



VISUAL PATHS

Handbook Skills on Display



Version 31.01.2022

Author: Visual Paths Project consortium

Project: VISUAL PATHS-

Visualising Skills and Learning Paths and
supporting acknowledgement of competences

Project No.: 2019-1-DE02-KA202-006504



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Table of Contents

Introduction	3
1. Current situation in vocational education	4
1.1. Formal education	4
1.2. Adult education.....	5
1.3. Lifelong learning.....	5
2. Emerging necessities	6
2.1. The need to retrain due to technological developments	6
2.2. New professions in the 21st century	7
2.3. The importance of lifelong learning.....	8
3. The need for change	10
3.1. The digital age	10
3.2. Available tools	11
3.3. The need for an appropriate tool	11
3.4. Tool customization options.....	12
4. Current situation in partner countries	13
4.1. Situation in Latvia.....	13
4.2. Situation in Germany	15
4.3. Situation in Finland	16
4.4. Situation in Austria.....	17
4.5. Situation in Poland	19
5. User guide of the Tool from student perspective	21
Conclusions	26
List of used literature and sources	27
Annexes	28

Introduction

Vocational education is playing an increasingly important role today as it facilitates and paves the way for careers. Acquired professional education provides security for the future, job opportunities in the chosen field, the opportunity to retrain. Vocational education programs are updated and live up to the times, so modernization and digitalisation is not an unfamiliar concept.

In the past, textbooks, printed pages were used more in the learning process, now the opportunity to read on a tablet or other smart device is offered; used to draw only with crayons, pencils, gouache or watercolors, could only be cut with scissors, now there are technologies that do the same or something similar and come up with the same or better results. However, the transfer of material to the digital environment is also only one way to improve the educational process.

The aim of the project is to create an application that helps the student to get involved in the planning and conduct of their educational process, facilitates assessment and promotes more modern, interesting lessons, allows them to follow their growth, receive individualized support.

The application offers opportunities to perform tests, summarize the results of tests, developed work in both file and image or video format. This will save the learner time, because everything will be in one place. One of the benefits is that the student will be able to supplement the curriculum with the lifelong learning competencies that he / she will want to develop.

By getting acquainted with the content of the handbook, the student will gain a broad idea of the role of education throughout life, the development of professional competencies, their role in future career development. Will get acquainted with the possibilities offered by the application developed in the project, both in formal and non-formal education.

The methodological material “Skills on Display” has been developed in the Erasmus + program financing agreement No. 2019-1-DE02-KA202-006504 on the European Union Erasmus + program KA 2 project “Visualizing Skills and Learning Paths and supporting recognition of competencies”. The methodological material was developed by the vocational education competence center Ogre Technical School.



006504



1. Current situation in vocational education

1.1. Formal education

Formal education is a system that includes primary, secondary and higher education degrees, the acquisition of which is confirmed by a state-recognized educational and / or professional qualification document. (Education Law)

Depending on the national education system, a wide range of formal education opportunities is offered at all levels of education.

In primary school, these are programs adapted to the student's state of health and abilities, such as minority education programs, programs for children with various health problems, and so on.

At the secondary level, various thematic orientations are already envisaged, such as humanities, natural sciences, business, etc. Thus, already at the primary school level there are opportunities to obtain an education that corresponds to interests and talents.

Students who want to start their careers as soon as possible choose vocational education, because in parallel with secondary education they also acquire a profession that allows them to start their careers as soon as they have already obtained a professional qualification...

Regardless of the professional qualification obtained, students already acquire professional skills in companies during their studies. Depending on the national system, these may be work-based learning (dual education), shorter and longer internships. A simple practice is distinguished from work-based learning in that within the work-based learning, the student also learns theoretical things in the company, not only practices.

With the development of technology, the demand for different professions is changing, for example, the demand for professions where people are being replaced by robotic machines is decreasing. However, in engineering, at all levels of education, the demand is growing. There is also a growing demand for employees in various professions who, in addition to their professional skills, are well versed in technology, are able to acquire new knowledge and skills that improve the quality of work and allow them to work with the latest technologies and programs.



006504



Such supplementation and improvement of skills is relevant not only when acquiring a profession after primary school, but also while already working.

1.2. Adult education

Adult education is a diverse process of educating individuals that ensures personal development and competitiveness in the labour market throughout a person's life. (Education Law)

Acquiring new skills or improving existing ones, such as the latest technology or software, is becoming very important for adults at different ages and in different professions. Knowledge of foreign languages, various skills that are not directly related to the profession, but important for maintaining a job, such as communication skills, teamwork, critical thinking, etc., are also becoming increasingly important.

Retraining or learning a new profession in order to keep an existing job or find a new one is also becoming relevant. As a result, the various levels and types of adult education opportunities offered by educational institutions are evolving. The offered programs differ both in the duration of the acquisition and the document to be obtained upon completion of the training.

It should also be mentioned that during a lifetime of learning and working independently, a person constantly acquires new knowledge and skills that are useful in performing work duties.

1.3. Lifelong learning

Lifelong learning is learning throughout life that provides opportunities for every member of society to acquire and / or improve knowledge, skills and competences in accordance with the requirements of the labour market, their interests and needs. Lifelong learning covers formal and non-formal education as well as everyday (non-formal) learning. (Implementation plan of the adult education management model for 2016-2020.)

Recognition of non-formal education is also evolving, meaning that an adult has acquired knowledge and skills that correspond to another qualification or a higher qualification during their lifetime. An adult does not have to go through a full training cycle, it is enough to pass an examination at a certified educational institution or centre, and the adult obtains a qualification acquired through self-study and / or education.



006504



Thanks to the support of the European Social Fund, the possibility of learning is also developing, which enables an adult to acquire skills and competences throughout his or her life that he or she could not afford before, because the education is expensive and needs to be adapted to the work schedule.

It is becoming popular to send company employees to acquire the necessary skills, such as communication or teamwork, because the employee or employees will be promoted where these skills will be important. The company can choose an educational program, an educational institution and cover the employee's training, thus providing in-company training.

2. Emerging necessities

2.1. The need to retrain due to technological developments

At present, the demand for highly qualified labour exceeds supply, while many people of working age, due to a lack of knowledge and skills, find it difficult to find a good job or keep their current job.

According to statistics, the shortage of labour will no longer be compensated only by new specialists and graduates of formal education institutions due to demographic and other processes. This is the problem of the country's economic development.

Adult education is not only needed for the low-skilled. The higher the professional qualification, the more effort is needed to maintain and develop it.

Groups of people who do not see the point in learning cause not only economic but also social problems. It is often a difficult target for state aid as well.

According to forecasts from international organizations, in the next five years about half of workers will need retraining, and 90% of jobs will require digital skills.

If we look back ten years ago, the development of high technology and the digital transformation have marked both a faster exchange of information and a demand for new knowledge and skills. It is no longer possible to work in one job until retirement without acquiring additional knowledge. The time of Covid-19 also highlighted this, especially with regard to digital skills, which became extremely necessary in remote working and living conditions.



006504



Currently, there is a shortage of a certain quality workforce in the labour market - specialists with professional secondary education, exact knowledge, representatives of STEM (Science, Technology, Engineering and Mathematics). There are many young people with only a general education, no professional skills, and it is difficult for them to find a good job. On the other hand, according to statistical data, the shortage of labour force will no longer be compensated only by new specialists and graduates of formal education institutions due to demographic and other processes. To this end, adult learning has a key role to play in shifting the current workforce to lower-paid or declining occupations to areas of growth and labour shortage. Adult education is also becoming a second chance for those who have difficulty finding work or integrating into society due to insufficient qualifications.

2.2. New professions in the 21st century

Skills and resources needed for the future:

- Firstly, no one doubts the wide range of teleworking opportunities that were only partially used in the past. So, everything related to remote work - from home office equipment to various online chat, video conferencing and other solutions, as well as home office support functions – it is and will be in demand in areas where new specialists and knowledge will be needed. For someone else, this trend means a drop in demand or even a disappearance. For example, the so-called business tourism niche, which affects both the workforce in the air transport and hospitality industries, as well as the workload of various low-skilled office workers.
- Second, there will be an increasing demand for competencies that can meet the wide demand of e-commerce and related sub-sectors. It is not just about online commerce or the online entertainment industry, but also telemedicine, public services and more. And, of course, the related supply, storage industries.
- Third, in the top of the post-Covid professions, labour market researchers rank health care workers, and so on. STEM (Science, Technology, Engineering and Mathematics) professionals.

These three trends make it possible to identify more precisely the areas of knowledge and competencies that employers should invest in to prepare their employees for productive work in



006504



the 21st century. Because, regardless of the company's industry, digital skills are needed by absolutely everyone, as well as knowledge of the application of artificial intelligence and automation in everyday work processes.

Recognizing the need for new knowledge, business and country leaders around the world are committed to investing in educating people. Thus, the European Commission has agreed on a substantial investment in the Pact for Skills, to provide digital and other skills to people whose professions are disappearing.

Ministry of Economics of the Republic of Latvia forecasts that in 2025 the largest increase in the demand for labour is expected for specialists in physics and engineering, as well as highly qualified specialists in construction, manufacturing and information technology. On the other hand, the largest decline in labour demand is expected for lower-skilled industrial workers, shop assistants, maintenance workers, sales agents and other workers in simple occupations.

The main job opportunity will be created by replacement demand - due to the aging of the workforce and the exit from the labour market, the number of vacancies in the medium term will exceed 150,000. In the long run, job opportunities will increase in the areas that create and service new technologies, and in view of the aging population, demand will increase for various services related to health care, rehabilitation and the silver economy.

It is projected that by 2025, the shortage of highly qualified specialists in natural sciences, information and communication technologies and engineering may increase to about 17,000. In the medium term, there may also be a shortage of labour with secondary vocational education - about 31,000.

2.3. The importance of lifelong learning

At present, the project Improvement of Professional Competence of Employed Persons of the State Education Development Agency of Latvia (SEDA), also known as Learning for Adults, which will be increasingly developed by 2023, makes an ambitious contribution to adult education. The training priorities are based on extensive analytical material on the sectors, qualifications and skills needed for the labour market, with a final list agreed with both the employer and the employee, as well as representatives of the regions and municipalities. It is possible for a working



006504



person with minimal self-financing (5% –10%) to acquire really demanded skills and competencies in the labour market. In addition, tuition is free for people with low-income or needy status, and workers with disabilities are reimbursed for the cost of an assistant or sign language interpreter. It is important that in the conditions of the pandemic, when there was downtime and general ignorance, we were able to mobilize quickly, and the SEDA announced an additional round of training, offering the opportunity to study at a distance. Thus, those who had a break from their main job could use this time for training, including digital skills. Training was in high demand. The project currently offers continuing vocational training programs that provide new qualifications and the opportunity to replace a current job with a better paid job. There are also modules or sets of modules of professional development education programs and vocational education programs, as well as higher education study courses or study modules, which allow acquiring not only the knowledge and skills necessary for the job, but also credit points for continuing studies. The project can also assess skills acquired during work or life.

Adults often cite work-related factors as a major barrier to participation in training, such as difficulties in combining training with work and a lack of employer support. Undoubtedly, there are very good examples where employers have realized that human resources are the key to the success of their business and support employee training, as well as engaging in the development of adult education training courses. But many companies have left education alone to employees. This is not always due to a lack of social responsibility, but also to the structure of our economy, where 57% of the workforce is employed by micro and small enterprises, which often lack the resources to support the training of their employees.

The desire and ability to learn must be developed from an early age, including at school. A good benefit is the shift to a competency approach in the curriculum, where self-directed learning (the ability to learn) is now included as one of the cross-cutting competencies that needs to be nurtured at school. There are definitely groups of people today who do not see the point in learning. This creates not only economic but also social problems. Often these audiences are difficult to reach for state support because they do not even look for information about the training offer. Strategies for reaching these people are different, but it is clear that the most realistic way to do this is through trustees, as close as possible to where they live. These could



006504



be, for example, librarians who are approached by citizens for the availability of internet services, customer service centres or social workers. One of the target audiences of the programme offered by SEDA is people with low or insufficient level of education in the labour market, and not only those who have completed primary education, but also those who have general secondary education but do not have other professional skills and knowledge required in the labour market. SEDA has organized and continues to organize information campaigns that people can change their lives by applying for training and gaining a useful profession. Currently in Latvia Ministry's of Economics of the Republic of Latvia public information campaign Be competitive! Dare to learn for a lifetime! takes place. The Ministry of Welfare of the State of Latvia is also doing a lot to reach those who are unemployed and to offer training that focuses not only on acquiring professional skills but also on socialization skills so that people can better integrate into society.

3. The need for change

3.1. The digital age

Nowadays, information technology accompanies us every step of the way, no household is imaginable without multiple computers and internet connection. According to Eurostat, the number of households in Europe with internet access has risen from 86% to 92% in the last five years, and in some countries, such as Latvia or Poland, it has risen by as much as 10-12%. In addition, 90% of all Internet users have direct access to broadband. This means that there are ample opportunities to learn remotely, both by attending online classes and watching videos, performing various tasks online, and so on.

Almost everyone has a smartphone that now performs not only the usual functions of a phone, but also a personal planner, notebook, information store, e-mail manager, etc. c. According to Eurostat, on average 73% of the population in Europe use the Internet on mobile devices, compared to 83% in some partner countries.

The general situation in the world has also facilitated the entry of information technology into people's daily lives, and has encouraged us to now choose to do the things we used to do in person at a distance. This applies to both employment and private life.



006504



3.2. Available tools

There are many different tools and platforms available today that we use to track our growth and / or learning at any level of education. Of course, a lot depends on the education system of the country as a whole, as well as on the educational institution, its possibilities, the environment used, as well as the traditions.

Practically all educational institutions use some form of electronic journal, where students and their parents have access to information about the timetable, assignments, grades, absences and other information. For the most part, it is a basic platform for communication with an educational institution. However, this type of e-journal does not provide an opportunity to keep track of its growth, it does not show the set that has already been done, which still needs to be done to obtain, for example, a professional qualification.

Also, most educational institutions use a learning platform (e-environment) where students can obtain materials from teachers, submit their assignments, see planned courses, and accumulate progress through individual courses.

There is a possibility that both the electronic journal and the learning platform are one system that allows you to do all of the above in one environment.

But all these systems have one thing in common, they focus on formal education. All study content is planned for a group of pupils / students. The planned courses / subjects provided by the curriculum are attached to the group. Teachers who will teach these courses are attracted to the courses, so whoever has virtually no opportunity to adapt the learning environment to their needs or pace.

3.3. The need for an appropriate tool

When evaluating all available digital solutions, a learner who wants to follow their growth, their development, which would include both formal and non-formal education, does not have a single platform that would allow them to do so.

There are many platforms and tools that are used during formal education. It is much more complicated with non-formal education, especially if a person learns outside the formal system, without a group.



006504



Very often, various digital tools allow you to keep track of what you have learned (for example, electronic journals), but do not offer the opportunity to save, accumulate your achievements, completed works, passed exams, tests, diplomas or certificates, practical experience certificates, etc. etc. In principle, in addition to studies, there is no opportunity to create one's own portfolio of achievements, where evidence of various achievements and completed work is accumulated in one place.

Such a portfolio would be very useful when looking for a job or an existing job in terms of promotion or salary supplement.

Now that the epidemiological situation in the world has forced the whole society to become more digital, to learn to replace face-to-face communication with remote ones, it is important for people to be comfortable, easy and understandable to follow their development, creating a portfolio of achievements quickly accessible.

It would also be important to communicate with the teacher on the same platform, where you can see your past achievements, the necessary steps to get an education, as well as build your portfolio there.

3.4. Tool customization options

Given the world situation, where the use of technology and techniques is an integral part of our daily lives, the ideal system should be usable in a variety of devices, such as a computer, smartphone, tablet, and so on. However, all information must be stored in the system itself to ensure data synchronization. Of course, it should also be possible to download and upload data, for example, the learner could upload the results of the work done, while the portfolio could be downloaded, and the teacher could upload the terms of the assignment...

From the learner's point of view, in order for the system to keep track of its growth and also see the steps to be taken towards the goal, it should have the following capabilities:

- The names of the subjects or modules to be studied and the results to be achieved;
- Specific tasks with requirements and evaluation options;
- Diary entries – truancy and evaluations;

- Accumulation portfolio;
- Opportunity to contact a teacher or mentor / practice manager;
- Non-formal learning achievements.

It would be good if the learner could add specific steps or achievable results that he / she has set for his / her own growth or for a non-formal education program that he / she wants to learn.

From the point of view of the teacher or practice leader, in order for the system to follow the learner's growth and see the steps to be taken towards the goal, it should have the following options:

- The names of the subjects or modules to be studied and the results to be achieved;
- Specific tasks to be performed with conditions and evaluation possibilities;
- Ability to post students' grades/ratings;
- Diary entries – truancy and evaluations;
- Opportunity to contact student or his/her parents;
- Non-formal learning achievements.

Internships in companies are often disconnected from the learning process at school because the internship manager in the company is not aware of what the learner has learned or will continue to learn. If this possibility were provided in this system, the beneficiaries would be both the learner, the school and the company.

But the most important thing is the opportunity for the learner to review what has already been achieved, to see future steps, tasks to be performed in order to reach the set goal.

4. Current situation in partner countries

4.1. Situation in Latvia

At this exact moment, Latvia has three stable systems that are used in the field of education:

- e-klase.lv;
- mykoob.lv;



006504



- various e-environments of educational institutions based on moodle.

The first two are e-learning journals that include the following features:

- Diary;
- Communication with teachers;
- Assignment of tasks;
- Posting grades/ratings;
- Marking of absences;
- e-klase has video communication options.

Each educational institution or organization that offers different types of education has created its own e-environment based on the moodle system. Usually such systems offer:

- To see the tasks that need to be done, grouped by subjects, modules or courses;
- To receive and submit tasks;
- To receive formative or summative assessment from the teacher;
- To contact the teacher;
- Possibility for students to keep track of their tasks.

None of these systems offer communication with the placement and / or supervisor, so it is not possible to keep track of your professional development outside school. Therefore, in 2021, a new electronic system edy365.lv was created in Latvia, which allows creating an internship diary electronically. In this system, the trainee, the place of practice / supervisor and the supervisor / teacher from the school are interconnected. This is a very convenient system that allows companies to offer internships, students to choose internships, and the school to follow the student's progress. However, the system is only in the process of approbation. And this system is also disconnected from the school, the company does not see such information from the skills that the student has acquired or will acquire at school...

As can be seen, although the country has ample opportunities to record and supervise the educational process in the electronic environment, none of these systems provides for the supervision or accounting of non-formal education from the learner's point of view...

It should also be noted that not all of these systems have a full-fledged version of the mobile application, however, the systems are also good for use on a smartphone.

4.2. Situation in Germany

In September 2020 The BIBB (Bundesinstituts für Berufsbildung) published a recommendation for the writing of learning evidences in VET education: In Germany learners in VET-education are writing their Learning Diaries (Ausbildungsnachweis) on a weekly or daily basis with the following intentions: Learners should reflect on the content and the progress of the education. Educators should be informed about the current state and progress of the education and evidence in a simple form should be given for external monitoring (e.g. chambers of commerce /IHK).

Minimum requirements for the learning diaries (Ausbildungsnachweise) are the following:

- Diaries must be filled in by the learners themselves and can be in written or electronic form.
- They must contain the name, the education year and the reported period of time.
- They learning diaries need to contain education activities in the education company (including their time length) and the topics in the VET-school.
- Learning diaries should need to be checked by the educators at least on a monthly basis. Communication is seen as a central factor for the success the education. Digital communication is seen to reflect more and more the working habits of the learners.

But still most learning diaries are written in paper, but also a growing number of electronic tools or online-services are available. General tools – open for all kinds of jobs – are available or tools related to certain fields of jobs.

These tolls are targeted towards reflecting the achieved results and acquired skills (Ausbildungsnachweis), but they do not include different learning kinds, e.g., informal learning or personal learning:

- Digitales Berichtsheft IHK (<https://ausbildung-weiterdenken.ihk.de>);
- Blok- Das Online Berichtsheft (<https://www.online-ausbildungsnachweis.de>).



006504



4.3. Situation in Finland

Finland has utilized student management software for the most part of the 21st century. For example, the most common software, Wilma, was established in 2000. These types of software such as Wilma and Star Soft's Primus have been specifically built to match the requirements of the Finnish system and educational laws. The most common way to utilize this software is to upkeep communication between schools and parents. In addition to Wilma and Primus, there is a newcomer to the market, Helmi, but its market share is still quite small compared to its more disseminated competitors. The market for student management software in Finland is saturated, meaning that tools such as SchoolTool, a free student information system developed by The Shuttleworth Foundation, have little chance of success when their features do not meet the specialized requirements of Finnish schools.

Besides student management platforms there has been a distinct increase in the introduction and application of collaborative web-based learning platforms during the Covid-19 pandemic. This is most likely due to the decrease in face-to-face teaching as many schools shifted into remote learning. Finnish schools, however, engage with web-based learning tools in everyday classroom teaching as well. This is a part of the aspiration to make students digital natives from an early age. This is apparent also by including coding and programming into the Finnish school curriculum.

Web-based learning platforms used in Finland include Flinga, a collaborative whiteboard. Flinga is a Finnish application that expands the interaction between the student and the teacher in the classroom. Flinga allows the students to share learning outcomes through content creation directly via a web browser. Flinga can be accessed free of charge and the application is also accessible; meaning it is easily used. Flinga takes the idea of communal learning and co-creation to the web, allowing students to focus on any given tasks in a way that activates the students' participation. In addition to being a versatile eLearning-tool, Flinga has also been reported as fun to use by students.

Some Finnish educational institutions also utilize Jamboard, the Google-developed whiteboard-application that functions with Google Workspace. Helsinki University has developed Presemo, a



006504



student activation tool used in face-to-face and remote learning, for its students. Via Presemo students can answer questions, vote and engage in conversations.

In general Finnish schools are adept at adapting online learning techniques and tools in a handy fashion as the need arises. Tools such as Padlet, a collaborative web-platform for uploading, organizing and sharing content, and Kahoot, a game-based learning platform, are readily taken advantage of in Finnish schools. Indeed, gamification is a growing trend, utilized in primary, secondary and higher education. For example, Helsinki University Digital Leap funding and Faculty of Arts Development Fund contributed to the development of an open access game The Durga Puja Mystery, targeted towards university students studying South Asian studies to learn more about contemporary Indian culture and society.

Web-based communication platforms such as Microsoft Teams, Zoom, Google Meet and YouTube are also used for online learning. Moreover, there has been a boost in the usage of podcasts as learning tools in Finnish secondary education (vocational schools and high schools). Moodle remains popular in higher education; in universities and universities of applied sciences.

In conclusion, Finnish teachers, students and parents are well-versed with web-based student management software as well as eLearning tools, and these are utilized in everyday communication, remote teaching as well as face-to-face learning. Whether or not the engagement with these tools has contributed to the high-quality of the Finnish education system, recognized in international rankings, remains to be concisely determined.

4.4. Situation in Austria

Digital media are changing our world and our lives. Modern educational and work processes are hardly conceivable without the use of digital technologies - digital and IT skills are essential for participation in our society. The eEducation Austria initiative of the Federal Ministry of Education, Science and Research aims to bring digital and IT skills to all classrooms in Austria - from elementary school to the matriculation and diploma examination.

Pupils grow up with digital media and mostly use them freely and in a variety of ways. The eEducation Austria initiative of the Federal Ministry of Education promotes the acquisition of the



006504



necessary skills to use technologies consciously and productively for one's own further development or to gain a foothold in corresponding future-oriented professional fields.

The focus of all activities is the didactically meaningful use of digital media in all subjects as well as increasing the digital and computer skills of schoolchildren. It is about application scenarios that generate benefits for learning and teaching or prepare the students to use digital technologies competently in the workplace.

Digital infrastructure, learning platforms and alternative software

There is an extensive range of software and tools for educational institutions to digitally enrich the lessons. The examples given are representative of the multitude of possibilities in the Austrian school system:

- Lernen mit System (systematic learning)

LMS.at has been anchored as a learning platform in everyday Austrian school life for many years and is an integral part of everyday school life for thousands of students and teachers...

- eduvidual

On behalf of the Federal Ministry of Education, Science and Research, the service and development centre for learning management Moodle was set up at the University of Education in Upper Austria with a nationwide mandate.

- G Suite for Education

G Suite for Education is an integrated communication and collaboration solution for educational institutions that includes hosted services like Google Drive, Google Docs, Google Sheets, Google Slides, and Google Classroom.

- Microsoft Office 365 for Education

Office 365 Education is a collection of services for collaborative editing and task sharing. The software is free for college faculty and students. The service includes Office Online (Word, PowerPoint, Excel and OneNote), 1TB OneDrive storage, Yammer and SharePoint sites.

- Learning platform *Moodle*



006504



Moodle is a free course management system and learning platform. The software offers the possibility to support cooperative teaching and learning methods...

Used digital media in Die Kärntner Volkshochschule

The VHS has been working with the Moodle program in its courses since 2019. Since 2020, Moodle and online learning has become an important part of the classroom. Due to the pandemic, the courses had to be completely switched to online. Moodle is used for assignments and online tests. The app can also be used via computer and smartphone. Therefore it is suitable for the target group.

Moodle lacks the exchange between tutor and student, which is why feedback is neglected. There is the possibility to evaluate students, but the platform is not designed for a lively exchange. The learning progress during the semester is also not visible in the platform.

4.5. Situation in Poland

The Polish Educational System has been subject to a systematic process of computerisation for many years, thus following the general trend of building a modern information society. The introduced information technologies streamline the process of school administration and management, support the didactic process and more and more often become a tool of communication between school and parents.

In response to the systematic introduction of ICT to schools, and especially to the increasingly popular e-journals, the Minister of National Education allowed schools to keep documentation of school activities only in electronic form. The most important advantage of the e-journal is that it allows parents to see the student's grades and to monitor their attendance at school. The e-journal also greatly facilitates contact between the teacher and parents. An example of such a diary is Librus Synergia, which in over 8000 Polish schools has replaced the traditional forms of documenting student performance and checking their attendance. Apart from its recording function, it is also a universal school diary and a tool supporting the headmaster in administrative tasks. Nowadays, students in primary, secondary and technical schools as well as their parents cannot imagine the reality without the possibility of instant access to all grades, attendance and scheduled tests. The most important functions of this electronic journal are: viewing grades with



006504



details such as date of issue and type of activity, checking attendance, scheduling tests, tests and class work, a module for tracking homework, ongoing communication between teachers and parents and students, access to announcements and information on substitution.

Currently, distance learning is one of the most dynamically developing fields related to education. One of the forms of distance learning is e-learning, in which we can distinguish education with the use of websites, so-called educational platforms. The most commonly used include: Microsoft Office 365 for Education, Google for Education, Genially, Scholaris, Moodle platform, e-podręczniki and others.

Microsoft Office 365 for Education is by far the most powerful tool for collaboration between students and teachers. It is a free version of Office 365, which allows the whole school to use the online version of a number of tools such as Teams application, which allows group communication, file sharing, assessment of student work or sharing the teacher's screen with all students.

Google for Education offers teachers the opportunity to better prepare all students, helping them develop the skills they need to succeed in new and engaging ways. Google Classroom is an intuitive tool with which we can conduct lessons, including in the form of teleconferences. The application also allows for the creation of virtual classes, assigning and grading homework by teachers.

The Genially platform creates interactive quizzes, games or infographics for students of almost any age. Additionally, Genially enables integration of the platform with Office 365 for education.

Scholaris is a knowledge portal for teachers containing free educational resources which are adapted to all stages of education. The portal contains approximately 28 thousand individual interactive materials, helpful in the implementation of content from all subjects, at various educational levels. These include lesson scenarios, exercises, texts, animations, slides, simulations, teaching games and films.

The Moodle platform enables the creation and administration of online courses - thus managing the entire process of remote teaching. It is a development project aimed at supporting its didactic and methodical aspect in education.



006504



The epodreczniki.pl platform is a whole learning and teaching environment. It offers the possibility to work in groups and adapts to the individual student's learning style. Each user can collect their own materials, share them and create their own original versions. In addition, the platform gives the possibility to create interdisciplinary lessons, teacher's original versions of textbooks, group work, and individual learning. The main idea behind the creation of the epodreczniki.pl platform is to provide didactic support for teachers in the implementation of the school curriculum.

Many teachers are sceptical about the use of the Internet and computer technology in teaching, as none of the technologies used offers the possibility to follow a student's professional development outside school. However, one should be aware that students already belong to the group of digital users - the generation born in the era of the Internet, computers and mobile devices.

5. User guide of the Tool from student perspective

The school or teacher would need the opportunity to add the whole curriculum, by subjects, modules, their results. It should also be possible to add specific tasks and post a grade. Out-of-school placements, if provided, should also be included in the system. Schematically the required functionality can be seen in Figure 1 System functionality from the teacher's perspective.

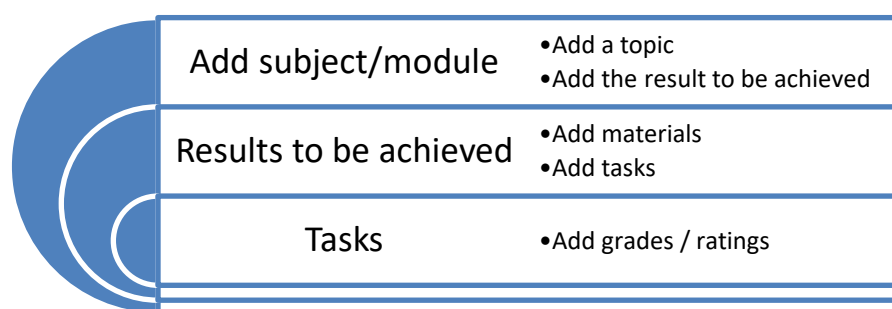


Illustration 1 System functionality from a teacher's perspective

Such attachment options should be for the whole group or class, as well as an individual plan for a particular learner.

Communication with learners is also required, if necessary, the possibility to make an online or video call.

From the learner's perspective, all the intended subjects / modules within the program should be seen, as well as all the topics and results to be achieved. You must also see the tasks assigned. It must be possible to submit the completed tasks, enclosing the result, which can be a document, an image or a video.

Of course, the curriculum is a priority and it can be acquired at the chosen educational establishment and programme. It can be both acquiring qualification and professional improvement or shorter courses. For this purpose, categories, modules or subjects have been prepared and learners can make their choice within the given framework and complete the tasks assigned by the teacher and get acquainted with learning content. This part mostly depends on the educational establishment and teachers.

An individual learner has access to those courses and modules that are included in his/her study programme; it is possible to have categories per years or specific outcomes to be achieved that are based on specific tasks.

The learners should also be able to add their own individual goals, achievements outside the educational establishment, in order to follow their growth as a person.

Learners have the following possibilities to use the app effectively:

1. To create his/her own task with the following possibilities:
 - 1.1. To choose if it will be private or visible also to the teacher;
 - 1.2. To choose implementation status;
 - 1.3. To choose implementation deadline;
 - 1.4. To edit the task if necessary;
 - 1.5. To add evidences of achievement to the task, e.g., documents, photos, video, presentations, etc.;
 - 1.6. To download the attached documents, the system can be a place where to store files that are relevant to the learning process;



006504



- 1.7. To receive assessment, to review it, if the task was assigned by the teacher;
 - 1.8. To hide the task when, for example, it is completed;
 - 1.9. To delete the task, if it is not topical anymore.
2. To create diary entries with the following possibilities:
 - 2.1. To choose if it will be private or visible also to the teacher; by default these should be private entries;
 - 2.2. To edit the entry if necessary;
 - 2.3. To add additional information to the entry, e.g., documents, photos, video, etc.;
 - 2.4. To download the attached information;
 - 2.5. To hide the entry;
 - 2.6. To delete the entry.
 3. To create achievement entries with the following possibilities:
 - 3.1. To choose if it will be private or visible also to the teacher;
 - 3.2. To edit the entry if necessary;
 - 3.3. To add additional information to the entry, e.g., documents, photos, video, pictures of diplomas or certificates, etc.;
 - 3.4. To download the attached information;
 - 3.5. To hide the entry;
 - 3.6. To delete the entry.
 4. To create portfolio entries with the following possibilities:
 - 4.1. To choose if it will be private or visible also to the teacher;
 - 4.2. To edit the entry if necessary;
 - 4.3. To add additional information to the entry, e.g., documents, photos, video, pictures of diplomas or certificates, etc.;

- 4.4. To download the attached information;
- 4.5. To add self-assessment according to unified system;
- 4.6. To describe accomplishments and achievements;
- 4.7. To hide the entry;
- 4.8. To delete the entry.

If achievements are stored in one place, it is easy to open, review and download them at any time. It is especially important when a learner is compiling CV for a potential practice provider or employer. It is an ideal possibility to store evidences of soft skills, as well as any victory at a competition, especially, if it is related to the chosen career development. The Portfolio section where the learner can make notes, insert self-assessment, e.g., to describe the tasks completed at the company and personal development during the internship, is also very useful.

It is possible to create portfolio, diary and achievement entries simultaneously in several categories. For example, it is possible to store individual achievements also as diary entries. The list of achievements is also a portfolio entry at the same time. The duplication of entries helps to find the quicker, if the specific information is needed for downloading or simply reviewing.

All the learner's entries shall be sorted according to the following:

- The date when the task was assigned;
- The deadline for implementation;
- The implementation status;
- The categories, if there are such ones for the specific type.

Communication certainly is an integral part. Communication shall be simple and convenient. Sending messages and notifications is a separate category, as well as it is attached to a specific task, especially, if it is a task assigned by the teacher and it is important to ask questions quickly.

It is also important to be able to send a message to several persons simultaneously, regardless if they are classmates or a teacher, or groupmates of the interest group at school. All the users of

the system must be accessible from the list, so the learner can choose whom to send a message to.

Messages and notifications shall be sorted in the following categories:

- Received;
- Read;
- Sent.

There is a unique possibility to sort created entries according to topics. If the app offers essential categories, then entries both of formal and informal learning are stored together. For example, the category of achievements contains both achievements at school subject competitions and also achievements outside school environment. It is possible to create one's own categories, to group them, e.g., category – learning foreign languages or Professional competitions. When Portfolio and/or Achievement entries are being created, they can be added to the specific category. It significantly facilitates navigation within entries.

And, of course, all achievements of the learner must be stored in the Portfolio section, from which, if necessary, evidence of achievements can also be downloaded.

Conclusions

These days, more and more thinking or talking about education, it is not only formal education, it is lifelong learning, which includes both formal education programmes that grant qualifications and those that offer to supplement their knowledge with new or modern skills, to obtain their endorsements in different forms and ways. But lifelong learning also means that there are things we can learn without a specific programme or by learning anything, besides developing non-formal skills, such as communication, teamwork, digital skills, entrepreneurship and others.

Nor should the requirements of the era, which indicate the emergence of new professions, be overlooked. Or the performance of job duties changes the form, means and technology to be used in the performance of job duties. And in order to learn all this, there is a continued need to develop, acquire the latest in the sector, everything related to digital skills, remote work and learning.

Although there are plenty of different platforms in the field of education, this is reflected in the possibilities of partner countries under Chapter Four, virtually all are linked to an educational establishment and/or a formal programme. There is no platform or application that allows you to create the results that can be achieved entirely from zero, or to add an existing program with the results that you want to achieve.

And the platform developed in this project, the application provides such opportunities. An educatee can create tasks himself or herself, create categories, then save it to a specific category and specific type. There is an opportunity to do this all along with formal education, or completely independent. When you register and learn, you can save your achievements and jobs both as journal entries, as portfolio entries, and in both categories at once.

It will be more practicable, although based on formal education, which already provides for the results of non-formal education, it is also possible to create tasks for itself. You can also create interest groups with friends to learn informal skills together.

The platform developed under the Visual Path project will benefit both the educatee and the educational establishment and teachers.



006504



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Co-funded by the
Erasmus+ Programme
of the European Union

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Annexes

Use cases in Latvia

1. Such an app would also be very useful in work with adults. The tool could be used by professional in-service training groups that master shorter educational programmes, as well as by learners of the professional further educational programmes who master a vocational qualification. In both cases, it could be a very valuable and useful tool that would allow learners to follow their learning process and achieved results.

In the professional in-service training programme, the tool could contain specific outcomes to be achieved and they could be supplemented by assigned tasks and study materials. The results of the completed tasks could also be included there.

In the professional further educational programmes, the tool must contain all the learnable modules that are planned for acquiring the professional qualification. Within the module, there could be more detailed expected results or/and assigned tasks. It would also be fine if an adult could add his/her own expected results and achievements of necessity and development of soft skills. In this case, professional tasks go alongside with possibility to evaluate other skills that are developed during implementation of specific tasks.

2. The app could also be very useful in practical training, including work-based learning (dual learning). The app would give a possibility to review amount of learning and internship at the company, their distribution, length, deadlines and the results to be achieved. If the results of the tasks completed during internship were compiled in the tool, it would facilitate preparation and submission of an internship report. To implement work-based learning, the app could reflect the results to be achieved every day/week. In this case, both the internship supervisors from the educational establishment and the company shall be given access to the tool.