frequently. School leaders and teachers agree that the positive factor that least affects remote teaching and learning is the "Bring your own device policy" while in-company trainers rated "The company has a digital strategy" lowest.

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[2] Teachers responded to the question regarding the situation in their school (teaching), in-company trainers regarding the situation in their company (training).

[3] Answers: 0-10%; 11-25%; 26-50%; 51-75%; 76-100% of teaching/training time; Prefer not to say.

[4] School leaders and teachers responded to the question regarding the situation in their school (teachers), in-company trainers regarding the situation in their company (trainers).

[5] School leaders and teachers responded to the question regarding the situation at their school (teachers, teaching), in-company trainers regarding the situation in their company (trainers, training).

[6] School leaders and teachers responded to the question regarding the situation in their school and teaching, in-company trainers regarding the situation in their company and training.

For more information on figures, tables, and data, see Annexes 6 and 7.

5.3 Qualitative results

All sixteen pilot schools were included in the qualitative part of SELFIE WBL. Based on the results of the SELFIE WBL self-reflection exercise, it was not possible to determine by deviation the best and worst performing school as the results were quite similar or differed only in individual parameters. Therefore, we decided to present the results of all covered schools as study cases in this qualitative part.

The collection of qualitative data was seriously affected by the second wave of COVID-19, which pushed the implementation of the qualitative phase of SELFIE WBL pilot down the priority list both in schools and among participants. This manifested itself in a difficult access to participants and less opportunities for participants to participate actively in focus groups (especially teaching staff) as they had already dealt with cases of COVID-19, conducting live schooling, and preparing for the transition to remote learning. However, it was extremely challenging to engage in-company trainers in semi-structured interviews as companies demanded their full focus on preparing the company to the new situation.

Nevertheless, the qualitative analysis was based on feedback from 32 focus groups, 17 semi-structured interviews, 12 school reports, the final evaluation webinar as well as answers to open questions in the SELFIE WBL self-reflection exercise (see chapter 5.2 Quantitative results). The focus groups for teaching staff were moderated by a peer teacher and for students were run by a school tutor.

In total, 133 teachers and 142 students participated in the focus groups (see Table 2). The semi-structured interviews were conducted with 13 pedagogical managers, sector managers, and school directors as well as with 4 company representatives that took part in the SELFIE WBL self-reflection exercise, all of them being moderated by the national coordinator. School coordinators reported on their coordination and administrator experience when launching and using SELFIE WBL.

Table 2. Number of students, teachers, school leaders, in-company trainers and school coordinators involved in the qualitative analysis.

School	Focus groups with students	Focus groups with teachers	Semi-structured interviews with school leaders	Semi-structured interviews with in-company trainers	School coordinators (list of challenges)
School 1	5	5			1
School 2	10	10			1
School 3	10	10	1	1	1
School 4	10	10			1
School 5	10	10	1		1
School 6	10	10	1	1	1
School 7	10	10	1		1
School 8	10	10			1
School 9	7	5	1		
School 10	10	5			
School 11	10	10			
School 12	10	10	1	1	1
School 13	10	10	1		1
School 14	10	8	1	1	1
School 15	10	5	1		1
School 16	5	5	1		1
TOTAL	**142**	**133**	**13**	**4**	**12**

Source: Own analysis.

For details on focus groups, semi structured interviews, and challenges see Annex 3.

5.3.1 Initial motivation from participants

During the focus groups the **students** were asked about their expectations from the SELFIE WBL self-reflection exercise and only 27 % of students did not have any prior expectations for the SELFIE survey. Students had a positive attitude expecting as a result the overall opinion on digitalisation at school, how their school compares to other schools in digitalisation, reliable and transparent reflection on digitalisation, and the state-of-the-art of digital equipment. Furthermore, students appreciated their inclusion into the SELFIE WBL exercise but expected it to be more entertaining. In conclusion, 100 % of students confirm their expectations were met and outline that it was a very detailed self-reflection exercise encompassing digitalization from many different aspects which makes the SELFIE WBL self-reflection exercise different from other surveys.

The **teachers** had the same question as students. 75 % of teachers were looking forward to receiving feedback on the status of digitalisation, including all perspectives (teachers, students, school leaders and in-company trainers). Their expectations broadened to the digital readiness of teachers and the extent of disruption due to COVID-19 pandemic. Teachers also expected feedback on implementation of remote learning. Furthermore, teachers outlined the expectation that SELFIE WBL clearly highlighted weaknesses and strengths. Finally, it was expected that the SELFIE WBL would indicate areas in need of improvement and further development in the field of digital teaching authentically illustrating the current state at their school. 25 % of teachers did not have specific expectations but generally the approach was positive.

In-company trainers proved to be challenging to motivate. Nonetheless, their major motivation was to contribute to the close working relationship with the schools as their partners, help them to learn as well as to gain an overview on the digitalization status from different perspectives. Their expectations were met.

School leaders were highly motivated expecting an instantaneous overview of concrete results and the assessment of digitalisation and the state-of-the-art from various perspectives transparently. Their aim was to identify deficits in infrastructure and staff's preparedness to use digital tool in their teaching. Additionally, school leaders looked forward to how their effort on developing remote teaching was perceived, especially from students' perspective, and to experience how the SELFIE WBL tool functions. The expectations were fully met in 92% of cases. Furthermore, school leaders indicated that the SELFIE WBL tool proved to be very satisfactory providing very useful information to determine further effective activities to be integrated into the strategy of the school.

Finally, **school coordinators** reported that the attitude of all the four target groups was mostly positive although some faced difficulties to motivate participants due to the pandemic. To stimulate participation informational activities were undertaken, flyers displaying benefits disseminated and personalised certificates promoted prior to the SELFIE WBL exercise. The importance of digitalisation as the consequence of COVID-19 was correspondingly high and evident. One of the main challenges was the mobilisation of students. Additionally, the pandemic negatively impacted the cooperation of in-company trainers and the direct outreach of the school to this specific group is proportionately lower. In general, there was a consensus that using a self-reflection tool like SELFIE WBL was beneficial.

5.3.2 Strengths and weaknesses of the SELFIE WBL tool

Participants filled out the SELFIE WBL self-reflection exercise on various devices, mostly on computers and smartphones. The possibility to use smartphones was particularly appreciated, specifically among students. 62% of students found SELFIE WBL understandable and transparent. They experienced no problems and confirm that nothing was left out. Further characteristics that **work well** were the supporting explanations to questions and the easy handling of the tool. Additionally, the appealing, detailed, and colourful user interface, the processing time as well as the fact that in general, the SELFIE WBL process ran smoothly were considered as strengths. Nevertheless, some **challenges** were identified in displaying larger texts fully on smartphones and tablets (only in landscape format). Furthermore, the participants pointed out that for such a detailed and lengthy self-reflection exercise it is essential to enable the option of saving the input for later finalisation or due to disruptions such as internet failure. 18% of students considered the SELFIE WBL self-reflection exercise too time consuming, tiring, exhausting and in some cases, there is no clear distinction among questions with

complex terminology (see Annex 4). They find the questions should be more interesting, specific, relevant to their study programme, and offering the opportunity to reflect the gap in digital proficiency among different teachers. In general, the SELFIE WBL self-reflection exercise should be conducted in the second semester of the study year to allow students to gain experience and develop their own opinion of the digitalisation situation of the school as well as the company.

Regarding the **SELFIE WBL tool** registration process it was outlined that the navigation and data input were considered simple, quick, and easy. The layout and guidance were very clear and simply manageable. The possibility to customize the SELFIE WBL self-reflection exercise to the needs of the school by choosing from optional pre-prepared questions and by adding their own, self-created questions was very positive considered. As the biggest advantages of the SELFIE WBL tool were considered the inclusive factor overarching all four stakeholders and the information collected from them, the opportunity to identify the strengths and weaknesses of the school and the opportunity to use SELFIE WBL as a self-evaluation tool. However, respondents miss more open questions to be able to add explanations as well as the lack to edit any basic information (number of teachers, students, add companies/in-company trainers) once the SELFIE WBL self-reflection exercise was activated. The display of the list of companies could be improved by providing an easier way to register all companies schools work with. The answer scaling should be displayed neutrally avoiding tendency towards a larger displayed answer or towards the "middle" answer. On the other hand, the generation of a single link to access the SELFIE WBL self-reflection exercise per target group was welcomed and considered easy and fast. The participation monitoring is fully and distinctly enabled for each target group. The help function is considered very welcome and useful. Technically, the SELFIE WBL tool was easy to manage. Finally, most participants assess the SELFIE WBL tool as user-friendly, very easy to use, transparent, with a good structure, well designed, and with a 360-degree reflection (lacking, according to few schools, only the perspective of parents).

5.3.3 Questionnaire, content and SELFIE WBL report

The overall impression is that the **questionnaire** was clear, relevant, and well-structured, with an appropriate mapping a variety of relevant areas such as leadership, infrastructure, teaching and learning. Nevertheless, the questions were too long, complex and seemed repetitive (see Annex 4). The questionnaire was considered long, extensive and time consuming. The SELFIE WBL pilot questionnaire was composed of standard VET questionnaires[7] with additional new items and a new respondent group to get information also on specific WBL-related items. This made it likely that it was perceived as lengthy, but this was the only way to also test the new WBL items. JRC planned from the start to shorten the questionnaire for the final version. Some questions were irrelevant for some professions and could be better adjusted to company reality. There was a strong demand for more open questions to enable comments, suggestions and experience sharing. Questions integrating communication with parents and family are very much related to primary education and not to vocational schools and should be omitted[8]. On the other hand, a few schools suggested to include parents as a respondent group as well. A few school leaders also suggested that SELFIE WBL is too much of a hassle for small schools and did not contribute any new information.

The **content** was prepared in such a way that the relevant subject areas were very well mapped, comprehensive, detailed, extensive, diverse and multidimensional to cover a wide range of topics. On the other hand, there was no option of reducing the number of questions as it was too extensive, demanding and tiring for students. The terminology of questions was too complex and demanding for students. Additionally, as vocational fields differ vastly it would be appreciated to determine the professional field beforehand and only then ask the questions tailored to a specific profession. The evaluation of teachers should be enabled on individual basis as their digitalisation skills differ vastly with some still struggling with basic digital skills and others being digitally proficient. Participants outlined the necessity for additional themes such as student's and teacher's home equipment, internet access and stability (also at home), teacher training the use of information and communication technology (ICT) in the classroom and for what purpose and home-schooling in general. They miss a section to establish the difference in achievement of students and workload of students and teachers during face-to-face learning versus during remote learning processes. SELFIE WBL offers a range of questions addressing those issues among optional questions, so this is a reminder for school coordinators to include those

[7] That is, the SELFIE VET questionnaires which are already available in the online SELFIE tool.

[8] That is, "Difficulties in supporting families in helping students with remote learning." and "Low digital competence of families."

questions as well if they have not done so yet. Additionally, the questionnaire should be better adjusted to company reality. Furthermore, some schools are convinced that students evaluated the teachers with surprisingly high rates as they did not distinguish among the evaluation of the teachers' skills and the available ICT equipment. Another reason for this might be that many students were from ICT study programmes.

The **SELFIE WBL report** offers extensive, useful and clear feedback and documents the current state of digitalisation very well, identifying strengths and weaknesses. The online report is dynamic and can be operated intuitively. It is a good base for analysis and further development steps. The report offers the school an official document with the reflection of digital processes per specific area and target group. The PDF format is colourful and appealing yet difficult to understand as question texts are not displayed and some scores are not fully visible (see Annex 5, areas C and H for in-company trainers, and areas D, E and H for school leaders). It is difficult to draw unequivocal conclusions from the report. Participants also expected the report to provide clear conclusions, recommendations, and a proposal for actions to be adopted. Finally, the report clearly highlighted the areas that need further attention and focus.

5.3.4 Current and future use of SELFIE WBL

SELFIE WBL clearly exposed the **current** digital condition and performance with all its strengths and weaknesses. Most schools find the reflection accurate, detailed and somewhat surprising as in some parameters the results were better than expected. This is mostly the case for students' reflection of the school and teachers' digitalisation state which were better than teachers and school leaders expected. Although teachers estimated that the cause for a better result was not their good digital skills but rather the fact that there is no option to indicate the extreme gap among the digital skills of teachers which emerged and became more evident during the pandemic (some teachers still struggling with digital basics while others displaying proficient digital performance within the same VET school) or that students confused teachers' skills and teaching equipment (see Chapter 5.3.3.). Yet in some cases it led to disappointment as the reflections proved to be more critical than expected. One school was extremely disappointed and considers the results not objective.

Based on the SELFIE WBL report, the identified **future** steps were to share and discuss the results with all target groups and departments to gain a better and uniform understanding of the result. To analyse those and develop a coherent institutional digital strategy including an action plan, a sound pedagogical and didactical concept and a feasible financial plan with indicators for reflection of each criteria further support are needed. Many schools suggested the SELFIE WBL report should include conclusions and recommendations. Afterwards, it is essential to inform all the relevant target groups including in-company trainers and present the action plan. Solving infrastructural, continuing professional development capacity and the equipment of students at home are identified as urgent priorities. However, some small schools find the SELFIE WBL exercise positive yet too much workload to receive information they are already are aware of as the information flow in a small school runs smoother among different respondent groups than in larger schools. On the other hand, many schools tend to use SELFIE WBL reports to approach authorities in order to support them in addressing deficits that emerged in the exercise.

Most schools plan to repeat SELFIE WBL in 1- or 2-years' time to **follow-up** the impact and progress achieved in the meantime if the activation timeframe of the SELFIE WBL self-reflection exercise is prolonged. Moreover, school leaders will use the reports to present the authorities the momentary situation of digitalisation at their school and use the later SELFIE WBL follow-ups to present their effort and progress. Nevertheless, there is a strong desire for **benchmarking** on national and international level to get an impression of their position based on their own quantitative results in various areas and in a broader environment. Furthermore, participants pointed out the need of support in extracting the correct information from the reports as well as a platform for **good practice** sharing.

5.4 Overall findings

This chapter presents reflections and main findings from the pilot, gathered from both quantitative and qualitative analyses and the reflections from the participants.

School coordinators confirm that the school **registration process** was considered very easy, smooth, fast, and clear once they read the instructions offering a thorough guidance through the process. The rigidity in editing data once the SELFIE WBL self-reflection exercise is activated emerged again in relation to the mobilisation of companies and in-company trainers (see chapter 5.3.1.). Four schools failed to mobilise in-company trainers of the agreed company and as such failed to be included in the quantitative results (see chapter 5.2). Moreover, some school coordinators invited more teachers to participate in SELFIE WBL than they declared during registration, which resulted in the participation rate over 100%. However, most schools considered the registration process, input of data and the generation of links very user friendly and easy and reached the set goals of target group participation. Additionally, the schools commented that to obtain a realistic feedback from in-company trainers, the recommended participation rate of a school's partner companies should be set higher. Consequently, a substantial number of companies needs to be entered during the registration process which adds considerable extra workload. Schools would also appreciate a preview of data needed for the registration process in order to have time to prepare them before the registration process is started.

School coordinators identified the option to **customise the SELFIE WBL tool** as one of the most beneficial features. Nevertheless, the preferred form of customised questions are open questions. Additionally, school coordinators reported several obstacles when **reaching out to participants** to take part in SELFIE WBL. Firstly, the pilot schedule was very intensive with little to no room for launching the SELFIE WBL exercise in a more convenient period for schools due to summer vacations. So, the SELFIE WBL self-reflection exercise was launched immediately at the beginning of the school year. There was very little time for an appropriate and thorough information campaign among the target groups. Secondly, the time of the activated SELFIE WBL self-reflection exercise is limited to a maximum of three weeks. This was considered inappropriately short as vocational students have a shared schedule of time at school and in the company. Thirdly, autumn school vacations interrupted the immediate organisation of the follow-up activities. Therefore, the follow-up was conducted with a larger time-gap as foreseen, and the participants of focus groups and semi-structured interviews claimed they had difficulties recalling detailed comments. Finally, as much as the first wave of COVID-19 boosted the interest in and importance of digitalisation in spring, the return of the pandemic in autumn resulted in teachers, students and in-company trainers being out of reach due to illness or quarantine, new measures and restrictions that were imposed causing stress which resulted in SELFIE WBL drastically falling on the priority list of participants. Consequently, difficulties were encountered in mobilising teachers and students to participate in SELFIE WBL exercise, the focus groups and concentrate on their SELFIE WBL experience as they were home-schooling, and apprenticeships were cancelled. It is important to emphasize that If students are not in the classrooms, they are hard to reach as they do not have the equipment or have to share this with other siblings.

School leaders considered the SELFIE WBL pilot came "just in time" due to the pandemic experience in spring and were therefore highly **motivated** to establish the authentic state-of-the-art of the school's digital practices and recognized the added-value of the SELFIE WBL tool in this process. One school proposed extra promotional items with the SELFIE WBL logo (pens, caps, pencils, etc.) for further motivation of participants. On the other hand, some teachers and students perceived it as an additional burden in the difficult times when their main priority was on the implementation of remote provision of teaching and learning. On the contrary, most teachers and students were very motivated and looked forward to contributing with their opinion on digitalisation to the SELFIE WBL self-reflection exercise and its results. Some school coordinators organised informational sessions pointing out the benefits of the SELFIE WBL self-reflection exercise and possible impacts on schools' digital strategy and practices pointing out strengths and weaknesses finding out what works well and what is less efficient. Many schools were looking forward to the comparison with other schools. Nonetheless, the enthusiasm of most students faded during the SELFIE WBL self-reflection exercise due to its length, complex terminology, tiring similar questions causing exhaustion and lack of interest. Some participants admit they ran through the survey without reading it, especially towards the end of the survey. Likewise, teachers' interest lowered focusing mostly on how to deal with the COVID-19 crisis and remote learning. However, the **monitoring of participation** was fast, transparent, colourful, and simple.

Participants find the online **SELFIE WBL report** useful and exhaustive as it pinpoints the expected needs for improvement like the necessity to improve students' and teachers' digital skills as well as the accessibility to a stable Wi-Fi network. The report furthermore offers a clear, informative, and a good starting point for discussion with all stakeholders (students, teachers, school leader and in-company trainers) as preparation to a new school digitalisation strategy. Participants agree that the online SELFIE WBL report highlighted strengths and weaknesses, yet the PDF format lacks information and as such is prone to various interpretations of results which can be misleading. To be able to discuss the report with the target groups a comprehensive feedback on the results would be essential in PDF version for sharing purposes. The existing PDF version can be used only as a supporting document and for printing.

There was also a consensus among schools on the stimulative role of **personalised certificates and digital badges**. Regarding personalised certificates schools reported that they were available and easy to manage. Participants were happy and appreciated them, and school coordinators used them as a motivating instrument and even recognized a promotional opportunity in the personalized certificates. Nevertheless, some participants experienced difficulties upon login. On the other hand, digital badges proved to be awkward and complicated to manage and register as the registration had to be conducted with an external platform and it could only be downloaded without text. Schools also reported on a long waiting time to receive their digital badges while others gave up during the registration process. General impression among the research team is that participants and schools were not fully aware of recognition possibilities. The research team set the question again at the final webinar and the participants confirmed that they did not encounter any problems with the personalised certificates. Some of them admit they have not tried to receive the digital badge yet.

School leaders unanimously praised the SELFIE WBL tool as being very **useful** and would recommend it as a powerful self-reflection tool to assess digitalisation status and practices. The majority of participants found the SELFIE WBL tool very useful, relevant, easy to use and handle, user friendly, understandable, and transparent. As a major strength of SELFIE WBL school leaders identify the feature to follow the evolution of digitalisation of the school in each of the specified areas upon regular periodical use. SELFIE WBL allows them to prepare their institutional strategies to be able to document the impact and effectiveness of their action plans approximately every 2 years. Other participants understand the usefulness of the SELFIE WBL tool to a lesser extent. School coordinators advocate the need for continuous SELFIE WBL self-reflection as it evidently points to areas the school needs to focus on. An essential activity in the aftermath of SELFIE were presentations of results to target groups and an open dialogue on their interpretation. Teachers and students recognise the usefulness of SELFIE WBL, yet they hope that the questions will be adapted specific to their needs and interest. Furthermore, participants claim it is not clear whether some questions relate to school or to company. The repetitiveness of questions that look the same, the complexity of questions and some terminology should be improved. Finally, based on the reports, most school leaders identified as a priority for investment the following three areas: pedagogical supports and resources, students' digital competences and CPD. Most participants pointed out the inadequacy of questions related to professions. They should be prepared sector-specific to be relevant.

Finally, the SELFIE WBL **ecosystem** is in its infancy. During the SELFIE WBL pilot a network of 16 pilot schools emerged on national level, creating a good basis for further evolution. The institutional ecosystem has been strengthened through the inclusive nature of SELFIE WBL and is a next step to setting up or renewing institutional digital strategies which will serve as a basis when discussing with decision-makers the schools' funding solutions. Under the auspices of OIC Poland Foundation and its regional offices a platform for sharing of good practices and experience is emerging. Nevertheless, schools have not specifically identified companies as their stakeholder yet. On the other hand, companies have also taken the position of the outsider willing to support schools if their support is needed. However, SELFIE WBL has a support of the national Ministry of Education so it can be concluded that good foundations were built but further engagement and effort needs to be invested.

6. Lessons learnt and suggestions for future development

Meticulous planning is needed to enable the SELFIE WBL **process** to be implemented smoothly and efficiently. Enough time needs to be envisaged before the SELFIE WBL self-reflection exercise to present the aim, importance, and benefits of SELFIE WBL accustomed to each target group of participants. Pre-prepared SELFIE WBL flyers, personalised certificates for participation, promotional items and presentations are useful tools for mobilisation of participants. A special short and comprehensive guideline should be prepared for students. The SELFIE WBL self-reflection exercise should take place in the second semester to allow participants enough time to be able to obtain an insight on the digitalization status of their school and/or company to answer the SELFIE WBL self-reflection exercise accurately and with confidence. To ensure representative results from in-company trainers a high participation rate should be achieved. Participants should be informed of the length and complexity of the questionnaire as well as of the need to read attentively questions that seem repetitive and similar. To determine the most suitable activation period the availability of vocational students at school and in-company trainers should be verified, and vacations and holidays should be avoided (a week before, during, and after the activation period). The optional and self-created questions should be thoughtfully selected or designed. Participants should be reminded of the coming SELFIE WBL exercise in the week prior to the activation period and they should be aware that once they begin completing the SELFIE WBL questionnaires there is no option to save, check back and/or correct information as all information already filled in will be lost. A plan should be prepared for the students within or additional to their existing schedule. During the activation period participation should be regularly monitored and participants reminded. Immediately after the closure of the SELFIE WBL exercise all participants should receive the report and be able to understand the results. The focus groups and interviews should be scheduled within a week after the SELFIE WBL closure to ensure detailed and relevant feedback from representatives of all target groups. All collected feedback should be analysed, an action plan should be developed, discussed, agreed with and presented to the participants. This process should be repeated on regular basis and trends closely followed. The above process is based on the experience and lessons learnt during the SELFIE WBL pilot. The COVID-19 pandemic was not considered in the above suggestion of the process as it is an unprecedented event. Nevertheless, it positively influenced the motivation and mobilisation process as participants' awareness of the importance of digitalisation emerged as a direct consequence of the spring lockdowns and the sudden transition to remote teaching and learning. On the other hand, the autumn pandemic wave disrupted substantially the implementation of the SELFIE WBL pilot, caused additional stressful situations, and undermined the participation in the follow-up focus groups and semi-structured interviews.

In general, the **SELFIE WBL tool** proved to be easily manageable, clear and useful. However, the report is difficult to read on smartphones and participants experienced difficulties selecting a language on smartphones. The size of the displayed five options of the answering scale should be of the same size, otherwise participants tend to select the larger one and have the tendency towards selecting the middle answer. Furthermore, no editing of data is possible once the SELFIE WBL exercise is launched which prevents the data to be corrected if a mistake is discovered later. For the very same reason, it is impossible to add a new company if a registered one does not respond. The suggestion in this case is for the school coordinator to take enough time to register all partner companies upon their first use of SELFIE WBL and the benefits of this workload should be made very clear in the introduction phase. Once a participant started to complete the SELFIE WBL self-reflection exercise it is impossible to save, check and/or correct the answers already completed as all data are lost. The same problem arises if suddenly the internet connection failed, which is extremely demotivational considering the length of the questionnaire. A "save option" or an automatic save solution is urgently needed. A few small schools find to tool too time-consuming for and inappropriate for their use.

The participants find the **content** of the SELFIE WBL questionnaire extensive, complex and tiresome. The participants were confused by questions that seemed repetitive although they were not. And upon going back through the already completed part of the SELFIE WBL questionnaire to verify they lost all the complete answers. Some questions were too long and difficult to comprehend. The terminology used should be simplified for the students as they struggled to understand complex questions and some outdated terminology. Some participants found some questions confusing whether they are related to the school or to the company. The suggestion is to differentiate such questions with colours. As the questionnaire is already quite extensive very few schools decided to add own questions. Nevertheless, many participants expressed the need for more open questions to be able to share practices, experience and provide more detailed answers. Participants indicated the professionally oriented questions as irrelevant depending on the professional sector and suggested to enable an option to select the professional sector with the pre-prepared questions for that relevant to that sector. They also expressed the need for more questions on remote learning and the readiness of teachers and

students (skills capacity and/or appropriate equipment) to implement quality remote learning. Furthermore, the participants expressed the need to differentiate among various teachers as the digitalisation gap within the same school might be extensive (i.e., some teachers struggle with the basic use of MS Office while others proficiently use and work in various professional programmes such as Catia, CAD, CNC). SELFIE WBL does not offer this detailed diversification.

The outlay of the **SELFIE WBL report** is very appealing and dynamic, identifying strengths and weaknesses and providing good basis for analysis and development. The PDF version provides summary information and question texts are not displayed next to report results making it difficult to understand and interpret the information uniformly. Participants suggest providing in addition to the PDF summary version also the full report in PDF version to be able to share with other relevant participants a comprehensive feedback. Additionally, the schools expect to be able to compare their results with the national and international average (not as a ranking list). This offers the opportunity for benchmarking and benchlearning. Finally, participants suggest the report should provide conclusions with recommendations as it would make the interpretation of data easier.

SELFIE WBL personalised certificates and digital badges are appreciated by most schools and participants as a motivating factor for participation. Participants found it easy to download their personalised certificates for participation while schools had to go through a fastidious digital badge registration process and a long wait to receive the school's digital badge. Therefore, it was proposed that the registration process for digital badges should either be integrated into the SELFIE WBL tool or Europass Digital Credentials (EDC) as a digital file to store in a wallet in Europass Library.

With the **SELFIE WBL data**, known deficits with hardly any surprises for school leaders as well as development potentials are now available in a report with clear data and in this way objectified. Nevertheless, charts without explanation are not very useful and lead to various interpretations and confusion. Therefore, the follow-up focus groups and semi-structured interviews proved to be essential for the correct interpretation of data. Furthermore, they contributed to the awareness and inclusion of all target groups into a dialogue which was a unique, awakening and very beneficial approach providing a 360-degree perspective on digitalisation. Through the follow-up activities information that would have been lost was collected as participants had the opportunity to explain the results and the reason why they reflected on items as they did and a dialogue among stakeholders is being strengthened. However, it is essential that participants are notified prior to the SELFIE WBL self-reflection exercise of the follow-up activities and that those activities take place immediately after the closure of taking SELFIE WBL (within a week). On the other hand, all schools expect to be able to benchmark on national and international level to obtain a notion on how these data project on a wider scale. Yet, SELFIE WBL is a self-reflection tool, not an external evaluation one and benchmarking data without background information, critical understanding and thought given to it might lead to misinterpretations. Therefore, a benchmarking opportunity is welcomed only after coherent guidelines on the extent of interpretation and understanding these benchmarking might allow are provided. In contrast, many participants would like to see more open questions for them to be able to express and explain their answers which is in contradiction to the high demand of benchmarking based on the data.

With the very appreciated inclusion of all target groups into SELFIE WBL a micro **ecosystem** was built on individual school level. Namely, each school is a micro system on its own but to become a micro ecosystem the stakeholders within the system need not only to assume each other's opinions and beliefs, they have to discuss and understand each other's views to be prepared to act successfully and transparently as an ecosystem towards improvements. The strengths and weaknesses in the field of digitalisation and digital education with regard to training companies have become more evident. In vocational schools, in-company trainers are an additional stakeholder that was mostly overlooked as such and this weakness was well recognised by taking SELFIE WBL. In most cases, there is no existing systemic approach to dialogue with in-company trainers. Therefore, SELFIE WBL contributed to strengthen the school's inner micro ecosystem and contributed to broaden it to the immediate local, and regional level by introducing companies (through in-company trainers) as a new stakeholder of their micro ecosystem. On the other hand, through the SELFIE WBL pilot a national ecosystem emerged composed of 16 schools sharing their experience and struggles through the pilot phase. This national ecosystem has high potential to grow into a community of practice for schools on digitalization under the auspices of OIC Poland Foundation and its regional offices, and with the support of EfVET and the national Ministry of Education. Local authorities (education departments) govern public schools, it is in their interest to support the digitalisation transformation among the schools through the SELFIE WBL integration into policies in order to be able to follow progress and efforts of schools based on solid data. This might incentivize the few small schools to rethink their participation in SELFIE WBL again. The schools have expressed a clear need for a

good practice sharing and discussion platform and will use the opportunity to promote SELFIE WBL on seminars and conferences to accelerate the formation of such a platform.

7. Implications of COVID-19 pandemic

Measures were taken in the VET sector in Poland as a result of the lockdown in spring 2020 with the main purpose of securing the remuneration of apprentices, organizing the final examinations complying with the safety regulations and providing support to companies.

From the overall feedback provided by the national coordinator, the consequences of COVID 19 in the implementation phase of the SELFIE WBL pilot were felt at different levels:

- Even though there are clear regulations set at national level by the Ministry of Education, VET schools are responsible for the management of the specific situations that may arise which reflects different approaches to teaching and learning activities. In Poland, a new regulation has been approved recommending that depending on the zone in which the VET school is in regarding the pandemic (green, orange, or red), the type of approach will vary. VET schools located in red zones will provide education in the form of remote learning. VET schools located in orange and yellow zones will provide hybrid learning which had an impact on the mobilisation of participants during the SELFIE WBL survey phase as well as during the follow-up phase (responsiveness of participants when they are not in school is quite low) causing delays and impacting the qualitative research component.

- Cases of Covid-19 among students and teachers were observed already during the preparation and launch of the SELFIE WBL pilot, with quarantine periods and need for the management of VET schools to adjust which sometimes required the shift in terms of priorities. This has impacted the planning, the initial timeframe of the SELFIE WBL pilot and the reach of 40% of students and teachers enrolled in WBL programmes as well as the reach of in-company trainers.

- Another aspect is related to the uncertainty caused by the situation and felt at VET school level which made the planning of teaching and learning very challenging.

- Regarding companies, it has been reported by the national team, the increase of safety measures which had, in some cases, led to the decrease of the number of apprentices allowed in each company and in others, the apprenticeships were completely suspended. This lock down has not only impacted the number of apprentices engaged in the SELFIE WBL pilot, but it has a rather massive impact on the VET system in the country overall. New adjustments to the SELFIE WBL work plan were required particularly concerning the organisation of the focus groups and semi-structured interviews by the national team in articulation with EfVET and the research team.

It is evident that the pandemic wave in spring of 2020 stimulated awareness that digitalisation of schools is a subject that should be prioritized now and not sometime in the future. Even most teaching staff that still hoped to escape the digital era prior to retirement and policy makers who avoided the discussion of a strategy and urgent investments into digitalisation of schools had to take notice as immediate solutions were demanded. Therefore, the pandemic accelerated the digitalization process as the immediate response was very much left to individuals who could rely only on their own skills, knowledge and technical predispositions and were forced to solve issues in the sense of "as you see it fit". There was mostly no uniform approach in how to deal with remote learning overnight.

Many students reported that they had no opportunity to take part in apprenticeships as those were suspended. Others reported very low motivation to attend remote learning lessons due to issues with the equipment, need to share equipment with other siblings, lack of skills of using technology and software in operating with different remote learning platforms and poor or no access to internet. All these caused no interest in remote learning and they joined the lessons only because it was required for the purpose of confirming attendance. Furthermore, students missed mostly the communication to their peer schoolmates.

In the aftermath of the spring pandemic, it became even more evident that the technical equipment alone does not guarantee any smooth transition to digitalisation or even remote learning proficiency. The lack of teachers' skills of using technology and software proved to be insufficient and this only aggravated when they encountered errors or any other technical obstacles. The latter proved to be one of the major challenges for teachers as well as students during lockdown, the major being accessibility and stability of internet Consequently, it is important to have appropriate technical equipment (software, hardware, and Wi-Fi) but it is

fundamental that teachers as well as students learn how to use it confidently and also how to work around minor obstacles when the equipment fails to work appropriately (i.e., regular upgrades, restarting the computer, ...).

For most schools SELFIE WBL came just in time as there is no uniform approach to digitalisation on institutional level and teaching staff need guided trainings. Students openly recognize the emerging necessity to use digital devices in class and the need for further training for teachers in this area. Many students reported they had to share their computers with their siblings which made the home-schooling experience even more challenging. In many schools, the digital readiness gap between teachers of general subjects and those of profession-oriented subjects clearly emerged. The digital knowledge, skills, and competences of teachers of professional subjects comprises profound insight and expertise in specific digital tools and the use of those for their profession which mostly completely differ from those used (and widely available and accessible) digital tools for general subjects.

The lockdown lessons highlighted the importance of digitalisation on the one hand, but also the need for social interaction during and outside learning processes on the other. Additionally, the self-competence of the students regarding time-management, self-learning strategies and motivation proved to be very low. Students as well as teachers have been spending long hours every day at their digital devices during the lockdown. The disparities between low and high achievers became even more evident and the need for communication between fellow students as well as fellow teachers proved to be difficult during lockdown. The human informal contact with peers was not addressed and completely forgotten. Schools are not just about learning; at this age they are the social metropolis for most students. For some students this was the only bright time in the day when they have escaped a dysfunctional home atmosphere. And during the lockdown, the tensions in such homes only intensified and led to depression, anxiety, stress, and/or dropout. In consequence, new roles are being given to the teacher: in addition to the pedagogical and didactical knowledge of methods and lesson organization in remote learning also the one of online social and psychological support to students. All those concepts have not been sufficiently addressed nor developed yet which evidently calls for a coherent institutional strategy. A great deal of further training and motivation for teachers will be necessary. Additionally, a lot should be learned and developed on time-management during remote learning as it is unacceptable for teachers and students to be overwhelmed with work for more hours than their normal workload demands. Nevertheless, the pandemic has strengthened the relationship and bound among staff because of dealing with struggles, difficulties and the opportunities of digital education.

On the other hand, some schools postponed the digitalisation agenda due to the second pandemic wave and prioritized enabling teaching, learning, social and psychological support and the associated effort of the school staff and management. The SELFIE WBL self-reflection exercise, report, results, and future actions based on them were given only low priority due to momentary lack of capacity. Undoubtedly, this is the major negative influence of the pandemic as many put aside their efforts on the development of digitalisation due to limited capacity during the second pandemic wave which resulted in low capacity to organise and attend focus groups and interviews. Nevertheless, all schools that were able to respond decided to take the SELFIE WBL self-reflection in one- or two-years' time.

Finally, the pandemic has thoroughly changed all our lives and habits and many changes are here to stay which means that, to some extent, all professions are experiencing changes. What are those changes and how to include the knowledge to be able to address those changes into curricula for each specific profession? The whole extent of the aftermath of the pandemic is yet to be established but we can certainly confirm already now that it will be much profounder and long-lasting than expected.

8. Conclusions and recommendations

The SELFIE WBL pilot is considered to have come "just in time" due to the pandemic experience in spring 2020. Participants were highly motivated to establish the state-of-the-art of school's digital status, practices and recognized the added value of the SELFIE WBL tool in this process. The SELFIE WBL tool is assessed as user-friendly, very easy to use, transparent, with a good structure, well designed, and with 360-degree reflection. SELFIE WBL was tested on various devices. Supporting explanations to questions and the easy handling of the tool were praised as well as the appealing, detailed, and colourful user interface and the fact that, in general, the SELFIE WBL self-reflection process ran smoothly. On the other hand, the maximum activation time of a SELFIE WBL self-reflection exercise of 3 weeks was unanimously considered too short due to limited time vocational students are at school and the inability to edit any registration data during the exercise. There is no possibility to save, check or correct input and continue filling in the questionnaires later as it was considered too time consuming, tiring, and complex. The SELFIE team has long been aware of this issue but technically it is currently not possible.

The possibility to customize the questionnaires to their own needs was considered the great advantage of the SELFIE tool, however, as weakness more possibility to add open questions was identified as well as the lack to edit any information once the SELFIE WBL self-reflection exercise is activated. The answer scaling had a tendency towards a larger displayed answer and towards the "middle" answer. The registration process, navigation and data input were considered simple, clear, and easy. The layout and guidance were clear and simply manageable and generating a single link to access the SELFIE WBL self-reflection exercise per target group was welcomed. The questionnaire was clear, relevant, unambiguous, and well-structured, mapping a variety of areas very well. Nevertheless, the questions were too long, complex and seemed repetitive. The questionnaire was considered long, extensive and time consuming. Some questions were irrelevant for some professions.

The SELFIE WBL report offers extensive, useful, clear feedback and is exclusively available only to the school The results allow different interpretations which clearly requires further support to be able to come to conclusions and recommendations. Some were clarified through the follow-up focus groups and interviews. Personalised certificates were available and easy to manage while digital badges proved to be awkward, complicated to manage and register. The SELFIE team has been working on an easier, user-friendly, and automatic new system to generate digital badges for schools which will go live around mid-2021. The SELFIE WBL ecosystem is in its infancy. The SELFIE WBL pilot strengthened the discussions among schools and companies as in-company trainers are an additional stakeholder that was mostly overlooked as such and this weakness was well recognised by the SELFIE WBL self-reflection exercise.

Finally, the national ecosystem has high potential to grow but further engagement and effort needs to be invested with the support of OIC Poland Foundation and the national Ministry of Education. Schools expect to be able to benchmark on national and international level to obtain notion on how these data project on a wider scale. Most schools plan on repeating SELFIE WBL in 1- or 2-years' time to follow-up the impact and progress achieved in the meantime. School leaders praised the SELFIE WBL tool as being very useful and would recommend it as a unique powerful self-reflection tool.

Recommendations:

- A short, easy to read, comprehensive and attractive guide for students on SELFIE WBL should be prepared in order to easily awake their interest, to better understand the purpose of the SELFIE WBL self-reflection exercise and the benefits of it.
- A preview of all data needed during the registration phase would be appreciated in order for the coordinators to be able to prepare all required data before they start the registration process.
- The prolongation of the maximum activation period of the SELFIE WBL self-reflection exercise is required due to specific schedule of vocational schools.
- There should be two versions of the SELFIE WBL PDF report as the existing summary PDF version is easily misinterpreted. Additionally, it is recommended to create a full PDF report for sharing, offering the user an option to decide whether to download a full extensive version or a concentrated summary PDF version.
- Further support should be offered on how to translate report results into conclusions, recommendations and finally into an institutional action plan or integrate conclusions and recommendations already as part of report.

- The simplification of the registration process of companies in order to ensure representative results from in-company trainers.
- Some questions were found confusing (i.e., whether they are related to the school or to the company). Therefore, a noticeable visual effect is suggested to differentiate such questions by colour.
- Open questions are desired to enable participants to fully express their opinion (e.g., to be able to share comments, suggestions, and experience).
- An automatic reminder for school coordinators would be appreciated to make the participation monitoring easier.
- The SELFIE WBL self-reflection exercise should take place in the second half of the study year to allow students enough time to obtain an insight in the digitalization status to be able to answer the questionnaires accurately and with confidence.
- The answer scaling should be displayed neutrally avoiding tendency towards a larger displayed answer as well as an even scaling avoiding the tendency towards the "middle" answer.
- The questionnaire should be shorter, and questions simplified, avoiding repetitive similar questions with the terminology adapted for students. Furthermore, questions very much related to primary school should be omitted and the outdated terminology reviewed.
- There is the need to determine the professional field beforehand and afterwards ask the questions tailored to a specific profession as there is vast difference among professional sectors.
- A benchmarking opportunity on local, regional, national and EU level would be very welcomed not as a ranking list but rather a comparison tool against the average with coherent guidelines on the extent of interpretation and understanding these benchmarking might allow. This option would attract also some small schools to participate in the SELFIE WBL self-reflection exercise again as it would provide comparative results which cannot be provided otherwise.
- The registration process for digital badges should either be integrated into SELFIE WBL tool or Europass Digital Credentials (EDC). By integrating both, SELFIE WBL personalised certificates and digital badges, into EDC the added value of both grows and becomes more evident and practical.
- An option to differentiate among teachers' digital proficiency and capacity should be enabled as the digitalisation gap among them within the same school are extensive.
- Student's and teacher's home equipment, internet access and stability at home, teacher training and the use of ICT in the classroom, digitization of schoolbooks, home-schooling vs. face-to-face teaching, and remote learning in general should be selected by school coordinators from the pool of provided optional questions. The option of designing own questions should also be used to tackle targeted themes.
- A "save option" or an "automatic save" solution to enable later finalisation, checking and correction of previous answers or in case of unexpected internet failure should be enabled without loss of previous input.
- The editing of registration data during the SELFIE WBL self-reflection exercise without resetting the whole process and losing already received questionnaires should be enabled.
- Schools should establish the difference in achievement of students and workload of students and teachers during face-to-face learning and remote learning processes. SELFIE WBL offers a range of questions addressing those issues among optional questions, so this is a reminder for school coordinators to include those questions as well if they have not done so yet.
- The whole extent of the aftermath of the pandemic is yet to be established but we can certainly confirm already now that it will be much profounder and long-lasting than expected. SELFIE WBL should also encompass the emerged changes due to the pandemic that influenced professions and as a result new digital knowledge and skills. These new knowledge and skills need to be identified to be able to integrate them into curricula of each specific profession.
- Schools should provide all respondents the report immediately and organise follow-up events to discuss the interpretation of results with all stakeholders. Furthermore. All stakeholders should be included in the planning of actions to progress. Only if all stakeholders are regularly included in all phases SELFIE WBL will become digital culture of a school.
- Schools and authorities should use SELFIE WBL as a transparent tool for recording actions towards a successful digital transformation of all involved stakeholders.

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List of abbreviations and definitions

CEDEFOP	The European Centre for the Development of Vocational Training
CPD	Continuing professional development
EfVET	European Forum of Technical and Vocational Education and Training
EQF	European Qualification Framework
ETF	European Training Foundation
ICT	Information and communication technology
IT	Information technology
ISCED	International Standard Classification of Education
JRC	Joint Research Centre, European Commission
N	Number of valid responses from the respondents
M	Mean - the average/central value of the data points or numbers
PLN	Polish zloty (official currency in Poland)
SD	Standard deviation - a measure of the dispersion of a dataset relative to its mean
Skupnost VSŠ	Skupnost višjih strokovnih šol Republike Slovenije/Association of Slovene Higher Vocational Colleges
SME	Small and medium-sized enterprises
VET	Vocational education and training
WBL	Work-based learning

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Annex 1. Key information on the WBL system

WORK-BASED LEARNING IN POLAND

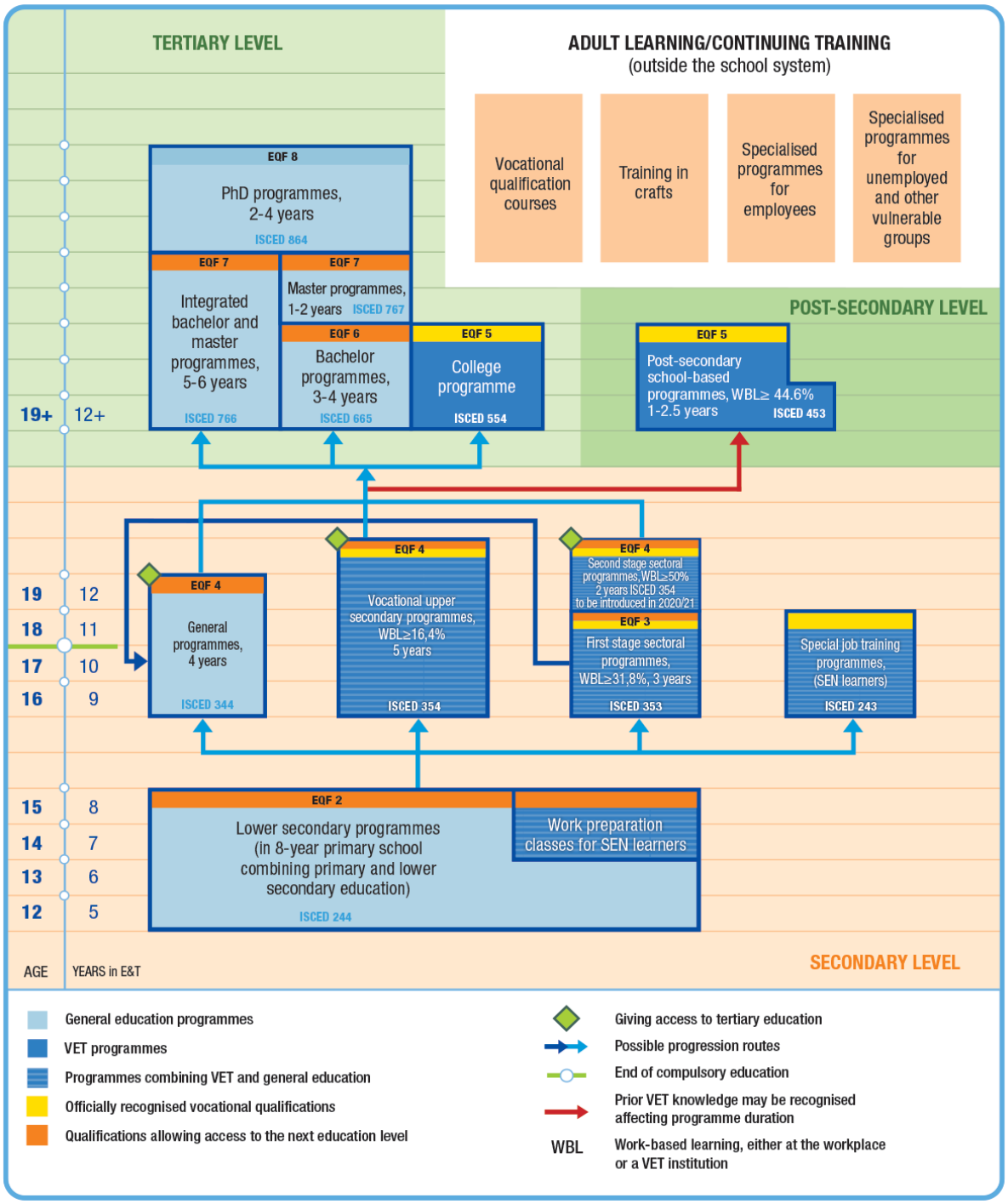
The Polish education system has undergone a series of considerable changes since early 2017. The changes are based on 2 legal acts: Act of 14 December 2016 – Education Law (Polish Government, 2017a and 2017b). The reform influenced many aspects of the Polish education system, including the VET sector. With regard to the VET sector, the key changes are as follows (Chłoń-Domińczak, 2019):

- Secondary education programs (general and vocational) were extended by 1 year;
- 3-year Level I Vocational School was introduced (sectoral VET learning system, which allows to obtain professional qualifications);
- 2-year Level II Vocational School was introduced (students can attend this school after graduating from Level I Vocational School in order to improve their qualifications and prepare to take the Matura exam);
- Dual vocation training in collaboration with the business sector was started to be more widely promoted;
- The Fund for Vocational Education Development was established as a means of increasing the participation of employers in subsidizing vocational education.

The VET system at the secondary level in Poland is divided into the following programs (Chłoń-Domińczak, 2019):

- **1st stage sectoral program** (*Level I Vocational Schools, ISCED 353, EQF 3*) – lasts 3 years, started in 2017 as a result of the introduced reform. Students who graduated from primary school may participate in this program (15-year-old students). This program provides general and vocational education, contributes to obtaining professional qualifications and general knowledge. It ends with a state vocational exam. Upon passing the exam, students obtain a diploma confirming vocational qualifications for a single-qualification occupation. The scope of work-based learning is determined by a school head teacher (not less than 60% of all vocational practical and theoretical classes). Students can continue their education in Level II Vocational School or at general upper secondary schools for adults.
- **2nd stage sectoral program** (*Level II Vocational School, ISCED 354, EQF 4*) lasts 2 years, started in 2020/21 as a result of the introduced reform. Students who graduated from Level I Vocational School (18-year-old students) may participate in this program in order to improve their skills and gain further qualifications. It ends with the state vocational exam. Upon passing the exam, students may obtain a diploma confirming vocational qualifications for occupations consisting of 2 qualifications. This program is primary concentrated on vocational training (general school subjects are limited). The scope of work-based learning is determined by a school head teacher (not less than 50% of all vocational practical and theoretical classes). Students who graduate from Level II Vocational School are allowed to go to university as long as they passed the Matura exam.
- **Vocational upper secondary program** (*technical schools, ISCED 354, EQF 4*) lasts 5 years. Students who graduated from primary school (15-year-old students) may participate in this program. This program provides general and vocational education, contributes to obtaining professional qualifications and general knowledge. It ends with the state vocational exam. Upon passing the exam, students obtain a diploma confirming vocational qualifications consisting of 2 qualifications. The scope of work-based learning is determined by a school head teacher (not less than 50% of all vocational practical and theoretical classes). Students who graduate from the Technical School are allowed to go to university as long as they passed the Matura exam.
- **Special job-training program** (*special school preparing for work, ISCED 243*) lasts for 3 years. This program is directed to students with special educational needs (SEN) – with moderate and severe degree of intellectual disability or multiple disabilities. Upon completing this program, students obtain a job readiness certificate. This program is adjusted to the needs of people with disabilities and thus offers a wide range of different classes e.g. personal and social functioning, communication, development, creativity development, physical education and job training classes. Job training classes cover over half all the classes and activities in this program.
- **Work preparation classes** (*units preparing for work, ISCED 244, EQF 2*) are special type of classes directed to students with special educational needs (SEN). The students can participate in the classes in the 7th and 8th grade of primary school (15-year-old students). The classes provide general education and prepare for work. Special attention is paid to the needs and possibilities of learners.

Figure 10. Vocational education and training in Poland.



Source: Chłoń-Domińczak, A. et al. (2016)

Additionally, students can also obtain vocational qualifications after completing secondary education (through the post-secondary non-tertiary programs). The programs last from 12 to 30 months, are implemented in **post-secondary schools** (ISCED 453) and develop solely vocational skills. Students who participated and completed general and vocational upper secondary programs (19- and 20-year-old students) may attend this school. This program does not provide general education. The scope of work-based learning is determined by a school head teacher (not less than 50% of all classes).

Practical training in VET[9]

Summing up, there are few issues that characterize the Polish VET system. At the secondary level, the programs offered provide general and vocational education, whereas the post-secondary programs provide only vocational education. Vocational education in all programs is provided by means of practical and theoretical classes as well as work-based learning.

Work-based learning in Poland is a relatively new concept. Nevertheless, it is implemented in a variety of ways. It can be performed in school workshops, continuing education centres, practical training centres or with an employer (an apprenticeship). Apprenticeships can be performed in different ways, part-time or full-time at companies (also dual training). Students may also serve traineeship at an employer's premises, called "on the job training." This form is compulsory for secondary and post-secondary programs. It lasts 4 – 12 weeks – the duration depends on the type of job. Another form of practical training if juvenile employment – professional preparation of juvenile employees (15 – 18 years old), who graduated from a primary school. Juvenile employment is also a type of apprenticeship, a contract is concluded between a student and an employer.

As far as Work-based Learning in Poland is concerned, special attention is placed on apprenticeships. It is provided in the following forms:

- Training for a profession – type of an apprenticeship. Theoretical training is provided at school (at Level I Vocational School) or outside the school system (by means of courses, etc.). Practical training is provided by an employer (an employment contract is concluded). Training for a profession lasts up to 36 months and ends with a state vocational exam. An employer may organize the practical training in the craft trades – in this case an employment contract is concluded for a maximum of 36 months. It ends with a journeyman exam.
- Training for a specific job – it is an uncommon form, limited to a small number of young people. The aim of the training is to prepare students to perform only certain tasks within a given job. It lasts 3 – 6 months and ends with a verifying exam.

A juvenile employee is entitled to a pay for the duration of the training period (4 – 6% of the national average salary – it depends on the subsequent year of training), social security benefits, holiday leave. It is possible for an employer to be repaid for the costs incurred (juvenile employee's salary and social security contributions) by the Labour Fund for the period of vocational training. However, the Ministry of Labour establishes financial limits on the repays.

Source: Chłoń-Domińczak, A. et al., 2019.

DIGITALISATION STRATEGY FOR VET AND WBL IN POLAND

The Digitalisation Strategy for VET and WBL in Poland is under the auspices of the Ministry of Digital Affairs. The Ministry together with the Ministry of Development; Digitalization; Finance; Infrastructure and National Education developed a programme "From Paper to Digital Poland" in 2015. Its main objective was to develop the e-State and digitalization of the economy. The premise of this initiative was that the administration modernization is crucial to guarantee government efficiency – an essential aspect of any sustainable country. The primary objective of services digitalization is to solidify the grounds for the development of a digital country, i.e., providing wide access to high-speed internet, efficient and user-friendly public e-Services and increasing the digital literacy level in society. Numerous actions and initiatives were undertaken under the "From Paper to Digital Poland" program framework. They proved that Poland's position is much lower than at other member states' concerning the application of the ICT developmental possibilities, specifically (European Commission, 2019):

- Low-fixed broadband reception;
- Quite low public administration efficiency;
- Quite low e-Government usage level;
- Only a few percent of adults involved in long life learning.

[9] Chłoń-Domińczak, A. et al. (2019). Vocational education and training in Europe – Poland, Cedefop ReferNet VET in Europe reports 2018, retrieved from http://libserver.cedefop.europa.eu/vetelib/2019/Vocational_Education_Training_Europe_Poland_2018_Cedefop_ReferNet.pdf
OECD (2019, OECD Skills Strategy Poland: Assessment and Recommendations, OECD Skills Studies, OECD Publishing. Paris, retrieved from https://www.gov.pl/web/edukacja/system-informacji-oswiatowej

In the report it was advocated to develop broadband networks and advance public services' quality and efficiency through digitization. The implementation of e-Services will cover the following approaches: mechanisms to prevent 'digitization bureaucracy', enhancing the positive influence of projects on administrative processes, training as many people as possible to use ICT to improve the quality of their life and improve the competitiveness of the job market (European Commission, 2019).

Figure 11. Digital Government Factsheet – Poland.

Source: European Commission (2019)

The digitalization strategy is a part of a more extensive program "Responsible Development" implemented by the Polish government. The primary aim of this initiative is to make Polish citizens wealthier and diminish the number of people who face or might face poverty and social exclusion by 2020. The modernization and digitalization of current systems constitutes measures ensuring that this investment was made to provide equal possibilities and access of the regions to various initiatives introduced by the government (European Commission, 2019).

The "From paper to digital Poland" program covered 9 working fields and the following actions: Digital Public Services/e-Services; e-Reporting; Distributed Registers; e-Transport and e-Flow of goods; Increasing Cashless Turnover deals; e-Invoice and e-Receipt; e-Education; Artificial Intelligence and Internet of Things. The following streams "e-Tribute and e-Benefits", "IT Architecture", "Digital Identity", "National Scheme", "Cybersecurity", "e-Health" achieved the expected outcome and are now being reviewed according to the information provided by the Ministry of Digital Affairs from 2019 (European Commission, 2019).

The e-Education stream encompasses all stages of education (also VET) and advocates the introduction of a comprehensive education system modernization strategy. It does so by producing and circulating IT tools to enhance the effectiveness of the learning and teaching process of all engaged individuals: children, youth, adults, the elderly and the disabled. The e-Education stream was implemented under the "National Education Network" project. It was supported and assisted by the Scientific and Academic Computer Network, National Research Institute. E-Education was approved in 2017 and started in 2018. It concentrates on 2 primary actions (European Commission, 2019):
Equipping schools with access to the internet (100 Mb/s minimum) and security services.
Equipping schools with learning and teaching materials, providing support with regard to acquiring/improving digital skills by students.

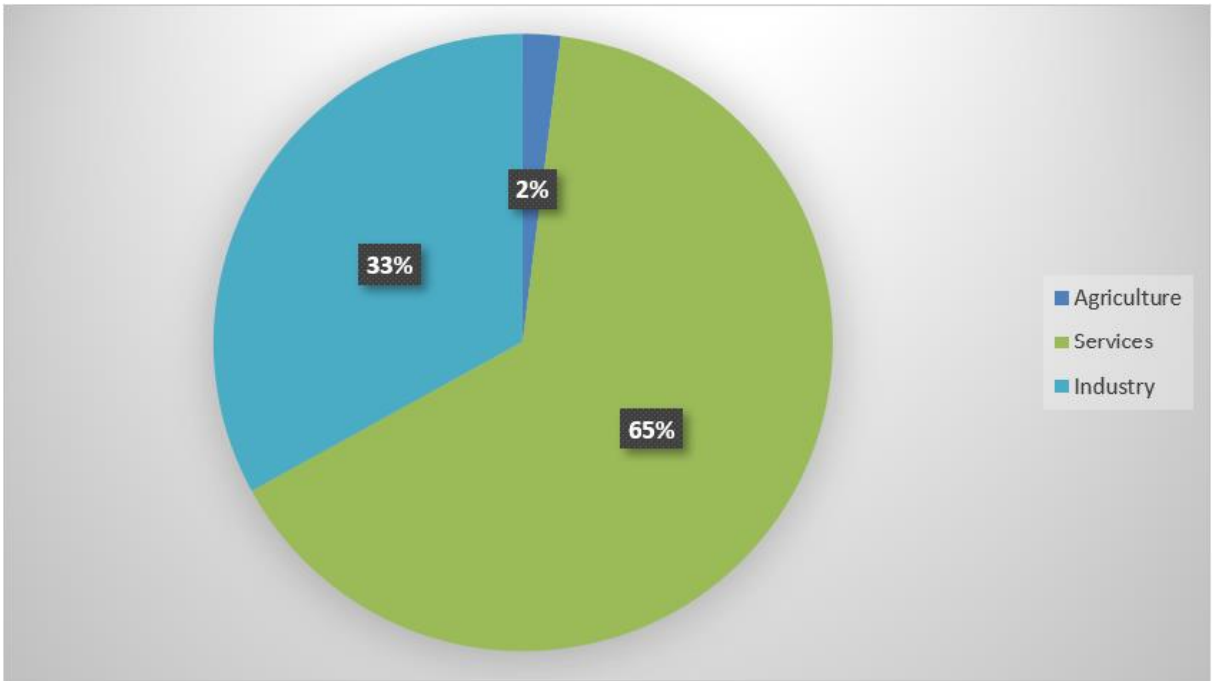
The two actions reinforced the transition to the digital education system. They guaranteed that schools:
Have sufficient and good equipment; teachers and students have appropriate skills and competences.
Implement new educational and teaching forms and schemes in order to improve digital competences and skills (e-handbooks, e-learning platforms, etc.).
Even educational opportunities for all Polish students, especially students who live in low-populated areas and attend schools with not many students. Access to updated sources and streams of knowledge is key to enhance the potential of such students.
Use modern technologies in order to provide and transfer knowledge between educational entities.

It constituted an investment of PLN 320 million (around 70 million Euros), which was received from the Digital Poland Operational Program, and its operation (i.e., purchase of services from telecommunications operators to equip schools with free internet access) - over PLN 1.3 billion (around over 0,28 billion Euros) from the state budget planned for a 10-year period (European Commission, 2019).

Annex 2. Dominant economic sectors in Poland

Gross domestic product (GDP) structure

Figure 12. Distribution of economic sectors in Poland.



Source: SPIRIT Slovenija (2020)

Agricultural sector

The agricultural sector generates 2% of GDP and employs about 10% of the active population. More than 60% of the total land area of Poland is occupied by agricultural land, and the country is self-sufficient in terms of food supply. The main agricultural crops are rye, potatoes, beets, and wheat. Important segments are milk production, pig breeding and sheep breeding.

Service sector

The service sector accounts for 65% of GDP and employs 58.6% of the active population. The sector is booming, especially in the financial services, logistics, IT, and tourism segments. Tourism in particular has experienced remarkable growth in recent years.

Industrial sector

The industrial sector generates 33% of GDP and employs 31.3% of the workforce. The main industries are machine industry, telecommunications, construction, food processing and IT. Some traditional sectors have shrunk sharply, such as steel and shipbuilding. The Polish car industry is mainly export-oriented and highly resilient to the effects of the economic crisis.

Source: SPIRIT Slovenija. 2020.

Annex 3. Guidelines and templates for focus groups, semi-structured interviews, and list of challenges

Focus Group Guidelines

Objective

The main objective of the focus groups is to spend some time with each of the 2 key target groups for the SELFIE WBL project - learners and teachers - and to discuss the "how" and "why" behind the main questions and answers of the survey.

We want participants to elaborate further on the key questions of the survey (Pilot of SELFIE WBL tool) and explore participants' views about the tool, the main challenges they faced in using SELFIE tool and whether it helps them assess where they stand with learning in the digital age. We want them to speak freely and not be swayed by pre-conceived notions they may have about what are deemed desirable answers as there are no wrong answers.

Moderators

The focus group for teaching staff should be moderated by a peer teacher and the focus group for learners should be moderated by a tutor to create a comfortable and trustful atmosphere which enables open reflection and discussion. We advise that a note-taker is also assigned to each moderator to enable fluent moderation.

Participants

Each VET school organises 2 focus groups. One exclusively with teachers as participants and the other with learners. The diversity in terms of school's size shall be taken into account. The only pre-condition to become a participant is that they have taken part in the SELFIE WBL pilot survey.

The optimal size of each focus group is 10 participants which allows all members to participate, and enables the moderator, i.e., institutional coordinator or learners' tutor time to be able to tease out the nuance behind participants' answers.

For online focus groups where plenary discussions/interactions are less straightforward a slightly lower number of participants (minimum of 5) is acceptable to ensure there is opportunity for all participants to have their say, remain engaged, and reduce strain on the moderator.

Duration

Typically, a focus group lasts between 60–90 minutes. This gives enough time to allow for deeper conversations to take place but does not run too long which can lead to participant fatigue. In the case of online focus groups, it is advisable to keep the session time to maximum 60 minutes as it is just that little bit harder for people to stay focused.

Moderation

The focus group will need to be well moderated in order to guide the discussion, using a combination of questions and further probes. The participants should be encouraged to interact with each other as well as to generate deeper insights about the different subtopics. With an online focus group, it is probably not possible to get the same type of feedback or interplay between participants as with face-to-face focus groups, so the role of the moderator is here even more important. The moderator will give an overview of the project and its purpose, ask questions, follow up with more questions, and keep the conversation on track and on subject.

Make sure to keep it relaxed, that participants are at ease and feel comfortable and safe in opening and sharing their thoughts. Reminding participants that there are no right or wrong answers is a good way to make sure they are not self-censoring. Make sure that the moderator also takes enough time for introductions and for participants to become comfortable in the session to ensure individuals to engage with one another.

Normally, all discussions can take place in a normal plenary form, but if the moderator feels the need for it, they might use small exercises like brainstorm activities in which the participants write down ideas on (virtual) post-it notes, plotting these post-it notes in a matrix or map to prioritize items, or simply keeping track of inspiration and solutions that come up during the session in a visual way.

Themes/questions

Based on experience with similar focus groups, we should have time to address three to four different themes with open-ended questions, follow-up questions and, especially, discussion between participants. The topics that we would suggest are:

The strengths and weaknesses of the SELFIE WBL tool

Questions to the participants can include:

- What works particularly well in SELFIE tool? What does not?
- What would you see as most important challenges for an optimal functioning SELFIE tool?

Discussion should be encouraged comparing different situations, shared experiences regarding strengths and weaknesses, concrete tips & tricks on how to make improvements.

Discussion on relevant survey results

Participants shall reflect and discuss their interpretation and in-depth understanding of the relevant survey results, for example going into different elements of SELFIE tool (e.g., Leadership, Infrastructure and Equipment, Teaching and Learning etc.).

Further follow-up questions can be asked about the reasons why they took part in the SELFIE survey if it is optimal or more out of necessity and if there are intentions to become either more or less involved in SELFIE tool in the future.

Areas where further support is needed/useful

Questions to the participants can include:

- What are the areas of SELFIE tool where more information, knowledge, guidance, training etc. would be welcome for them and/or colleagues in similar roles?
- What potential changes do you anticipate based on the survey results?

Again, discussion should be encouraged comparing different situations, experiences and visions.

Equipment/facilities

Chairs set up in a circular pattern around a table is the most ideal set up for a focus group as you want all the participants to be able to easily see each other. In case of online focus group, a Zoom room can be set up by the Research Team (contact us[10] at least 1 week prior to the event providing exact date and timeslot).

The amount of information that is shared in focus groups is not easily captured by a note-taker, as there are numerous side conversations that happen. The best way to scrutinize data at a later time is to audio and video record the focus group sessions. Please do not forget to get a consent from the participants to be recorded and let them know their responses will remain anonymous and no names will be mentioned in the report.

[10] Research Team contacts: miha.zimšek@skupnost-vss.si and/or alicia.miklavcic@skupnost-vss.si.

Focus Group Report

Date:	
Country:	
School:	
Moderator(s):	

Participant	Name and Surname	Teacher/Student	Subject/Programme
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Discussion Themes

Discussion 1: Icebreakers Discussion 2: The strengths and weaknesses of the SELFIE WBL tool Discussion 3: Discussion on relevant survey results Discussion 4: Areas where further support is needed/useful

Theme 1: **Icebreakers**
Suggestions for discussion: Questions to the participants can include: - What were your expectations of Selfie WBL? - Do you think your expectations were met?
Common responses/general consensus:
Areas of disagreement/lack of consensus:
Other notes & observations

Theme 2: **The strengths and weaknesses of the SELFIE WBL tool**
Suggestions for discussion: Questions to the participants can include: – What works particularly well in SELFIE WBL tool? What does not? – What would you see as most important challenges for an optimal functioning SELFIE WBL tool? Discussion should be encouraged comparing different situations, shared experiences regarding strengths and weaknesses, concrete tips & tricks on how to make improvements.
Common responses/general consensus:
Areas of disagreement/lack of consensus:
Other notes & observations

Theme 3: **Discussion on relevant survey results**
Suggestions for discussion: Participants shall reflect and discuss their interpretation and in-depth understanding of the relevant survey results, for example going into different elements of SELFIE WBL tool (e.g., Leadership, Infrastructure and Equipment, Teaching and Learning etc.). Further follow-up questions can be asked about the reasons why they took part in the SELFIE survey, if it is optimal or more out of necessity and if there are intentions to become either more or less involved in SELFIE WBL tool in the future.

Common responses/general consensus:
Areas of disagreement/lack of consensus:
Other notes & observations

***Theme 4:* Areas where further support is needed/useful**
Suggestions for discussion: Questions to the participants can include: – What are the areas of SELFIE WBL tool where more information, knowledge, guidance, training etc. would be welcome for them and/or colleagues in similar roles? – What potential changes do you anticipate based on the survey results? – What kind of technology you are using when you are working in the company? (state specific examples about the use of technology in company and in school?) – Did you start with digital learning because of COVID-19? – What problems did you face because of COVID-19? – Did you include blended learning? – Did you perform apprenticeships during the lockdown (remote mode/distance mode)? – Will you use SELFIE WBL in the future? Again, discussion should be encouraged comparing different situations, experiences, and visions.
Common responses/general consensus:
Areas of disagreement/lack of consensus:
Other notes & observations

Additional themes/discussions/ideas/observations (Only if the content does not fall into any previous categories/themes above)
Notes & observations:

In-depth Semi Structured Interviews Guidelines

Objective

In-depth, semi-structured interviews intend to elaborate further on the report results and foreseen improvements based on those results. The interviews are verbal interchanges where the national coordinator attempts to elicit information from 4 in-company trainers and decision-making staff in VET school by asking questions.

Even though the national coordinator shall prepare a list of predetermined questions, in-depth, semi-structured interviews usually unfold in a conversational manner offering participants the chance to pursue issues they feel are important. In-depth interviews are conducted in order to gain a thorough insight about a particular issue, in our case future improvements.

Interviews are conducted individually and focused on each organization separately.

Interviewer

The interview shall be done by national coordinator. People will talk more when they feel more relaxed and at ease, so the questions are not asked in any given order, rather they are asked in a way that develops the conversation.

Interviewee

In-depth semi structured interviews are done with 4 in-company trainers and decision-making staff in VET school (4 Pedagogical Managers/Directors, 4 Sector Heads/Managers, 4 Board Heads/Directors). The pre-condition to become an interviewee is that they have taken part in the SELFIE WBL pilot survey.

Duration

Typically, a semi-structured interview lasts between 30–60 minutes. This gives enough time to allow for deeper conversations to take place but does not run too long which can lead to interviewee fatigue.

Before the interview

When recruiting interviewees, indicate that you would be happy to conduct the interview at a time and place which best suits them. Do not forget to remind the interviewee of the time, date, and location of the interview (online).

Before the interview commences national coordinator should ask the interviewee if they consent to the interview being digitally recorded. Informed consent can be confirmed by the interviewer reading the consent form and the interviewee verbally indicating that they agree.

During the interview

You need to listen carefully to what the interviewee is saying, for their response might not actually answer the question. Alternatively, the interviewee may give you a vague response, to which, you might have to ask for clarification or further explanation. The most important thing to remember when conducting an interview is not to rush through the questioning. Also, do not interrupt participants when they are in the middle of a sentence or when they stop in order to collect their thoughts. “Could you tell me” is always a good way of starting an interview or asking an interviewee to explain a particular point of view.

Do not disclose the details or discuss the comments of another interviewee during an interview. This not only breaches past interviewees’ confidentially, but the present interviewee will doubt your ability to maintain their confidence. This is not to say that you cannot talk in generalities (e.g., if an interviewee asks you “what have other people said” in relation to particular point, you could say “well, a lot of interviewees have indicated that” etc.).

Have your notepad and pen ready because sometimes interviewees can say the most insightful things when the digital recorder has been switched off.

After the interview

It is extremely important that you write the report immediately after the interview, whilst you can still remember vividly all the aspects of the interview. The recorded audio of the interview should help you prepare an accurate report. Use your experience from each interview to improve the next interview.

Themes/questions

A semi-structured in-depth interview is usually one in which the interviewer has a checklist of topic areas or questions. The themes that we would suggest are:

- Icebreakers

Questions to the interviewees can include:

- What were your expectations of the participation in the survey?
- Do you think your expectations were met?

- Discussion on relevant survey results

Interviewees shall reflect and discuss their interpretation and in-depth understanding of the relevant survey results, for example going into different elements of SELFIE tool (e.g., Leadership, Infrastructure and Equipment, Teaching and Learning etc.).

Further follow-up questions can be asked about the reasons why they took part in the SELFIE survey if it is optimal or more out of necessity and if there are intentions to become either more or less involved in SELFIE tool in the future and/or use its results.

- Future improvements

After interviewees discuss pilot results, they should consider implementing proposed solutions. This means that they (plan to) improve process/WBL and continue to look for ways to make it even better for their organization. Questions to the interviewees can include:

- What would be your potential reactions based on the survey results?
- Is there an action plan to support the implementation of the proposed solutions?
- How will you prioritize your reactions to the results? Will resources (e.g., financial, capacity etc.) play a role in prioritization process?

Equipment/facilities

In case of online interview, a Zoom room can be set up by the Research Team (contact us[11] at least 1 week prior to the event providing exact date and timeslot).

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In-depth Semi Structured Interviews Report

Date:	
Country:	
School:	
Facilitator(s):	
Interviewee:	

Discussion Themes

Discussion 1: Icebreakers
Discussion 2: Discussion on relevant survey results
Discussion 3: Areas where further support is needed/useful

***Theme 1:* Icebreakers**

Suggestions for discussion:

Questions to the interviewees can include:

- What were your expectations of the participation in the survey?
- Do you think your expectations were met?

Common responses/general consensus:

Areas of disagreement/lack of consensus:

Notes & observations:

***Theme 2:* Discussion on relevant survey results**

Suggestions for discussion:

- What kind of technology you are using when you are working in the company? (state specific examples about the use of technology in company and in school?)
- Did you start with digital learning because of COVID-19?
- What problems did you face because of COVID-19?
- Did you include blended learning?
- Did you perform apprenticeships during the lockdown (remote mode/distance mode)?
- Will you use SELFIE WBL in the future?
- What are the things you liked about SELFIE WBL? What could be improved?

Interviewees shall reflect and discuss their interpretation and in-depth understanding of the relevant survey results, for example going into different elements of SELFIE tool (e.g., Leadership, Infrastructure and Equipment, Teaching and Learning etc.).

Further follow-up questions can be asked about the reasons why they took part in the SELFIE survey, if it is optimal or more out of necessity and if there are intentions to become either more or less involved in SELFIE tool in the future and/or use its results.

Common responses/general consensus:
Areas of disagreement/lack of consensus:
Notes & observations:

***Theme 3:* Future improvements**
Suggestions for discussion: Questions to the participants can include: – What would be your potential reactions based on the survey results? – Is there an action plan to support the implementation of the proposed solutions? – How will you prioritize your reactions to the results? Will resources (e.g., financial, capacity etc.) play a role in prioritization process? Again, discussion should be encouraged comparing different situations, experiences, and visions.
Common responses/general consensus:
Areas of disagreement/lack of consensus:
Notes & observations:

Additional themes/discussions/ideas/observations (Fill in only if the content does not fall into any previous categories/themes above)
Notes & observations:

List of Challenges

The following tables are to be filled in by the corresponding participants in the pilot process from the beginning of their engagement till the November 15th, 2020. They will serve to the research team to identify advantages and positive reflections to SELFIE WBL but foremost to identify challenges and possibilities of improvement.

School Coordinator/Leadership

Country:

School:

Process	Advantages	Challenges
School registration process		
Supporting materials and info		
Input of School data		
Customising survey		
Motivating participants - Students - Teachers - Leaders - Companies		
Generating links		
Survey content		
Survey technical issues		
Monitoring participation - Students - Teachers - Leaders - Companies		
SELFIE WBL Report - Usefulness - Features lacking		
Reaching objectives (40% of students and 40% of teachers)		
Certificates/Digital badges - Participants - School		
Findings (unexpected issues)		
Lessons learnt		
Covid 19 impact	*How Covid 19 affected /experience with blended learning, description of the profile of school, remote teaching and learning*	
Other		

Add rows, as necessary.

Source: Skupnost VSŠ, 2020.

Annex 4. Analysis of open question "*Suggestions for improvement*" and examples of questions

Thematic analyses, defined as a method for identifying, analysing, and reporting patterns (themes) within data (Braun and Clarke, 2006) was used for analysing open-ended question on "Suggestions for improvement" provided by students.

Description of process:
We read all answers from students to open question: »How can we improve SELFIE further? Share your ideas and suggestions with us. « We have got familiarised with the data and prepared list of key issues/themes and codes. Text answers of students was tabulated, and each answer was classified in themes (code). Then we counted the number of answers with the same code and prepared the Table 3.

Categories/themes:
S – about SELFIE TOOL (satisfaction, critics, missing themes)
Q – opinion about questions (length, repeating, complicated)
A – opinion about answers (number of answers, option others: _____ ...)
L – language (terminology, understandable, more languages)
D – devices – problems with using tool for SELFIE
T – timing of involvement
I – design
W – internet connection
DT – digital technology
P – praises
0 – nothing to change
K – critics
F – feedback
Prefer not to answer
C – linked with COVID-19
X - not sorted

Table 3. Thematic analysis of open question responded by students.

Code	Key word, answer	Frequency
S	SELFIE (too many questions->fewer questions, to long, provide short tutorial for students, add explanation, add filters, divide survey into parts about students, teachers, companies, too long, audio description instead of reading of questions, increase anonymity – not asking year of birth)	23
Q	Questions (more interesting and diverse questions, more specific questions, more creative, clearer, shorter, better formulated, Better structured, the questions about companies were not understandable, not relevant to the type of school. Add questions: about teaching staff, whether schools are practicing or preparing to use digital technologies for educational purposes at all; about education not related to school, e.g. learning foreign languages / programming etc. through internet platforms and the use of these platforms by educational institutions, »Have you been taught the correct posture in front of a computer / laptop?«; »To what extent the technology you use is modern?«, »What do you use digital technology for?", „How much do we remember from classroom and how much from online lessons?" More questions about how to teach and how to approach a student.	58
A	Answers: add more answers, other scale, even scale, 3 should be impartial or add the option "I rather disagree", add profession IT Specialist, »More answers could be added to some of the questions, e.g., those in section 6«, add option "I have no opinion"	11
L	Language, vocabulary (add other languages: Russian; "pathetic": I do not recommend, goodbye)	2

D	Devices	2
T	Timing	0
I	Design (various app, improve the layout of app, make it more entertainment, add colours, marked answers not easy visible, ugly interface, other background, dark mode)	9
W	Wi-Fi (bad)	2
DT	Digital technology (equip the school, laptops for students, more DT for teaching, week Dt at home, classes should be more related to IT and programming)	5
P	Praises (good, OK, cool, fine, understandable, no problems, nothing left out, transparent, clearly explained)	101
0	No, no comments, I do not know, nothing missing, no proposals, nothing left out, no need for changes, no ideas	99
K	Critics	2
F	Feedback: present results, faster replies	3
	Prefer not to answer	3
C	Linked with COVID-19	0
X	Not sorted: I do it because I was forced to, monitoring vocational classes in a given school	2
	Other: add the winning game	1
	total	323

Source: Skupnost VSŠ (2020)

Examples of questions considered repetitive:
In our school, I have access to the internet for learning
In my company, I have access to the internet for learning
In our school, there are computers or tablets for me to use
In my company, I can learn operating the relevant (digital) equipment
In our school, I use technology in different subjects
In our school, we use technology for projects that combine different subjects

Examples of questions considered too long and complex:
In our school, I have access to a database of companies providing traineeships, apprenticeships and other opportunities
In our school, teachers give us different activities to do using technology that suit our needs
In our company, in-company trainers use digital technologies to tailor the training to our individual needs

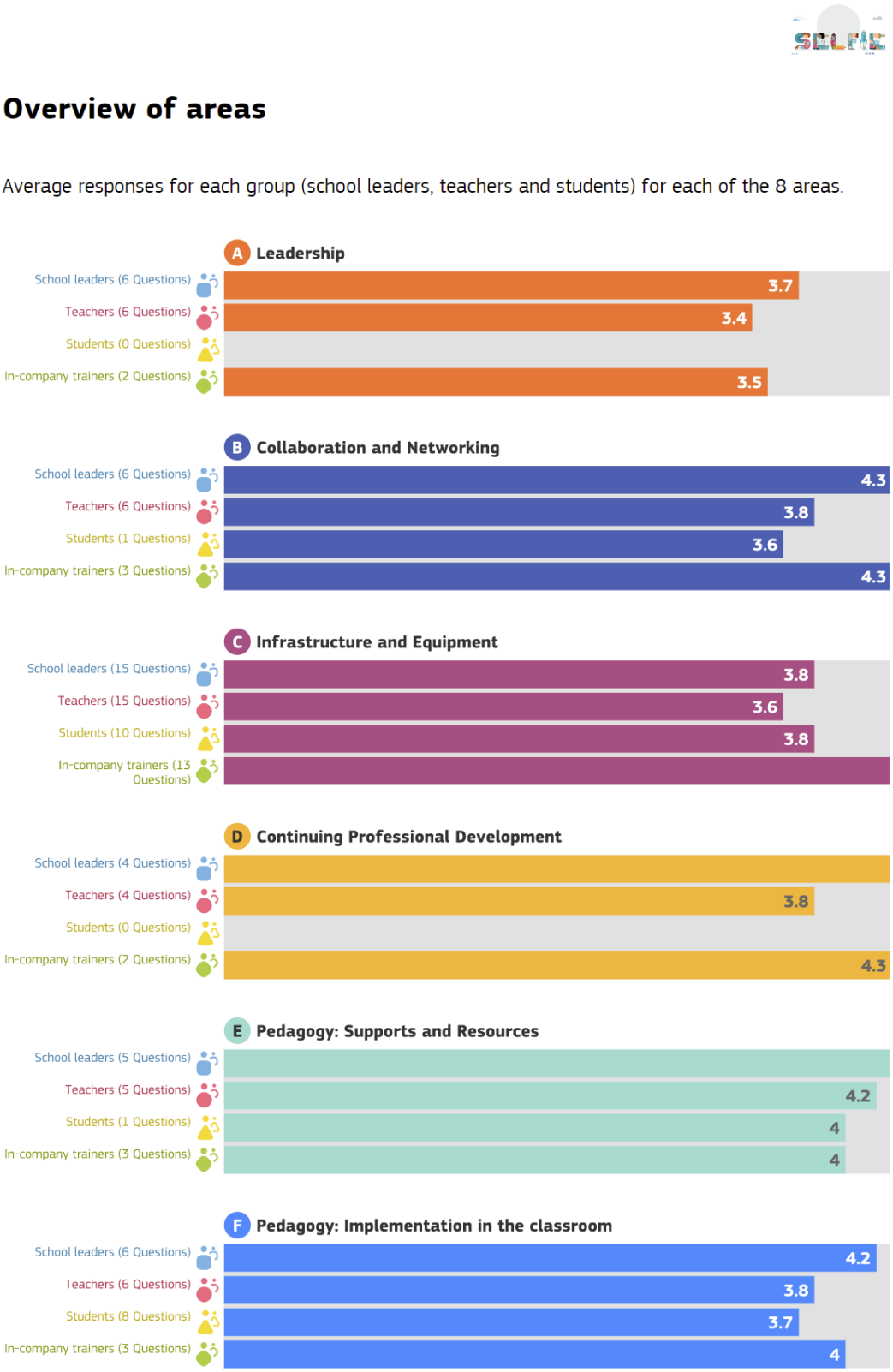
In our company, I gain experience in using digital technologies, which makes me more prepared for my future profession
In our school, we talk with teachers about the advantages and disadvantages of using technology for learning
In our school, I use technology to understand my strengths and weaknesses as a learner
In our company, I use digital technology to understand my strengths and weaknesses as a learner

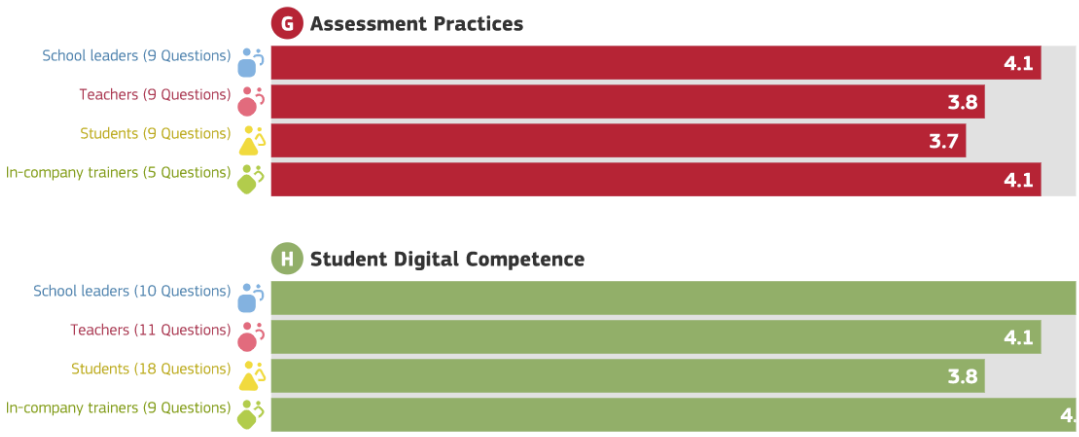
In our school, I use technology to keep a record of what I have learned relevant to my field of study

Questions/statements that should be included:
Whether schools are practicing or prepared to use digital technologies for educational purposes at all?
About education not related to school, (e.g., learning foreign languages/programming etc.) through internet platforms and the use of these platforms by educational institutions?
More questions about how to teach and how to approach a student.
Have you been taught the correct posture in front of a computer/laptop?
To what extent the technology you use is modern?
What do you use digital technology for?
How much do we remember from classroom and how much from online lessons?

Annex 5. School report "Overview of areas"

Figure 13. Overview of areas snapshot from an anonymous SELFIE WBL school report.



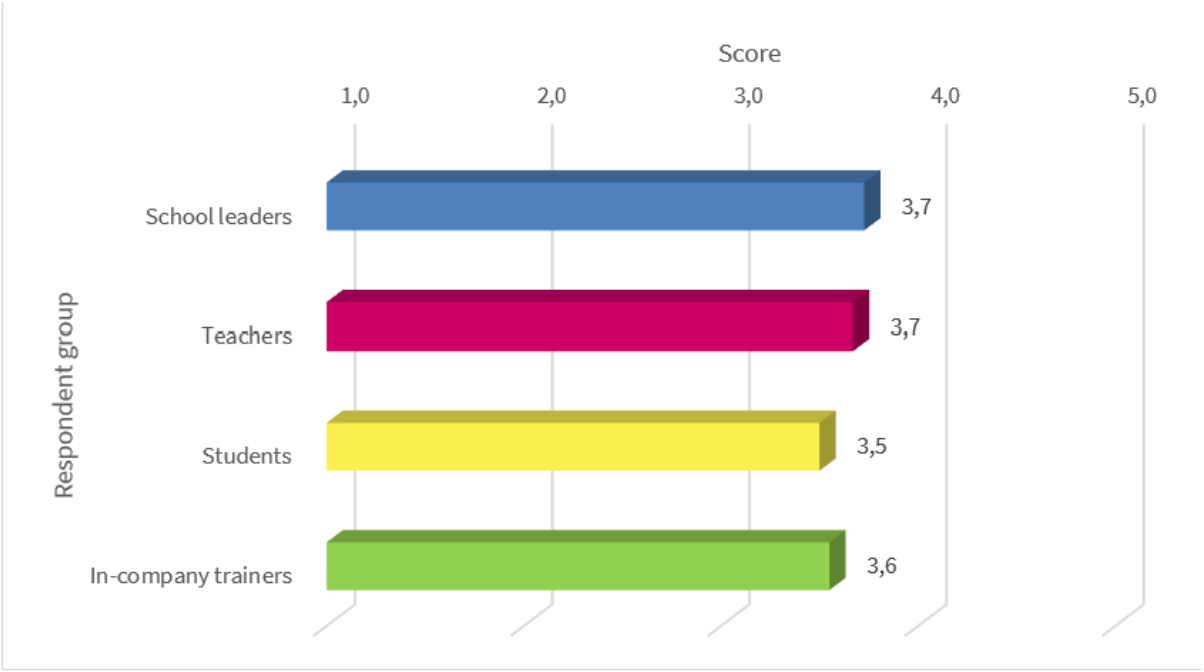


Source: Anonymous SELFIE WBL school report (2020)

Annex 6. Figures and tables with results of SELFIE WBL piloting quantitative data

Figure 14 displays average values per respondent group for all variables. The mean on a five-point Likert scale (1-5) was the highest for school leaders and teachers (M=3.7), and the lowest for students (M=3.5).

Figure 14. Mean score for all variables in main areas per respondent group.



Source: European Commission (2020). SELFIE database, special extraction for SELFIE WBL national coordinators.

Table 4 displays the percent of answers on overall satisfaction with SELFIE WBL on a 10-level scale per respondent group and means for satisfaction with SELFIE WBL per respondent group. The percent of scores above the middle of the scale is the highest for the group of school leaders (82.5%) and the lowest in the group of in-company trainers (60.0%). The highest satisfaction is in the group of school leaders (M=7.3) and the lowest, yet still above the middle of the 10-level scale, is in the group of in-company trainers (M=5.6). Mean of all respondents' satisfaction is 6.4.

Table 4. Overall satisfaction with SELFIE - percentage distribution per respondent group.

Score	School leaders N=40	Teachers N=259	Students N=1943	In-company trainers N=15	Total N=2257
1	0%	0.4%	5.2%	6.7%	4.6%
2	2.5%	2.7%	2.4%	6.7%	2.4%
3	0%	4.2%	3.8%	6.7%	3.8%
4	2.5%	6.9%	6.2%	6.7%	6.2%
5	12.5%	19.3%	15.8%	13.3%	16.1%
6	12.5%	14.7%	14.1%	20.0%	14.1%
7	22.5%	17.0%	17.6%	13.3%	17.5%
8	22.5%	18.9%	17.1%	26.7%	17.5%
9	15.0%	10.0%	7.7%	0.0%	8.0%
10	10.0%	5.8%	10.2%	0.0%	9.6%
Summary 1-5	17.5%	33.6%	33.4%	40.0%	33.2%
Summary 6-10	82.5%	66.4%	66.6%	60.0%	66.8%
Mean	7.3	6.5	6.4	5.6	6.4

Source: European Commission (2020). SELFIE database, special extraction for SELFIE WBL national coordinators.

Students and in-company trainers were asked about their opinion of the questions included in the SELFIE WBL self-reflection exercise (Table 5). They rated the relevance of questions on a 10-level scale. Students provided 63.4% of responses in the range of 6-10 (M=6.3), and in-company trainers in 61,5% of responses in the range of 6-10 (M=5.9).

Table 5. Relevance of questions per respondent group.

Score	Students N=1831		In-company trainers N=13	
	Frequency	Percent	Frequency	Percent
1	107	5.8%	1	7.7%
2	49	2.7%	0	0.0%
3	88	4.8%	2	15.4%
4	143	7.8%	0	0.0%
5	284	15.5%	2	15.4%
6	236	12.9%	1	7.7%
7	280	15.3%	3	23.1%
8	322	17.6%	4	30.8%
9	136	7.4%	0	0.0%
10	186	10.2%	0	0.0%
Summary 1-5	671	36.6%	5	38.5%
Summary 6-10	1160	63.4%	8	61.5%
Mean	6.3		5.9	

Source: European Commission (2020). SELFIE database, special extraction for SELFIE WBL national coordinators.

Table 6 presents the percent of answers about the likelihood for further recommending SELFIE WBL per respondent group on a 5-level scale. The highest percent of positive responses ("Very likely" and "Extremely likely") is in the group of school leaders (39.0%). In the group of teachers, the share of positive responses is 27.6% and in the group of in-company trainers 13.3%. There are 40.0% negative responses "Not at all likely" and "Not very likely") in the group of in-company trainers. The percent of answer "Prefer not to say" is the highest among in-company trainers (20.0%).

The average likelihood for further recommending the SELFIE WBL self-reflection exercise is the highest for school leaders (M=3.4) and the lowest for in-company trainers (M=2.6).

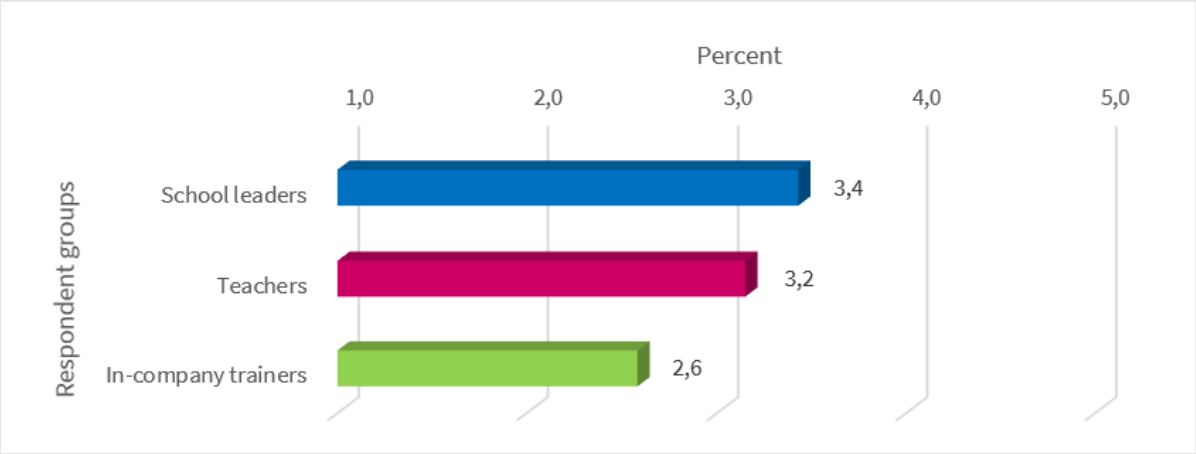
Table 6. Likelihood for further recommendation of SELFIE tool - percent per respondent group.

Recommending SELFIE	School leaders N=41	Teachers N=277	In-company trainers N=15	Total N=333
Not at all likely	0%	1.1%	6.7%	1.2%
Not very likely	7.3%	15.2%	33.3%	15.0%
Somewhat likely	43.9%	47.3%	26.7%	45.9%
Very likely	31.7%	24.9%	13.3%	25.2%
Extremely likely	7.3%	2.9%	0%	3.3%
Prefer not to say	9.8%	8.7%	20.0%	9.3%
Mean	3.4	3.2	2.6	3.2

Source: European Commission (2020). SELFIE database, special extraction for SELFIE WBL national coordinators.

Figure 15 displays the likelihood for further recommending SELFIE WBL. Means in all groups are above the middle of the 5-level scale. School leaders have the highest mean (3.6) and in-company trainers the lowest (2.6).

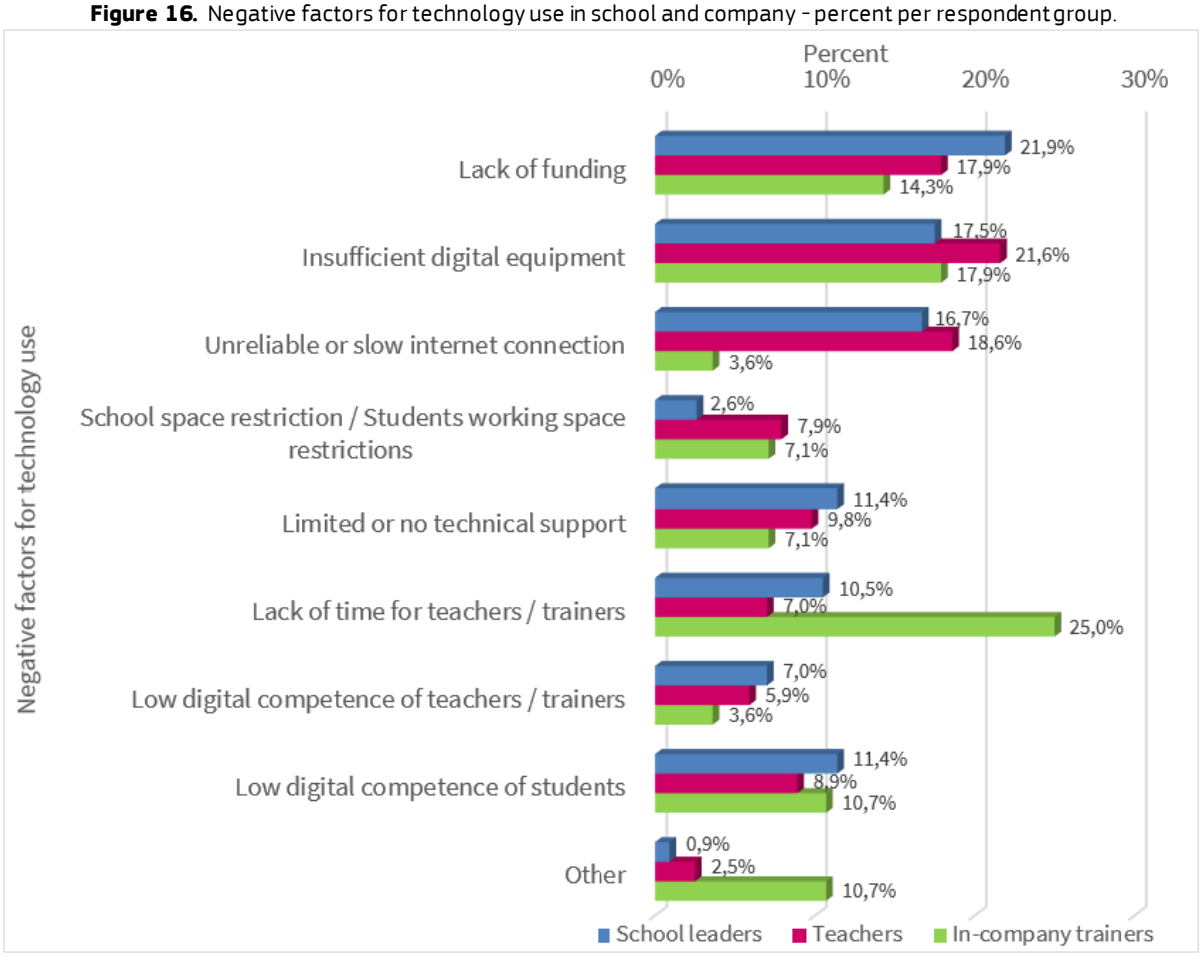
Figure 15. Mean likelihood for further recommending SELFIE.



Source: European Commission (2020). SELFIE database, special extraction for SELFIE WBL national coordinators.

Figure 16 displays the shares of factors which negatively affect digital technologies' use in schools and companies. School leaders rated "Lack of funding", teachers "Insufficient digital equipment" and in-company trainers "Lack of time for trainers" the most negative factor. The negative factor for teaching or training with digital technology which school leaders rated with the lowest was "Students' space restrictions", teachers "Low digital competence and in-company trainers "Low digital competence of trainers".

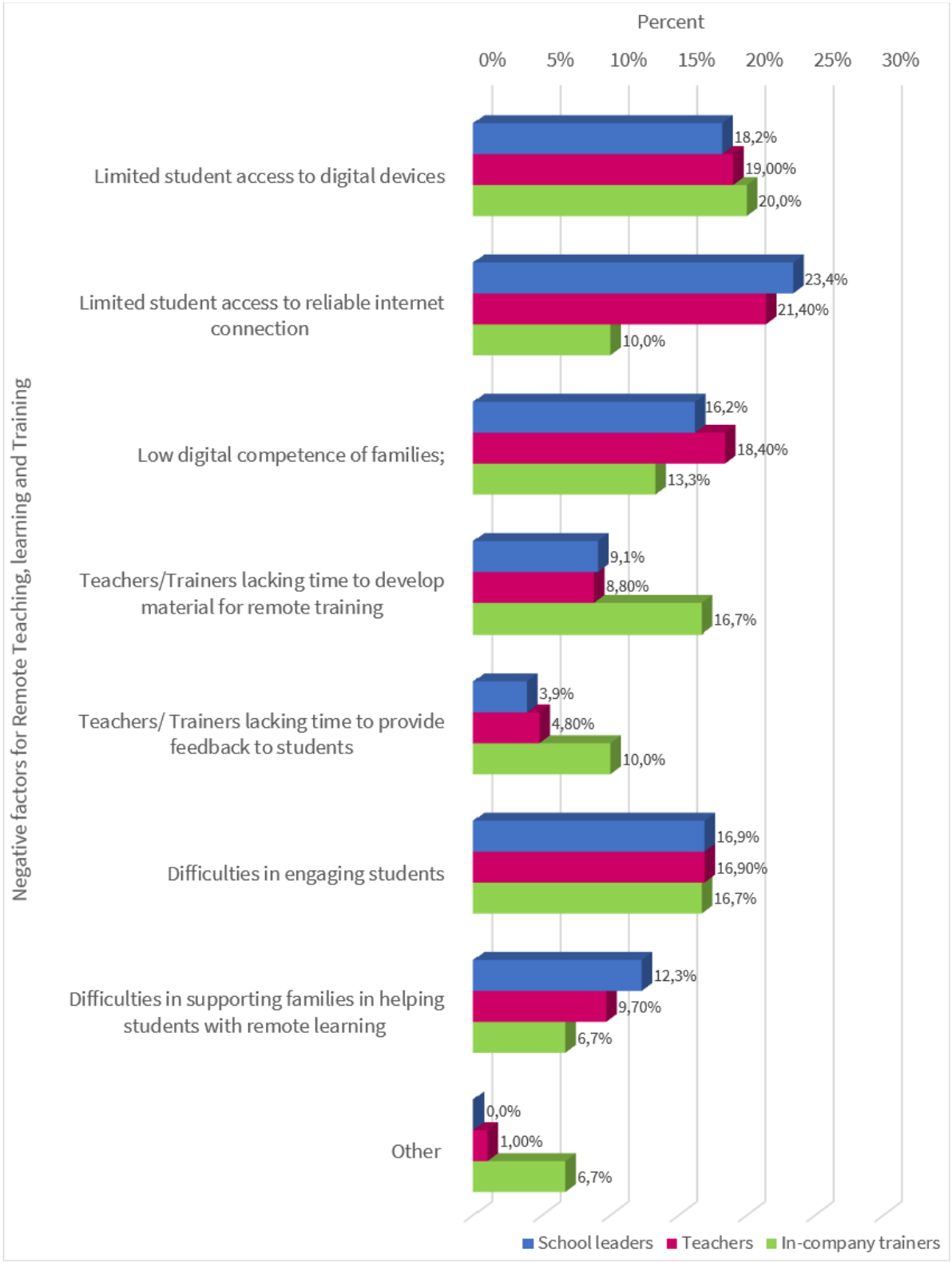
Figure 16. Negative factors for technology use in school and company - percent per respondent group.



Source: European Commission (2020). SELFIE database, special extraction for SELFIE WBL national coordinators.

Figure 17 displays the shares of factors which negatively affect remote teaching, learning, or training. There was quite an agreement between school leaders and teachers about the importance of "Limited students access to reliable internet connection and digital devices". In-company trainers rated "Limited students access to digital devices" as the most influential negative factor. However, in-company trainers chose "Difficulties in supporting families in helping students with remote learning" as the least relevant factor. School leaders and teacher chose "Teachers/Trainers lack of time to provide feedback to students" as the least relevant factor.

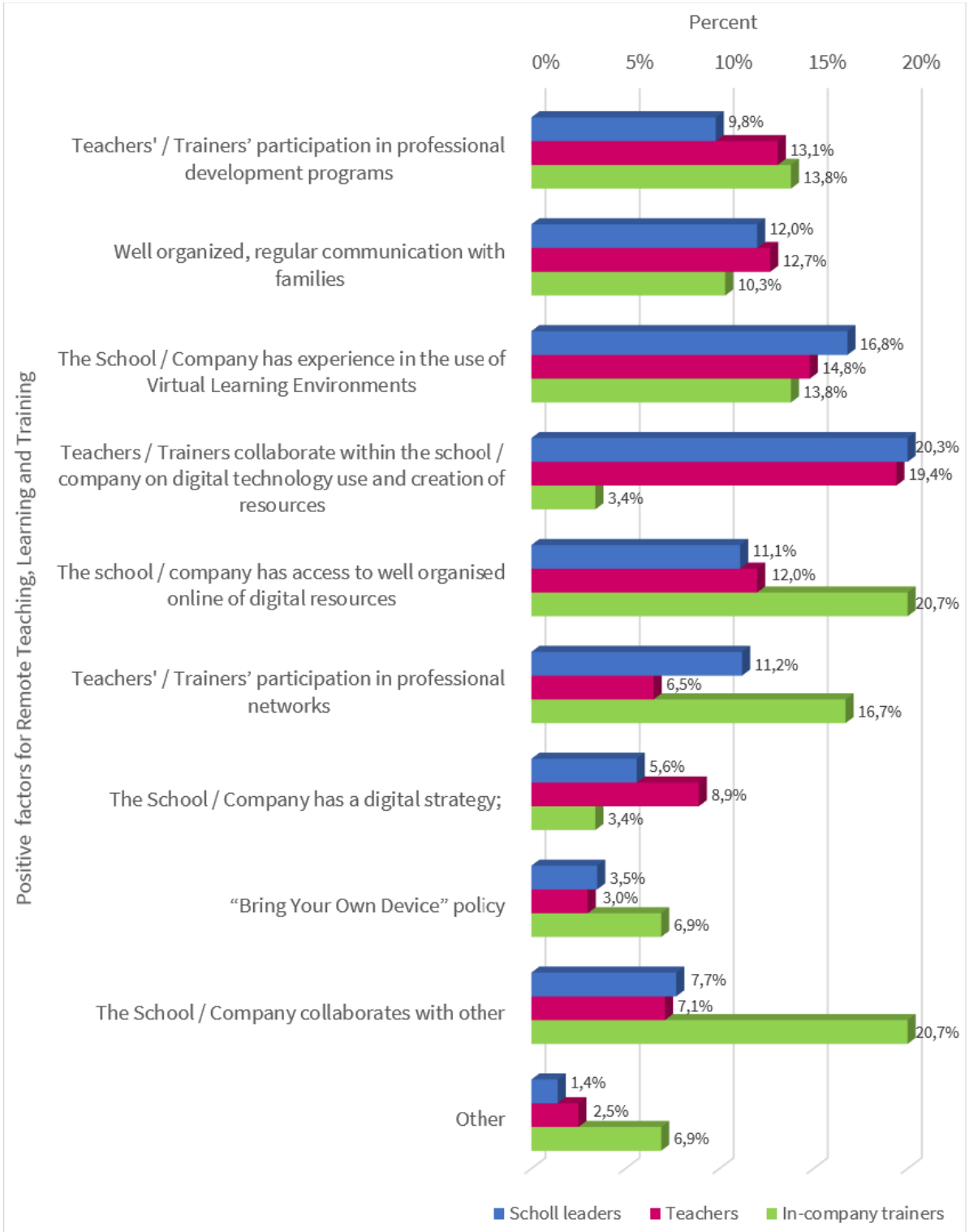
Figure 17. Negative factors for technology use for remote teaching, learning, and training – percent per respondent group.



Source: European Commission (2020). SELFIE database, special extraction for SELFIE WBL national coordinators.

Figure 18 displays the shares of factors which positively affect remote teaching, learning, or training. There was quite an agreement between school leaders and teachers about the importance of "Teachers and trainers' collaboration on digital technology use". In-company trainers rated as the two most relevant positive factors "School's and company's access to well organised online digital resources" and "School's and company's collaboration with other". School leaders and teachers agreed that the least influential factor of use of technology for remote teaching and learning was the "Bring your own device" policy, while in-company trainers rated as the least relevant "Teachers and trainers' collaboration on digital technology use" and "School's and company's digital strategy".

Figure 18. Positive factors for remote teaching, learning, and training - percent per respondent group.

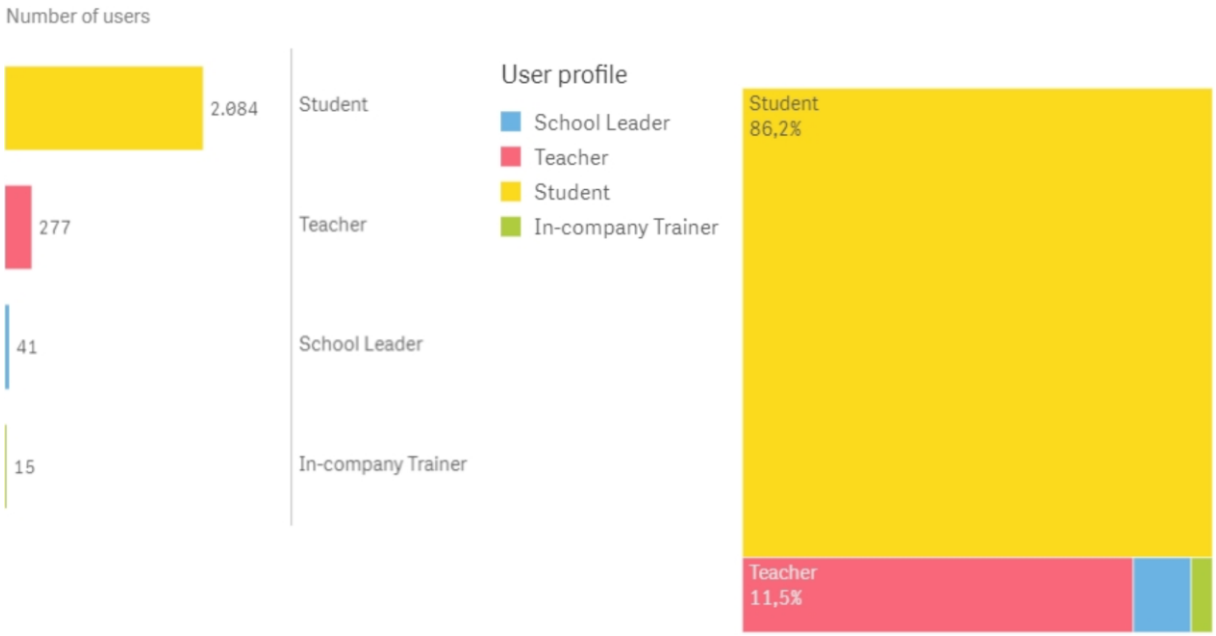


Source: European Commission (2020). SELFIE database, special extraction for SELFIE WBL national coordinators.

Annex 7. Overview of SELFIE WBL results in Poland

The outcomes of the pilot are not representative of the national education and training systems. They provide useful insights for schools and companies participating in the pilot and, overall, for schools and companies providing similar WBL programmes and belonging to the specific economic sectors covered by the pilot. Details on all questions can be found in the questionnaires on the SELFIE tool website.

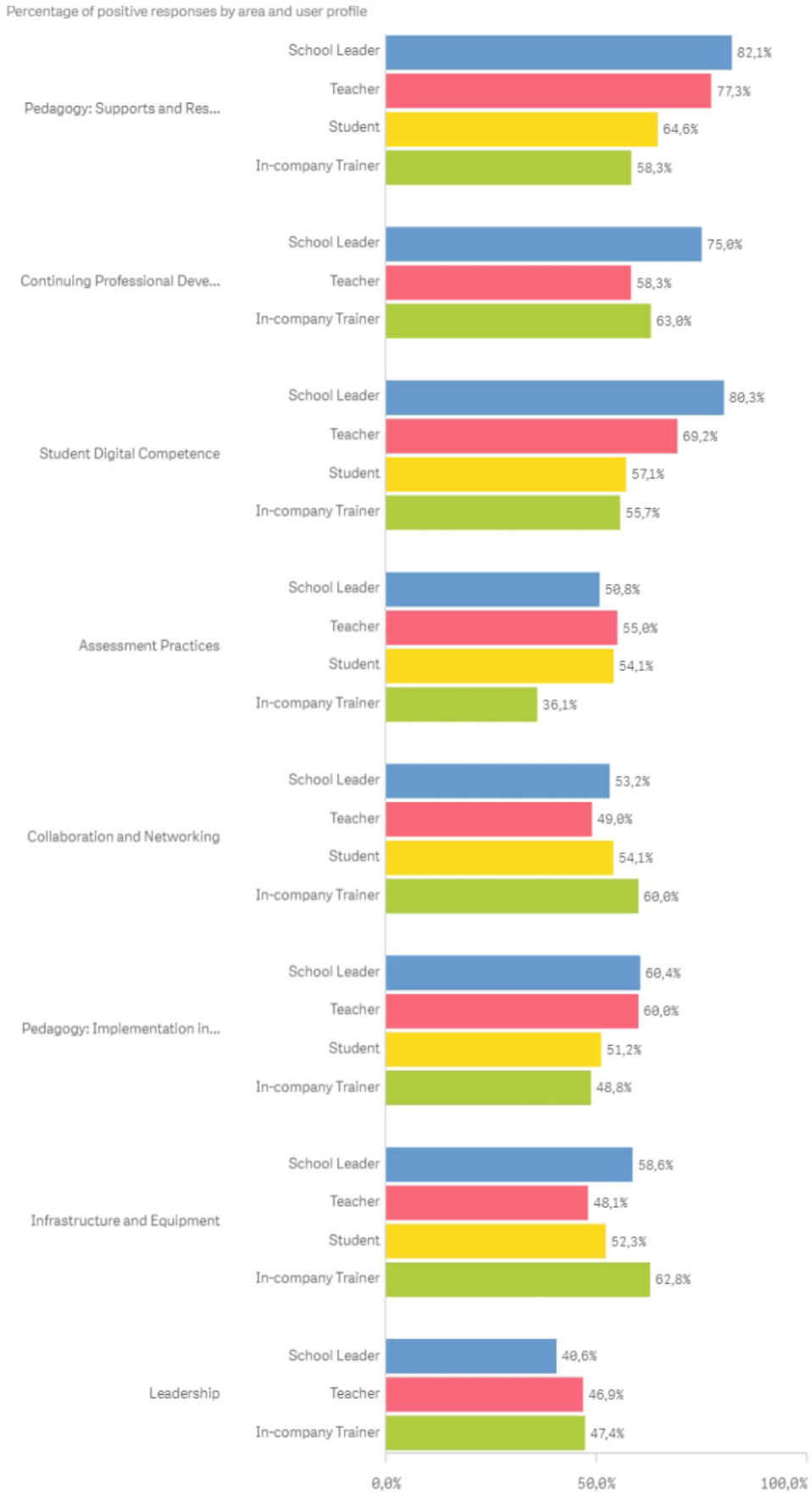
User participation

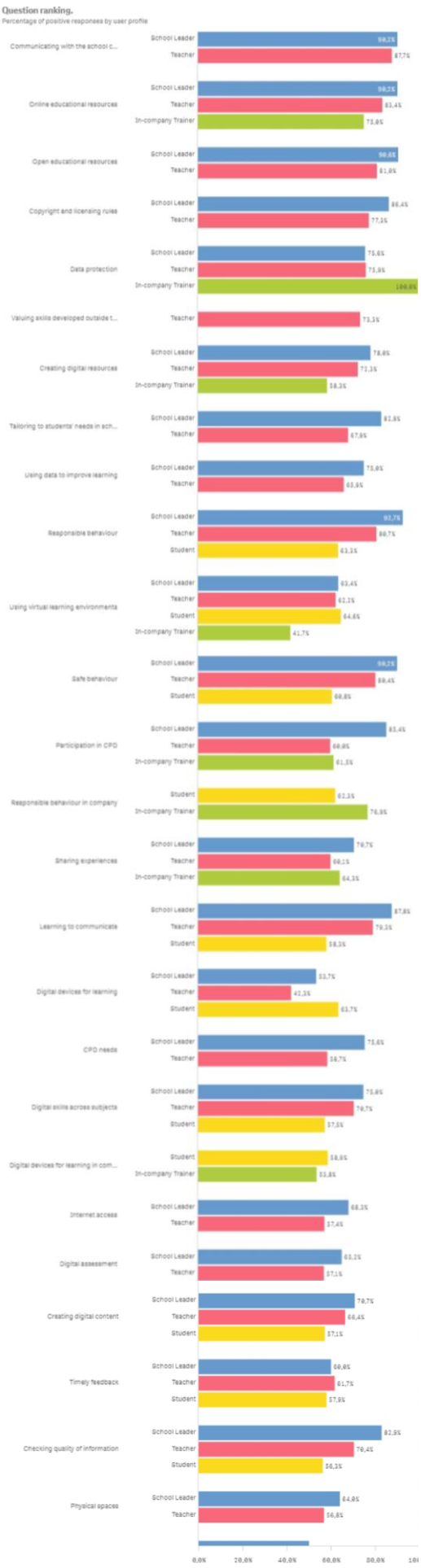


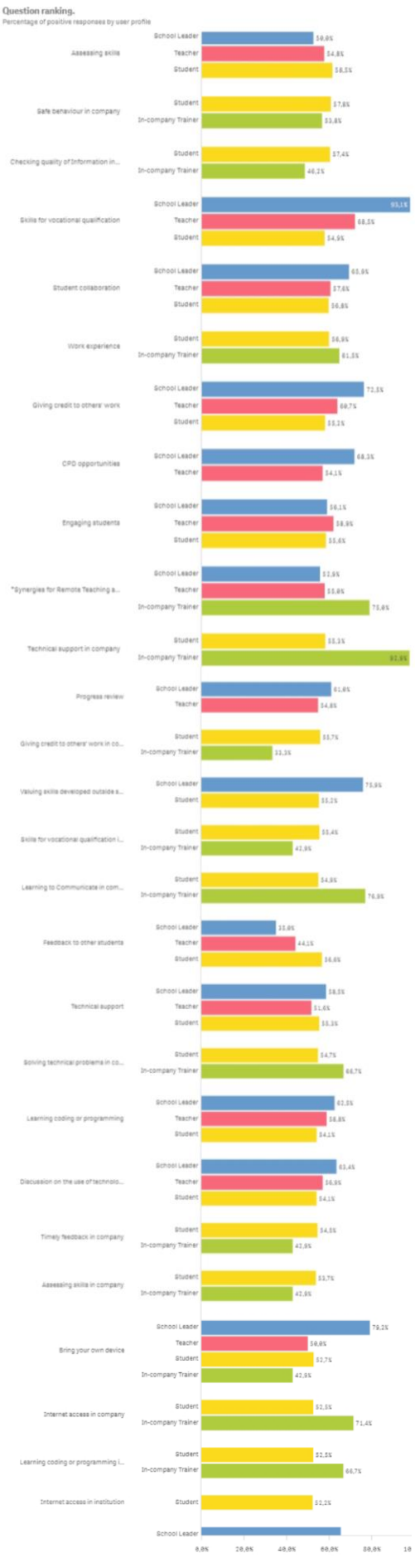
Note: The six participation categories were answered by school coordinators during school registration. Categories for 'disadvantaged homes' and 'different language' are: fewer than 10 %, 10-25%, 26-50%, above 50 %, I don't know. 'Didn't answer' is also possible, as the questions were optional.

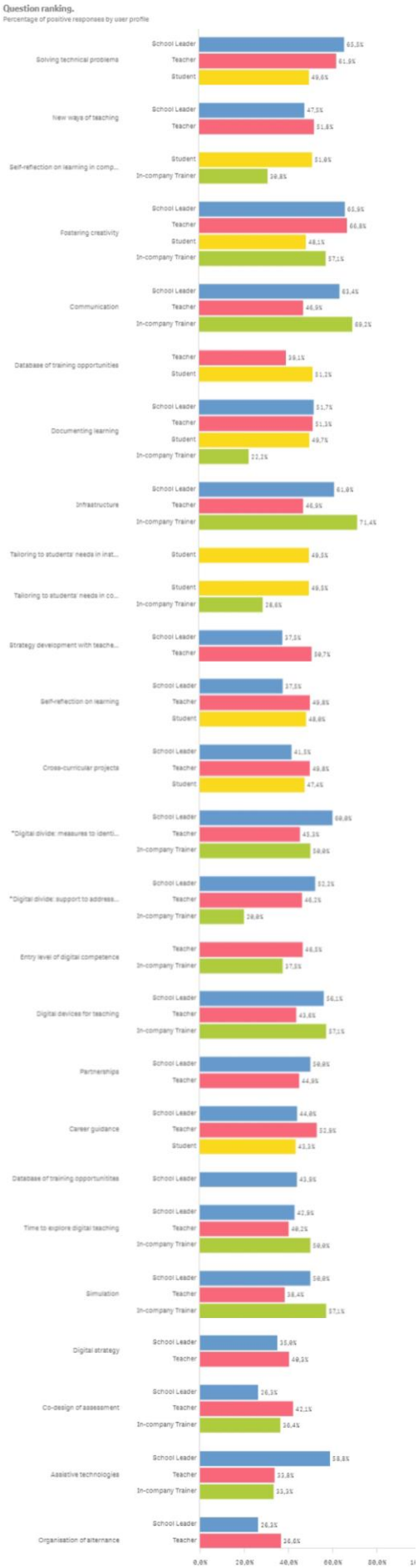
SELFIE - **Main areas**

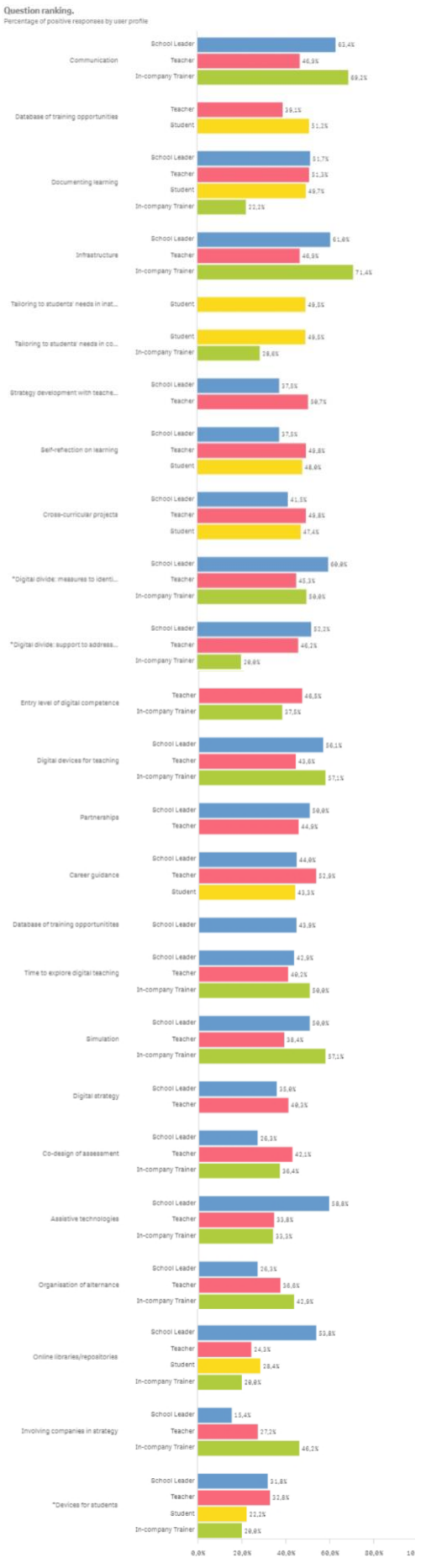
Note: positive responses = answers on 4 or 5 on a five-point scale




Question ranking.
Percentage of positive responses by user profile
Communicating with the school c...
School Leader 98.2%
Teacher 87.7%
Online educational resources
School Leader 98.2%
Teacher 83.4%
In-company Trainer 75.0%
Open educational resources
School Leader 90.6%
Teacher 81.8%
Copyright and licensing rules
School Leader 86.4%
Teacher 77.3%
Data protection
School Leader 75.6%
Teacher 73.9%
In-company Trainer 100.0%
Valuing skills developed outside t...
Teacher 73.3%
Creating digital resources
School Leader 78.8%
Teacher 71.3%
In-company Trainer 58.3%
Tailoring to students' needs in ach...
School Leader 82.5%
Teacher 67.9%
Using data to improve learning
School Leader 75.0%
Teacher 65.9%
Responsible behaviour
School Leader 92.7%
Teacher 80.7%
Student 63.3%
Using virtual learning environments
School Leader 63.4%
Teacher 62.2%
Student 64.6%
In-company Trainer 41.7%
Safe behaviour
School Leader 90.3%
Teacher 80.4%
Student 60.8%
Participation in CPD
School Leader 83.4%
Teacher 60.8%
In-company Trainer 61.5%
Responsible behaviour in company
Student 62.3%
In-company Trainer 76.9%
Sharing experiences
School Leader 70.7%
Teacher 60.1%
In-company Trainer 64.3%
Learning to communicate
School Leader 87.8%
Teacher 79.3%
Student 58.3%
Digital devices for learning
School Leader 33.7%
Teacher 42.3%
Student 63.7%
CPD needs
School Leader 75.6%
Teacher 58.7%
Digital skills across subjects
School Leader 75.6%
Teacher 70.7%
Student 57.3%
Digital devices for learning in com...
Student 58.9%
In-company Trainer 33.3%
Internet access
School Leader 68.3%
Teacher 57.4%
Digital assessment
School Leader 63.2%
Teacher 57.1%
Creating digital content
School Leader 70.7%
Teacher 66.4%
Student 57.1%
Timely feedback
School Leader 60.0%
Teacher 61.7%
Student 57.9%
Checking quality of information
School Leader 82.9%
Teacher 70.4%
Student 56.3%
Physical spaces
School Leader 64.8%
Teacher 56.8%
0.0% 20.0% 40.0% 60.0% 80.0% 10

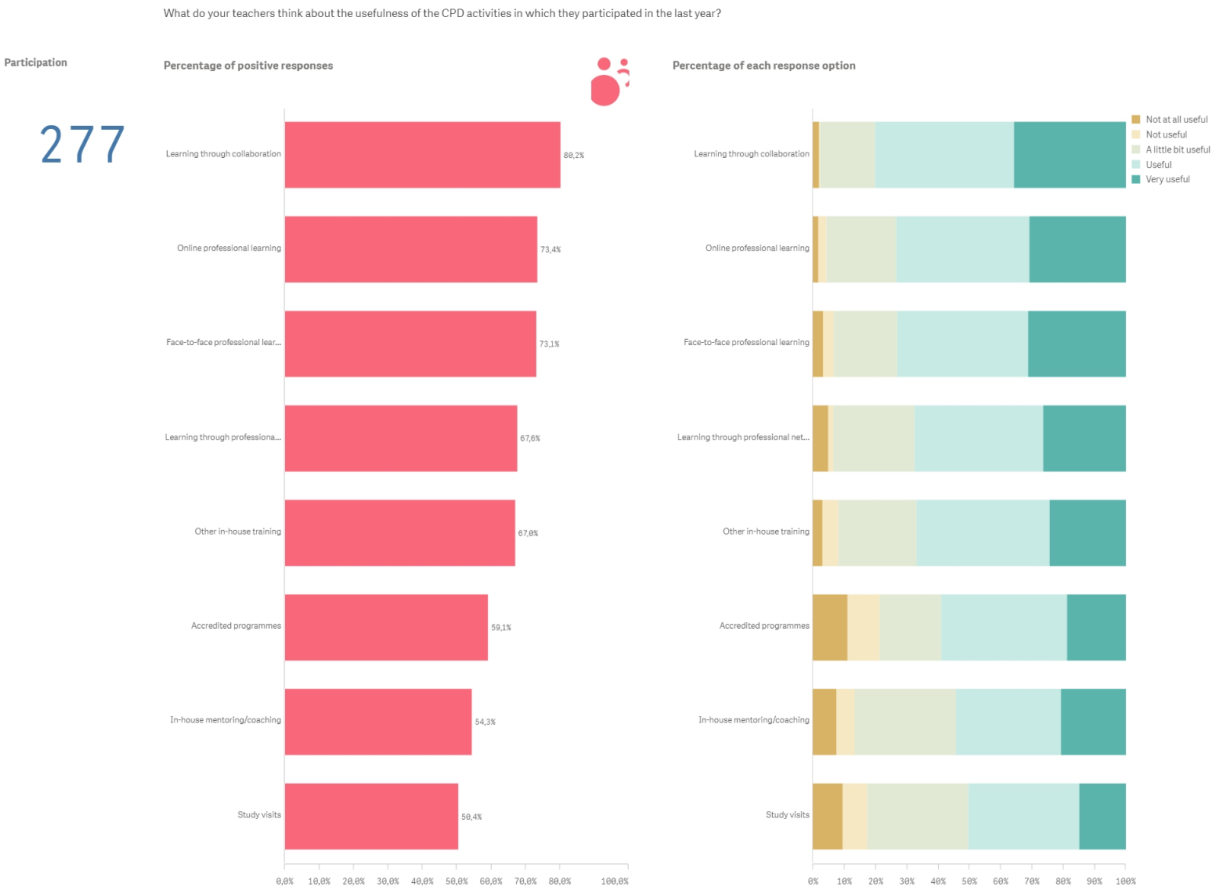

Question ranking.
Percentage of positive responses by user profile
Assessing skills
School Leader 58.0%
Teacher 54.8%
Student 58.5%
Safe behaviour in company
Student 57.8%
In-company Trainer 33.3%
Checking quality of information in...
Student 57.4%
In-company Trainer 46.2%
Skills for vocational qualification
School Leader 93.1%
Teacher 68.5%
Student 54.9%
Student collaboration
School Leader 65.0%
Teacher 57.6%
Student 56.8%
Work experience
Student 56.9%
In-company Trainer 61.5%
Giving credit to others' work
School Leader 72.5%
Teacher 60.7%
Student 55.2%
CPD opportunities
School Leader 68.3%
Teacher 54.1%
Engaging students
School Leader 56.1%
Teacher 58.9%
Student 55.6%
"Synergies for Remote Teaching a...
School Leader 52.5%
Teacher 55.6%
In-company Trainer 75.0%
Technical support in company
Student 55.3%
In-company Trainer 91.5%
Progress review
School Leader 61.0%
Teacher 54.8%
Giving credit to others' work in co...
Student 55.7%
In-company Trainer 33.3%
Valuing skills developed outside s...
School Leader 75.5%
Student 55.2%
Skills for vocational qualification i...
Student 55.4%
In-company Trainer 42.9%
Learning to Communicate in com...
Student 54.9%
In-company Trainer 76.9%
Feedback to other students
School Leader 33.0%
Teacher 44.1%
Student 56.6%
Technical support
School Leader 56.5%
Teacher 51.6%
Student 55.3%
Solving technical problems in co...
Student 54.7%
In-company Trainer 66.7%
Learning coding or programming
School Leader 62.5%
Teacher 56.8%
Student 54.1%
Discussion on the use of technolo...
School Leader 63.4%
Teacher 56.9%
Student 54.1%
Timely feedback in company
Student 54.5%
In-company Trainer 42.9%
Assessing skills in company
Student 53.7%
In-company Trainer 42.9%
Bring your own device
School Leader 79.2%
Teacher 58.0%
Student 52.7%
In-company Trainer 42.9%
Internet access in company
Student 52.5%
In-company Trainer 71.4%
Learning coding or programming i...
Student 52.5%
In-company Trainer 66.7%
Internet access in institution
Student 52.2%
School Leader
0.0% 20.0% 40.0% 60.0% 80.0% 10


Question ranking.
Percentage of positive responses by user profile
Solving technical problems
School Leader 65.5%
Teacher 61.9%
Student 49.6%
New ways of teaching
School Leader 47.5%
Teacher 51.8%
Self-reflection on learning in comp...
Student 51.8%
In-company Trainer 39.8%
Fostering creativity
School Leader 65.9%
Teacher 66.8%
Student 48.1%
In-company Trainer 57.1%
Communication
School Leader 63.4%
Teacher 46.9%
In-company Trainer 69.2%
Database of training opportunities
Teacher 39.1%
Student 51.2%
Documenting learning
School Leader 51.7%
Teacher 51.3%
Student 49.7%
In-company Trainer 22.2%
Infrastructure
School Leader 61.8%
Teacher 46.9%
In-company Trainer 71.4%
Tailoring to students' needs in inat...
Student 49.5%
Tailoring to students' needs in co...
Student 49.5%
In-company Trainer 28.6%
Strategy development with teache...
School Leader 37.5%
Teacher 50.7%
Self-reflection on learning
School Leader 37.5%
Teacher 49.8%
Student 48.0%
Cross-curricular projects
School Leader 41.5%
Teacher 49.8%
Student 47.4%
*Digital divide: measures to identi...
School Leader 60.0%
Teacher 45.3%
In-company Trainer 50.0%
*Digital divide: support to address...
School Leader 52.2%
Teacher 46.2%
In-company Trainer 20.0%
Entry level of digital competence
Teacher 46.5%
In-company Trainer 37.5%
Digital devices for teaching
School Leader 56.1%
Teacher 43.6%
In-company Trainer 57.1%
Partnerships
School Leader 50.0%
Teacher 44.9%
Career guidance
School Leader 44.0%
Teacher 52.5%
Student 43.3%
Database of training opportunities
School Leader 43.9%
Time to explore digital teaching
School Leader 42.9%
Teacher 40.2%
In-company Trainer 50.0%
Simulation
School Leader 50.0%
Teacher 38.4%
In-company Trainer 57.1%
Digital strategy
School Leader 35.0%
Teacher 40.3%
Co-design of assessment
School Leader 26.3%
Teacher 42.1%
In-company Trainer 26.4%
Assistive technologies
School Leader 58.8%
Teacher 33.8%
In-company Trainer 33.3%
Organisation of alternance
School Leader 26.3%
Teacher 36.6%
0.0%
20.0%
40.0%
60.0%
80.0%


Question ranking.
Percentage of positive responses by user profile
Communication
School Leader 63.4%
Teacher 46.9%
In-company Trainer 69.2%
Database of training opportunities
Teacher 39.1%
Student 51.2%
Documenting learning
School Leader 51.7%
Teacher 51.3%
Student 49.7%
In-company Trainer 22.2%
Infrastructure
School Leader 61.8%
Teacher 46.9%
In-company Trainer 71.4%
Tailoring to students' needs in inat...
Student 49.5%
Tailoring to students' needs in co...
Student 49.5%
In-company Trainer 28.6%
Strategy development with teache...
School Leader 37.5%
Teacher 50.7%
Self-reflection on learning
School Leader 37.5%
Teacher 49.8%
Student 48.0%
Cross-curricular projects
School Leader 41.5%
Teacher 49.8%
Student 47.4%
*Digital divide: measures to identi...
School Leader 60.0%
Teacher 45.3%
In-company Trainer 50.0%
*Digital divide: support to address...
School Leader 52.2%
Teacher 46.2%
In-company Trainer 20.0%
Entry level of digital competence
Teacher 46.5%
In-company Trainer 37.5%
Digital devices for teaching
School Leader 56.1%
Teacher 43.6%
In-company Trainer 57.1%
Partnerships
School Leader 50.0%
Teacher 44.9%
Career guidance
School Leader 44.0%
Teacher 52.5%
Student 43.3%
Database of training opportunities
School Leader 43.9%
Time to explore digital teaching
School Leader 42.9%
Teacher 40.2%
In-company Trainer 50.0%
Simulation
School Leader 50.0%
Teacher 38.4%
In-company Trainer 57.1%
Digital strategy
School Leader 35.0%
Teacher 40.3%
Co-design of assessment
School Leader 26.3%
Teacher 42.1%
In-company Trainer 26.4%
Assistive technologies
School Leader 58.8%
Teacher 33.8%
In-company Trainer 33.3%
Organisation of alternance
School Leader 26.3%
Teacher 36.6%
In-company Trainer 42.9%
Online libraries/repositories
School Leader 53.8%
Teacher 24.3%
Student 28.4%
In-company Trainer 20.0%
Involving companies in strategy
School Leader 15.4%
Teacher 27.2%
In-company Trainer 46.2%
*Devices for students
School Leader 31.8%
Teacher 32.8%
Student 22.2%
In-company Trainer 20.0%
0.0%
20.0%
40.0%
60.0%
80.0%

SELFIE WBL – Additional areas

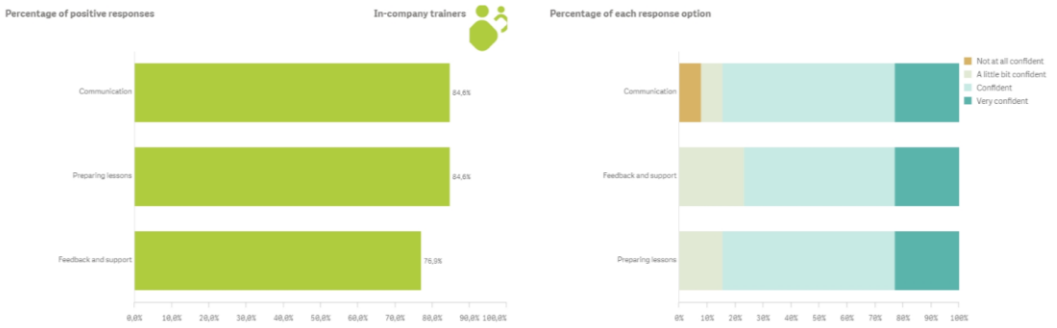
Note: positive responses = answers on 4 or 5 on a five-point scale



How confident do your teachers feel in using technology for the following tasks?

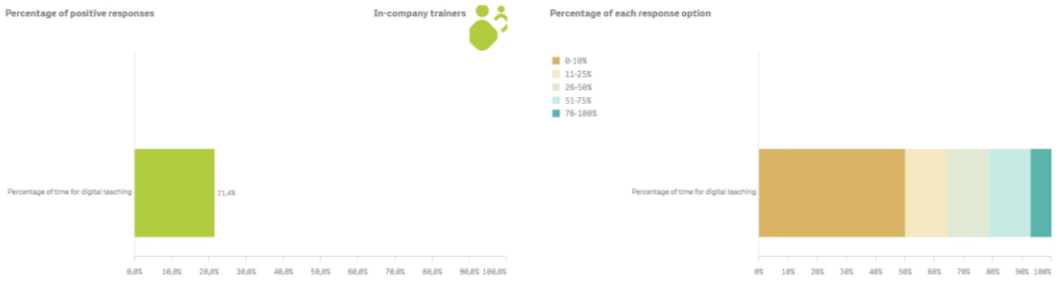
Participation

15



Participation

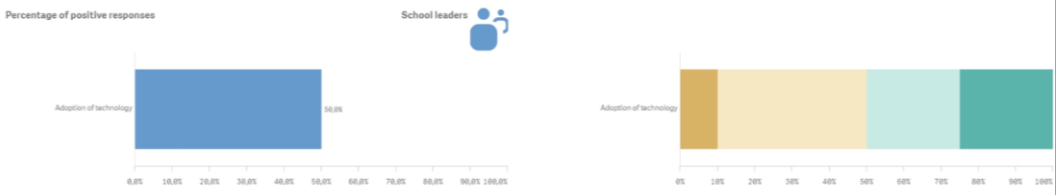
15



Which best describes the approach to using digital technologies for teaching and learning by your school leaders and teachers?

Participation

41

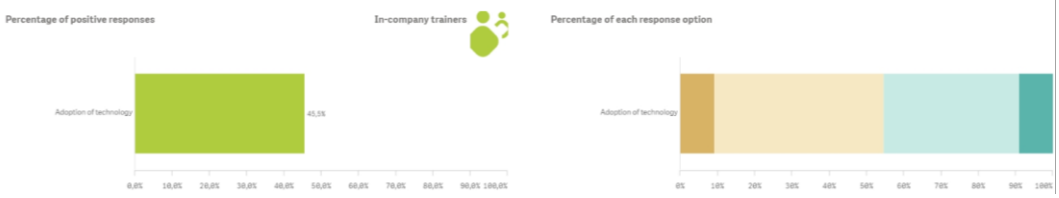


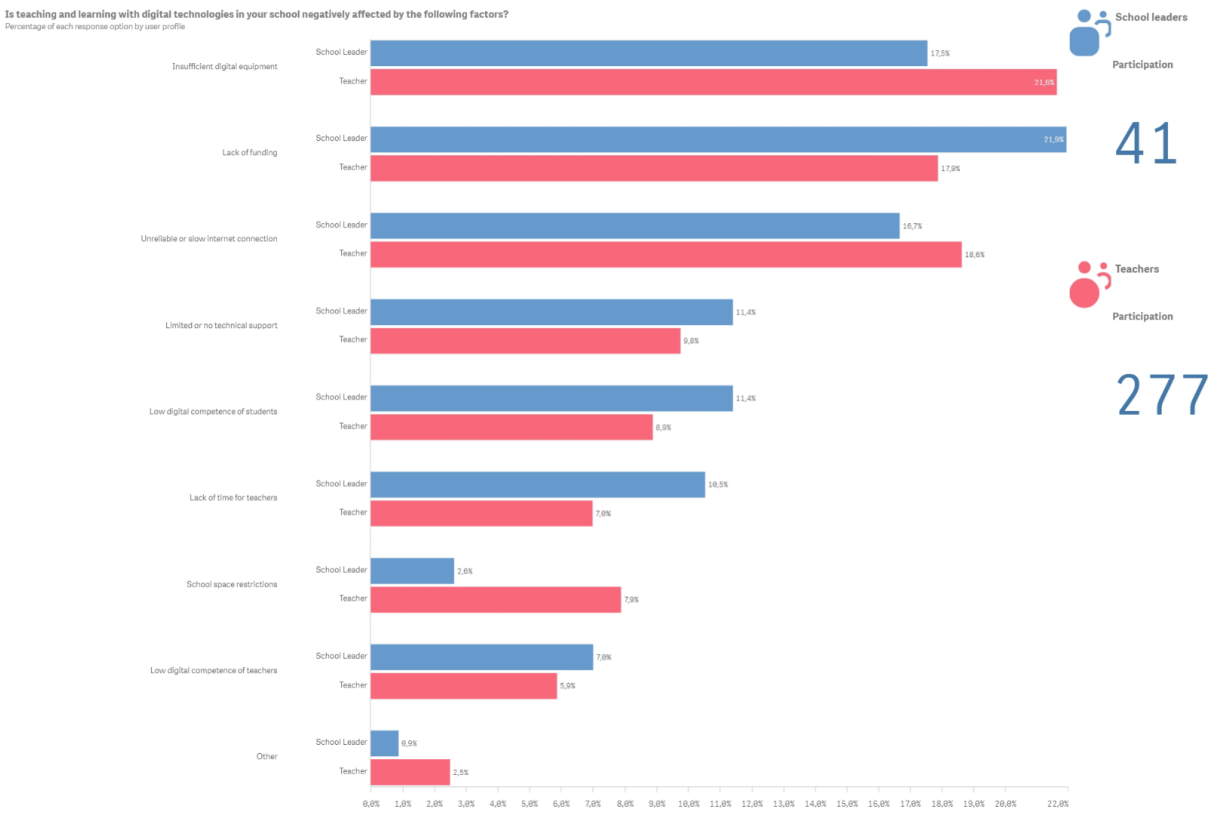
Participation

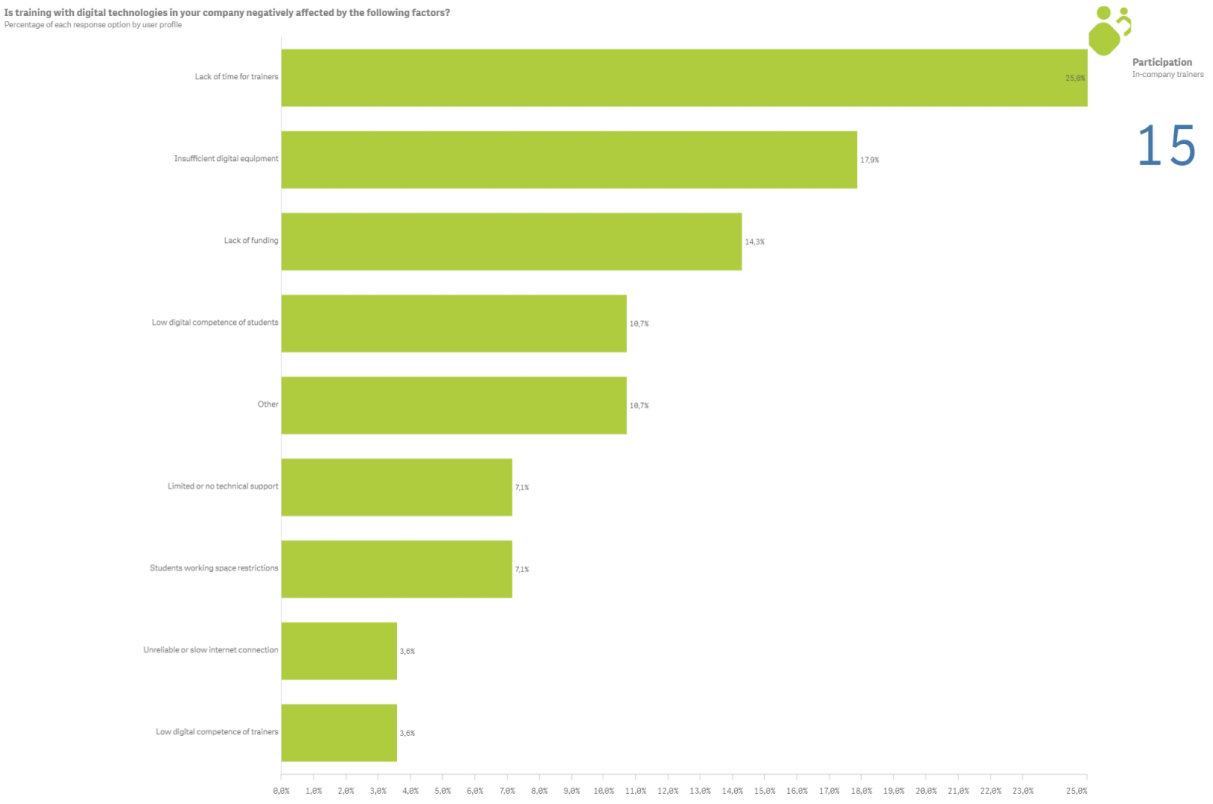
277

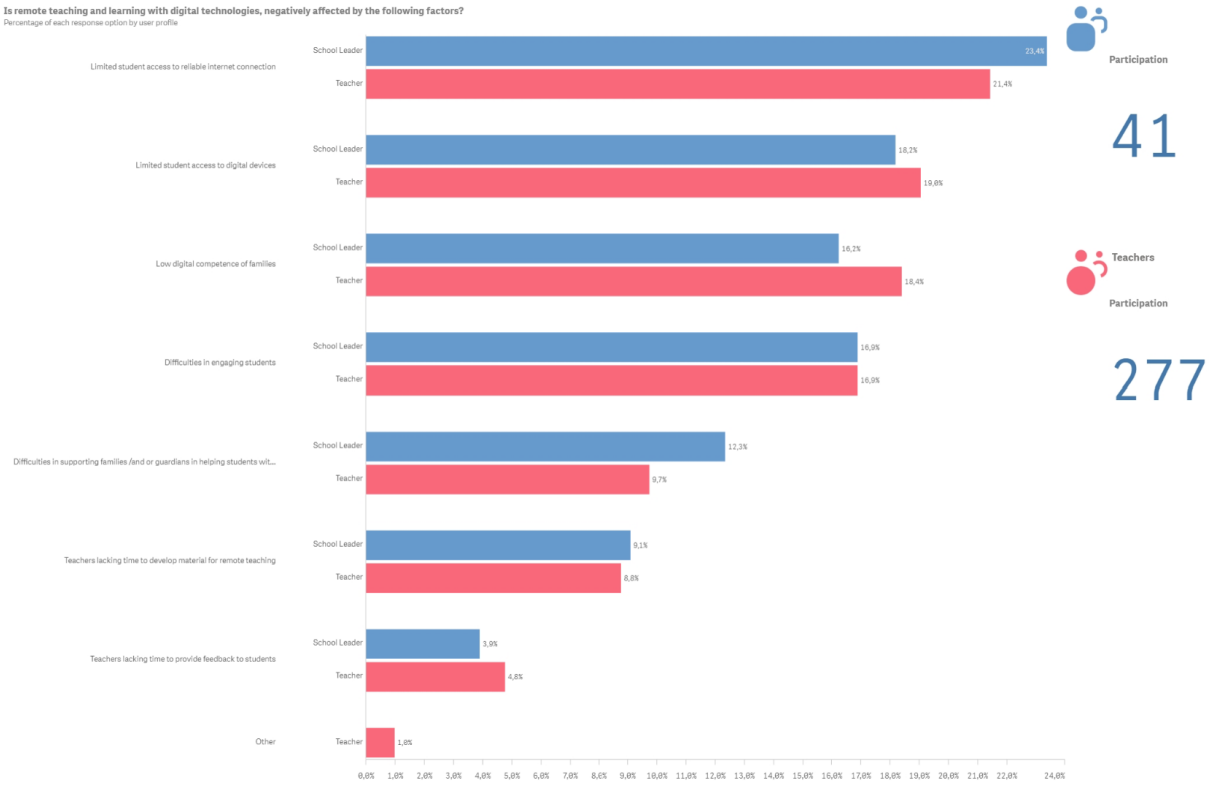
Participation

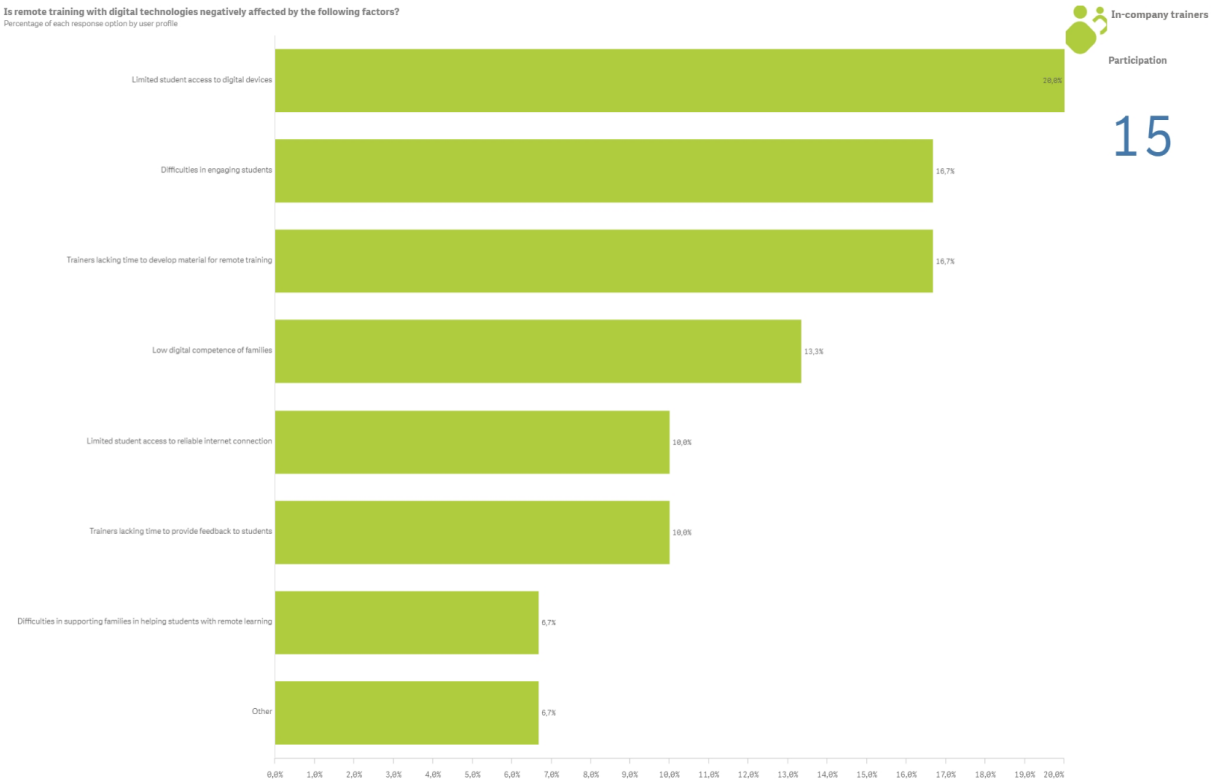
15




Is teaching and learning with digital technologies in your school negatively affected by the following factors?
Percentage of each response option by user profile
School leaders
Participation
41
Teachers
Participation
277
Insufficient digital equipment
School Leader 17,5%
Teacher 21,0%
Lack of funding
School Leader 21,9%
Teacher 17,9%
Unreliable or slow internet connection
School Leader 16,7%
Teacher 18,6%
Limited or no technical support
School Leader 11,4%
Teacher 9,8%
Low digital competence of students
School Leader 11,4%
Teacher 8,9%
Lack of time for teachers
School Leader 10,5%
Teacher 7,0%
School space restrictions
School Leader 2,6%
Teacher 7,9%
Low digital competence of teachers
School Leader 7,0%
Teacher 5,9%
Other
School Leader 0,9%
Teacher 2,5%
0,0% 1,0% 2,0% 3,0% 4,0% 5,0% 6,0% 7,0% 8,0% 9,0% 10,0% 11,0% 12,0% 13,0% 14,0% 15,0% 16,0% 17,0% 18,0% 19,0% 20,0% 22,0%


Is training with digital technologies in your company negatively affected by the following factors?
Percentage of each response option by user profile
Participation
In-company trainers
15
Lack of time for trainers 25,0%
Insufficient digital equipment 17,9%
Lack of funding 14,3%
Low digital competence of students 10,7%
Other 10,7%
Limited or no technical support 7,1%
Students working space restrictions 7,1%
Unreliable or slow internet connection 3,6%
Low digital competence of trainers 3,6%
0,0% 1,0% 2,0% 3,0% 4,0% 5,0% 6,0% 7,0% 8,0% 9,0% 10,0% 11,0% 12,0% 13,0% 14,0% 15,0% 16,0% 17,0% 18,0% 19,0% 20,0% 21,0% 22,0% 23,0% 25,0%


Is remote teaching and learning with digital technologies, negatively affected by the following factors?
Percentage of each response option by user profile
Limited student access to reliable internet connection
School Leader
Teacher
23,4%
21,4%
Limited student access to digital devices
School Leader
Teacher
18,2%
19,6%
Low digital competence of families
School Leader
Teacher
16,2%
18,4%
Difficulties in engaging students
School Leader
Teacher
16,9%
16,9%
Difficulties in supporting families /and or guardians in helping students wit...
School Leader
Teacher
12,3%
9,7%
Teachers lacking time to develop material for remote teaching
School Leader
Teacher
9,1%
8,8%
Teachers lacking time to provide feedback to students
School Leader
Teacher
3,9%
4,8%
Other
Teacher
1,8%
0,0% 1,0% 2,0% 3,0% 4,0% 5,0% 6,0% 7,0% 8,0% 9,0% 10,0% 11,0% 12,0% 13,0% 14,0% 15,0% 16,0% 17,0% 18,0% 19,0% 20,0% 21,0% 22,0% 24,0%
Participation
41
Teachers
Participation
277

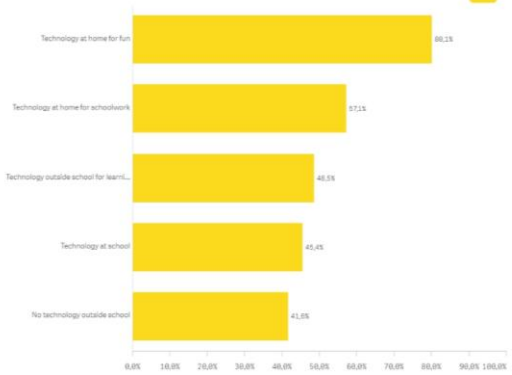

Is remote training with digital technologies negatively affected by the following factors?
Percentage of each response option by user profile
Limited student access to digital devices
28,8%
Difficulties in engaging students
16,7%
Trainers lacking time to develop material for remote training
16,7%
Low digital competence of families
13,3%
Limited student access to reliable internet connection
10,0%
Trainers lacking time to provide feedback to students
10,0%
Difficulties in supporting families in helping students with remote learning
6,7%
Other
6,7%
0,0% 1,0% 2,0% 3,0% 4,0% 5,0% 6,0% 7,0% 8,0% 9,0% 10,0% 11,0% 12,0% 13,0% 14,0% 15,0% 16,0% 17,0% 18,0% 19,0% 20,0%
In-company trainers
Participation
15

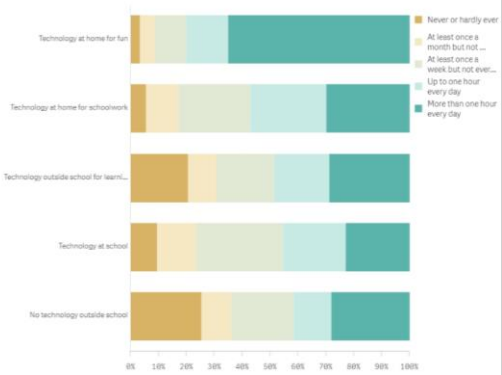
How do your students use technology in and out of school?

Participation

2.084

Percentage of positive responses



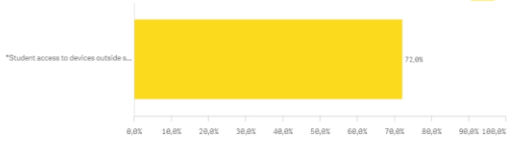


Are you able to access digital devices (computer, laptop, tablet, mobile phone) at home?

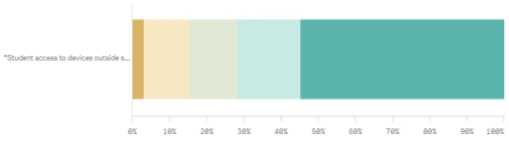
Participation

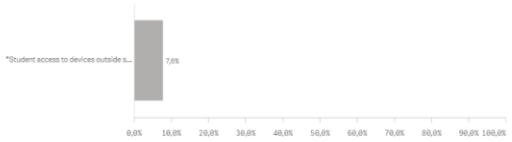
2.084

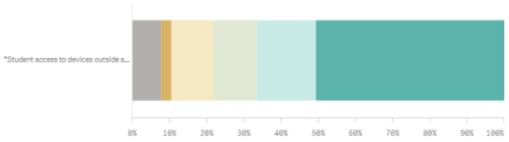
Students



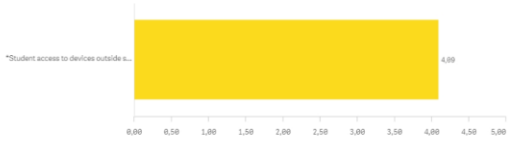
Percentage of each response option

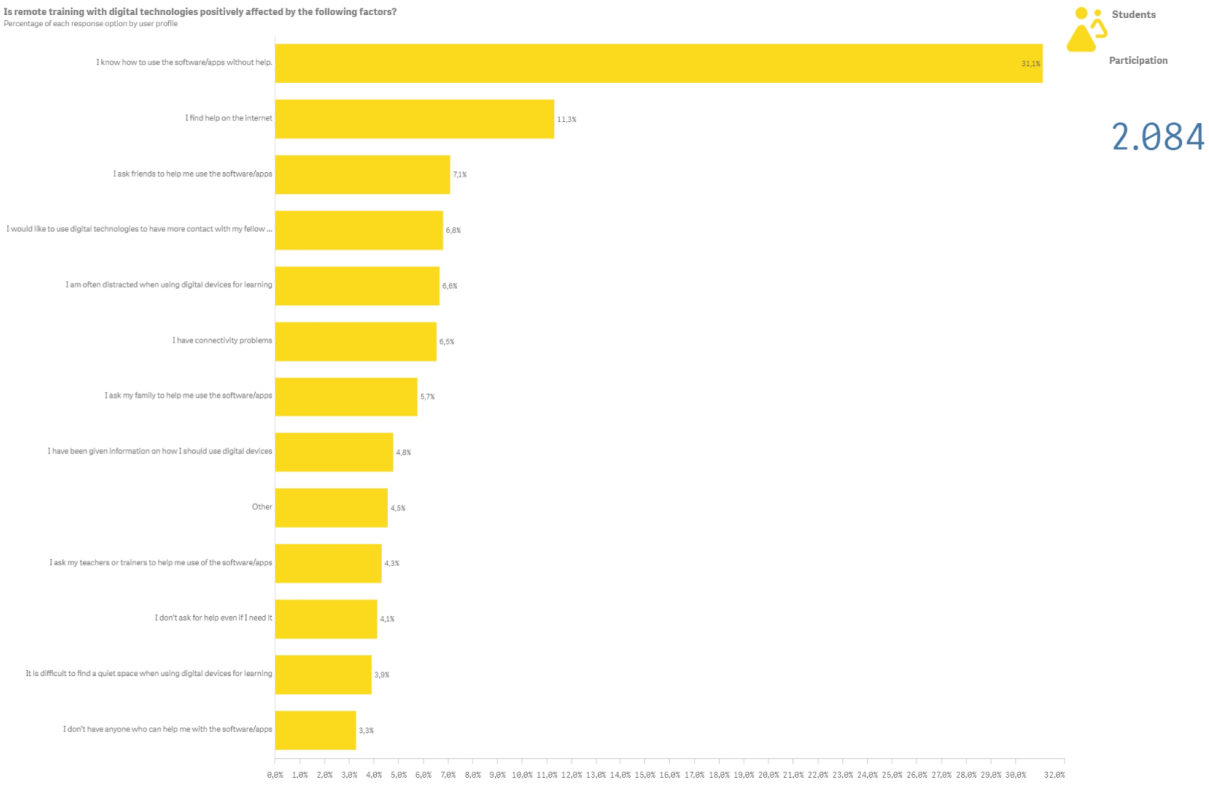






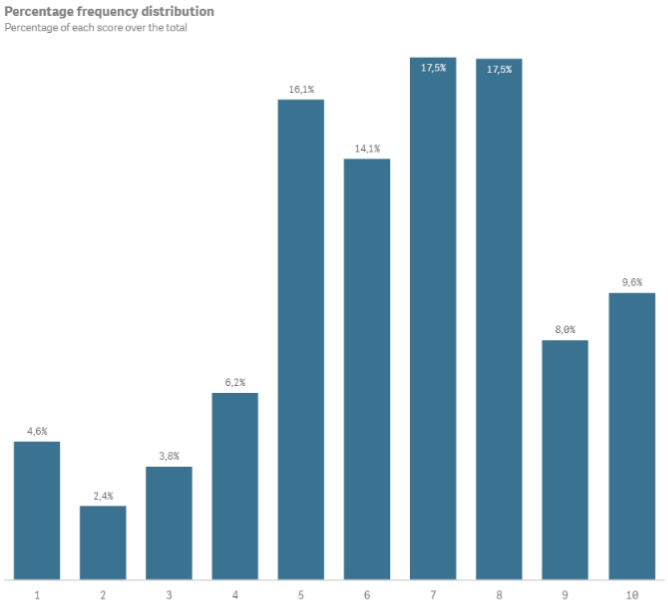
Average

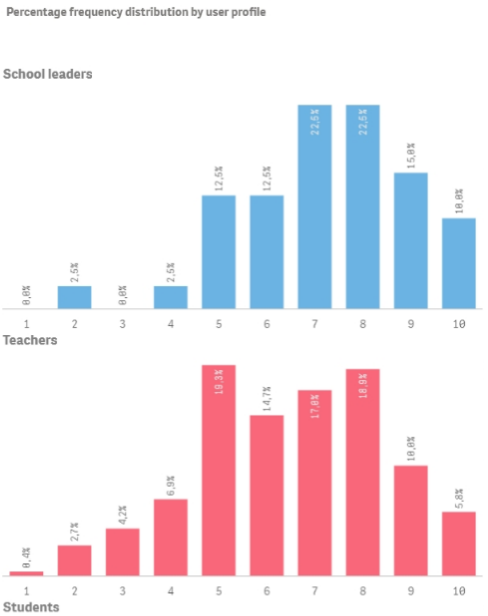



Is remote training with digital technologies positively affected by the following factors?
Percentage of each response option by user profile
I know how to use the software/apps without help.
31,1%
I find help on the Internet
11,3%
I ask friends to help me use the software/apps
7,1%
I would like to use digital technologies to have more contact with my fellow ...
6,8%
I am often distracted when using digital devices for learning
6,6%
I have connectivity problems
6,5%
I ask my family to help me use the software/apps
5,7%
I have been given information on how I should use digital devices
4,8%
Other
4,5%
I ask my teachers or trainers to help me use of the software/apps
4,3%
I don't ask for help even if I need it
4,1%
It is difficult to find a quiet space when using digital devices for learning
3,9%
I don't have anyone who can help me with the software/apps
3,3%
0,0% 1,0% 2,0% 3,0% 4,0% 5,0% 6,0% 7,0% 8,0% 9,0% 10,0% 11,0% 12,0% 13,0% 14,0% 15,0% 16,0% 17,0% 18,0% 19,0% 20,0% 21,0% 22,0% 23,0% 24,0% 25,0% 26,0% 27,0% 28,0% 29,0% 30,0% 32,0%
Students
Participation
2.084

Satisfaction

Note: Satisfaction with SELFIE WBL, on a scale from 1 to 10





Participation
Number of users

2.257

Average
Average score

6,42

Number of countries

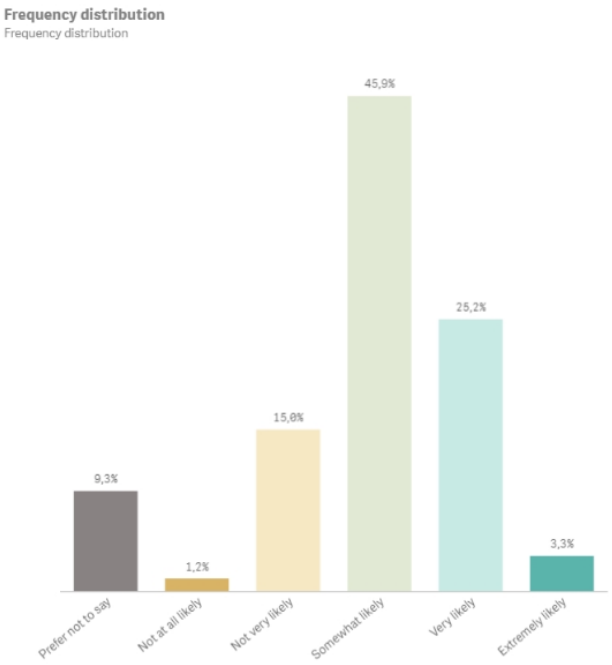
1

Number of schools and education levels

12

Likelihood of recommending SELFIE

Note: on a scale from 1 to 5

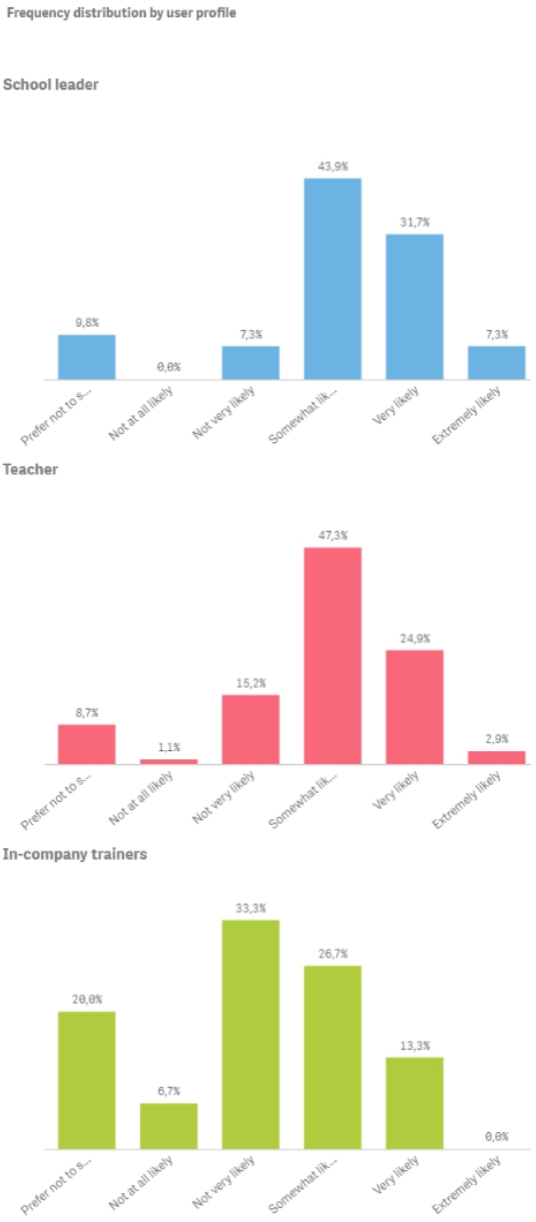


333

2,86

1

12



Annex 8. Country fiche

SELFIE WBL pilot implementation in Poland

March 2021

Ecosystem measures

- The SELFIE WBL ecosystem is in its infancy.
- The interaction with companies was not intensive in the area of digitalisation prior to the SELFIE WBL exercise. Based on the SELFIE WBL results schools became aware of the urgent need to include companies into their strategic planning as this lack of engagement with companies proved to be one of their weaknesses.
- The Ministry of Education and OIC Poland Foundation ensured the support and the dissemination in the SELFIE WBL process. Herewith, good foundations were built but further engagement and effort need to be invested.
- With the very appreciated inclusion of all target groups into SELFIE WBL a micro ecosystem was built on individual school level.
- Each school is a micro system on its own but to become a micro ecosystem the stakeholders within the system need to not only assume each other's opinions and beliefs they have to discuss and understand each other's standings in order to be prepared to act successfully as an ecosystem towards improvements.
- The strengths and weaknesses in the field of digitalisation and digital education in regard to training companies have emerged for the first time. In vocational schools in-company trainers are an additional stakeholder that was mostly overlooked as such and this weakness was well recognised by the SELFIE WBL self-reflection exercise.
- In most cases there is no existing systemic approach to dialogue with in-company trainers. The need to establish one became evident and schools are searching for good practices.
- SELFIE WBL contributed to strengthen the school's inner micro ecosystem and contributed to broaden it to the immediate local and regional level by introducing companies (through in-company trainers) as a new stakeholder of their micro ecosystem.
- A national ecosystem emerged composed of 16 schools sharing their experience and struggles through the pilot phase. This national ecosystem has high potential to grow into a community of practice for schools on digitalization under the auspices of OIC Poland Foundation and the support from EfVET and the Ministry for Education.

Other

- A short and attractive guide for students should be prepared in order to easily awake their interest, to better understand the purpose of the SELFIE WBL self-reflection exercise and benefits of it.
- A major strength of SELFIE WBL is the feature to follow the evolution of digitalisation of the school in each of the specified areas upon regular periodical use.
- Most schools are preparing their institutional strategies to be able to document the impact and effectiveness of their action plans approximately every 2 years.
- A preview of all data needed during the registration phase would be appreciated in order for the coordinators to be able to prepare all required data before they start the registration process.
- Schools and authorities should use SELFIE WBL as a transparent tool for recording actions towards a successful digital transformation of all involved stakeholders.

Overall evaluation and future directions

- The SELFIE WBL pilot is considered to have come "just in time" due to the pandemic experience in spring 2020.
- Further support should be offered on how to translate report results into conclusions, recommendations and into an institutional action plan or integrate conclusions and recommendations as part of report.
- The difference of students' achievement and students and teachers' workload during face-to-face learning and remote learning processes could be established as Selfie WBL offers a range of questions addressing those issues among optional questions.
- The maximum activation time of SELFIE WBL self-reflection exercise of 3 weeks was unanimously considered too short due to limited time vocational students are at school and the inability to edit any registration data during the SELFIE WBL self-reflection exercise.
- The answer scaling had a tendency towards a larger displayed answer and towards the "middle" answer.
- The registration process, navigation and data input were considered simple, quick and easy. The layout and guidance were very clear and simply manageable and generating a single link to access the survey per target group was welcomed.
- The SELFIE WBL report offers extensive, useful, clear feedback and is exclusively available only to the school.
- Follow-up focus groups and interviews were considered a great advantage for additional clarification to the interpretation of SELFIE WBL results.
- The professional field has to be determined beforehand to ask questions tailored to a specific profession as there is vast difference among professional sectors and many sector specific questions prove to be completely irrelevant to other professional sectors.

Implications of COVID-19

- The pandemic stimulated awareness that digitalisation of schools is a subject that should be prioritized and accelerated the digitalization process.
- Most teaching staff that still hoped to escape the digital era prior to retirement and policy makers who avoided the discussion of a strategy and urgent investments into digitalisation of schools had to take notice as immediate solutions were demanded.
- The immediate response was very much left to individuals who could rely only on their own skills, knowledge and technical predispositions and were forced to solve issues in the sense of "as you see it fit".
- Students had no opportunity to participate in apprenticeships as those were suspended.
- It became even more evident that technical equipment alone does not guarantee any smooth transition to digitalisation or even distance learning proficiency.
- The lack of teachers' skills of using technology and software proved to be insufficient and this only aggravated when they encountered errors or any other technical obstacles.
- The self-competence of the students regarding time-management, self-learning strategies and motivation proved to be very low.
- To some extent the pandemic is also changing many professions and introducing new, innovative approaches.

Annex 9. List of tools similar to SELFIE and other tools used in WBL

The goal was to map out existing self-reflection tools and other existing digital tools in the country and schools used in WBL contexts. This mapping and listing shall include official and available websites from Governmental Institutions responsible for overseeing the WBL in the country and with different stakeholders engaged in the pilot.

Name of WBL tool	Link	Aim	Advantages
SELFIE WBL	https://ec.europa.eu/education/schools-go-digital_en	SELFIE is a free, online tool to help schools assess how they use digital technologies for innovative and effective learning.	SELFIE allows a school to monitor its progress over time and can help start a dialogue within the school on potential areas for improvement.
Labirynt zawodów (labyrinth of professions)	https://doradztwo.ore.edu.pl/narzedzia-diagnostyczne-dla-doradcow-zawodowych/	Non-verbal electronic test of predispositions and professional interests	
DIAPREZAMUS	https://doradztwo.ore.edu.pl/narzedzia-diagnostyczne-dla-doradcow-zawodowych/	A diagnostic electronic tool enabling the examination of predispositions and professional interests of students.	
MŁOKOZZ	https://doradztwo.ore.edu.pl/narzedzia-diagnostyczne-dla-doradcow-zawodowych/	A electronic tool for the diagnosis and self-diagnosis of professional interests of students, in particular - students of the last grades of primary school, middle school and 18-year-old youth.	
Questionnaire of professional predispositions	https://doradztwo.ore.edu.pl/narzedzia-diagnostyczne-dla-doradcow-zawodowych/	Diagnostic electronic tool for examining the predispositions and professional interests of learning adolescents.	
Talent game	https://doradztwo.ore.edu.pl/narzedzia-diagnostyczne-dla-doradcow-zawodowych/	An electronic adventure game supporting students in choosing a profession.	
QUO VADIS?	https://doradztwo.ore.edu.pl/narzedzia-diagnostyczne-dla-doradcow-zawodowych/	A tool and a package of methodological materials for the diagnosis of predispositions, professional interests and entrepreneurial skills of students / learners	

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Kataložni zapis o publikaciji (CIP) pripravili v Narodni in univerzitetni knjižnici v Ljubljani
COBISS.SI-ID 72834819
ISBN 978-92-76-40322-7 (PDF)

ISBN 978-92-76-40322-7
doi: 10.2760/815307