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Education in VET

BREATHE THE FUTURE-HYBRID EDUCATION IN VET

Project No: 2021-2-PL01-KA220-VET-000050664

Hybrid Learner Qualities Test (HLQ)

Test diagnosing the learning styles and essential qualities of vocational education and training (VET) learners in the context of hybrid education

Manual

2025

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Introduction

The project "Breathe the Future – Hybrid Education in VET – hVET" (project no. 2021-2-PL01-KA220-VET-000050664) is implemented under the Erasmus+ programme in the Vocational Education and Training (VET) sector. The hVET project is a response to emerging challenges and changing teaching paradigms – implementing hybrid learning in vocational education and training, maintaining students' engagement and motivation, as well as replicating experiences in online classes. The aim of the project is also to support schools in planning future periods of remote or hybrid learning, structuring teaching practices, developing competences necessary to implement remote and hybrid learning and to close the digital divide. It is crucial to provide a structured VET learning environment in order to increase the digital skills of people in the sector.

The hVET project involves 6 partners from 5 European countries (Poland, Turkey, Cyprus, Portugal and Greece) – OIC POLAND Foundation of WSEI University (project leader) in partnership with: İnstituto Politécnico de Santarém (Portugal), PROGRESS Kalińska, Talik spółka jawna (Poland), G.G. Eurosuccess Consulting Limited (Cyprus), Antalya İl Milli Eğitim Müdürlüğü (Turkey) and C.M. Skoulidi & Sia E.E. (Greece). These are organizations both within and outside the education sector, which ensures that the project brings together a variety of experts, organizations with diverse perspectives and resources to address complex educational challenges more effectively.

The project consortium focuses on innovation in the VET sector, improving the quality of vocational education, introducing a sensible approach to hybrid education in the VET sector, and provides the knowledge, skills, attitudes and values that teachers and students need to succeed at work and in society.

One of the results of the hVET project is the Hybrid Learner Qualities Test (HLQ), which diagnoses learning styles and characteristics of students relevant to hybrid education. This manual provides a detailed description of how to use this tool, which was developed to support the development of vocational education students and assist teachers in preparing hybrid lessons tailored to the specific needs and characteristics of the students. Additionally, the manual outlines the procedure for the creation of the questionnaire, including the stages of its design and validation, aimed at ensuring its high quality and practical usability in education.

## I.   Procedure for the HLQ Test study

The Hybrid Learner Qualities Test (HLQ) assesses learning styles and key student characteristics essential for success in hybrid education. It evaluates four learning styles based on David Kolb's theory and seven characteristics specific to vocational students in hybrid learning environments, all essential for the success of this educational approach. The test is available exclusively online at:

https://hvet-student.oic.lublin.pl/

in five language versions: Polish, Greek, Portuguese, Turkish, and English. It is designed for vocational education students aged 15-19 who are currently participating in or planning to participate in hybrid learning. A hybrid learning environment means that some students receive instruction in the classroom, face-to-face, while others simultaneously receive instruction online, outside the classroom.
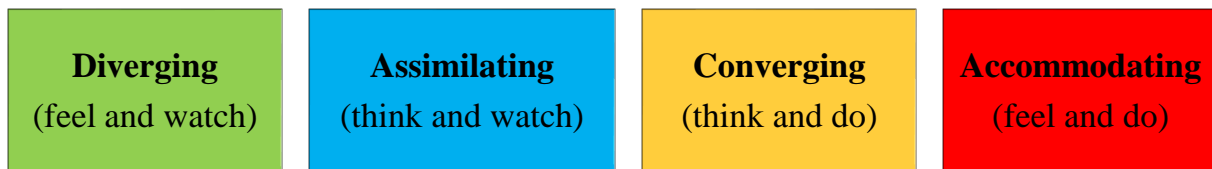
The preferred learning style of the participants is extremely important in hybrid, blended and on-line VET activities (some participants are focused on listening while fulfilling duties, others expect workshop - transferring activity from classroom to practical vocational training in online world). A learning style is defined as an individual preference for learning process.

Kolb's model of experiential learning mentions four learning styles. The model combines experience, perception, cognition and behavior. Kolb describes the process of experiential learning as a four-stage cycle involving four adaptive learning modes, namely concrete experience, reflective observation, abstract conceptualisation and active experimentation:
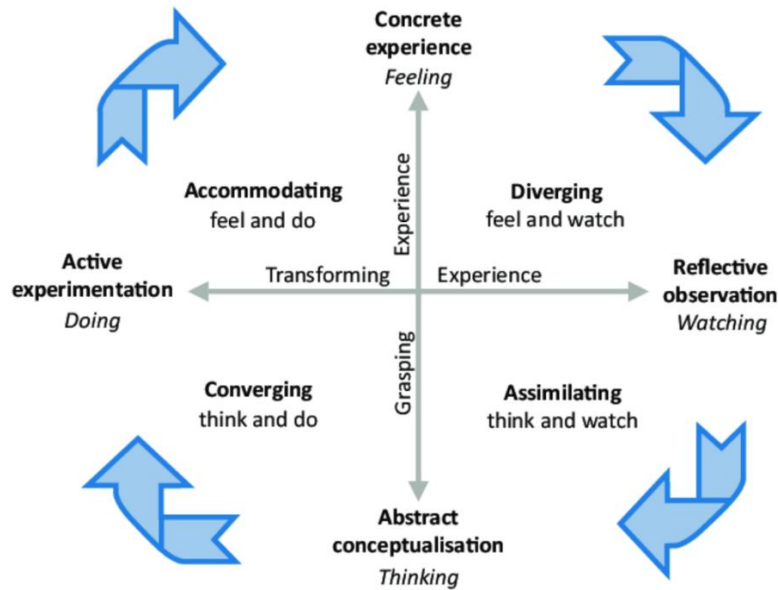
Kolb (1984, 1981) identifies four basic learning styles: divergent, assimilative, convergent and accommodative:

| Diverging (feel and watch)	Assimilating (think and watch)	Converging (think and do)	Accommodating (feel and do)

|	
Diverging	These people are able to look at things from different perspectives. They prefer to watch rather than do, tending to gather information and use imagination to solve problems. They perform better in situations that require ideas-generation. They prefer to work in groups, to listen with an open mind and to receive personal feedback.
Assimilating	The assimilating learning preference involves a concise, logical approach. Ideas and concepts are more important than people. These people require good, clear explanations rather than a practical opportunity. They excel at understanding wide-ranging information
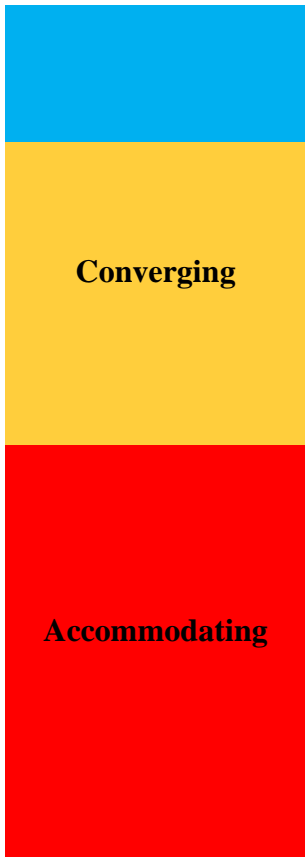
Converging

and organizing it in a clear, logical format. People with this style prefer reading, lectures, and exploring analytical models.

People with a converging learning style can solve problems and will use their learning to find solutions to practical issues. They prefer technical tasks and are less concerned with people and interpersonal aspects. People with a converging style like experimenting with new ideas, simulating, and working with practical applications.

Accommodating

The Accommodating learning style is "hands-on," and relies on intuition rather than logic. These people use other people's analysis, and prefer to take a practical, experiential approach. They are attracted to new challenges and experiences, and to carrying out plans. They commonly act on "gut" instinct rather than logical analysis. People with an accommodating learning style will tend to rely on others for information than carry out their own analysis.

(Source: https://www.simplypsychology.org/learning-kolb.html)

In addition to learning styles, certain qualities of vocational school learners participating in hybrid education are also crucial for the success of this educational format. Based on a literature review and survey results from vocational education teachers, a set of student qualities important for hybrid education has been identified:

Self-motivation	Problem solving	Persistence	Adaptability
Self- confidence	Autonomy	Openess	
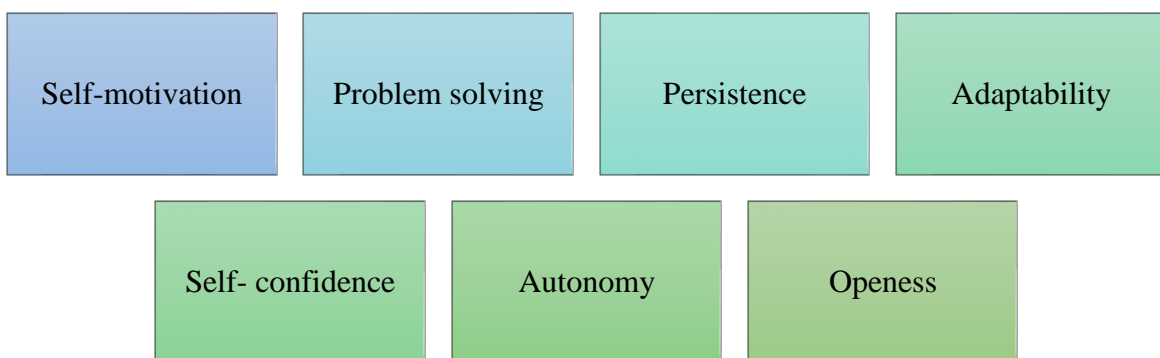
1. **Self-motivation** - motivating and stimulating oneself to act and learn in the hybrid educa-

tion. Positive attitude, energy, willingness, aspiration and readiness to put effort into learning and various activities related to proper functioning in the hybrid education. The ability to work independently with minimum or no supervision.
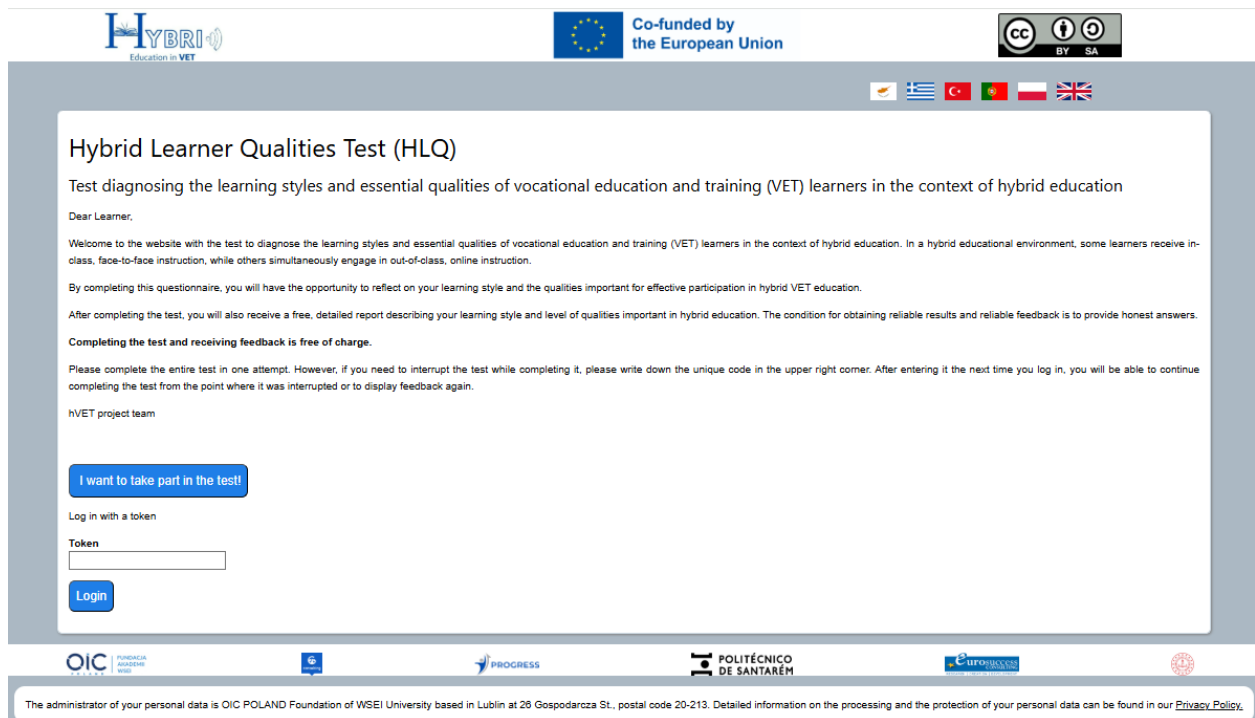
2. **Problem-solving** - ability to identify key components of the problem, to collect and analyse data in order to find a solution or solutions. The skill of solving problems constructively, analysing difficulties and selecting appropriate remedial actions in various situations, including hybrid education.

3. **Persistance** - determination to achieve a goal, which is developing VET skills throw attending hybrid education. Maintaining effort and focusing on learning, despite difficulties (including those resulting from a hybrid education), discouragement, failures.

4. **Adaptability** - the ability to adapt and learn effectively in hybrid education and being open to new ideas and concepts. The ability to adapt to new conditions, environment and requirements as well as the changes in progress. The ability to anticipate and respond to changing circumstances, individuals or groups.The ability to adapt to the hybrid education, personality and work habits of other students and VET teachers.

5. **Self-confidence** - the self-knowledge and the skill of relying on one's own abilities, experience, knowledge and strengths; belief in one's own abilities in the face of obstacles and new challenges, including hybrid education. The perceived ability to cope in given situations, which contributes to the choice of more difficult tasks and more determination to perform them. Faith in the skills that one possess or might develop, taking into account the limitations resulting from a specifity of hybrid education.

6. **Autonomy** - a preference for independence and freedom while working and learning. Taking responsibility for one's actions instead of following the blind opinions of others. Believing that a person is in control of their behaviour and educational performance. Self-determination, not being susceptible to the influence of others. It is also being reliable and honest while performing educational duties.

7. **Openness** - being open to development and learning new VET skills, techniques and methods important for the performance of professional tasks in hybrid education.

## II.   HLQ test navigation

Completing the test and receiving feedback is free of charge. After taking the test, students receive a detailed report at no cost, indicating their dominant learning styles and describing their levels of key characteristics essential for hybrid education. To ensure accurate results and reliable feedback, it is important to provide honest responses.

The HLQ Test homepage contains information about the tool, including:

A student who wants to participate in the study should click on the "I want to take part in the test!" button. This will open a new window with an instructional video explaining what hybrid education is and how to complete the test.
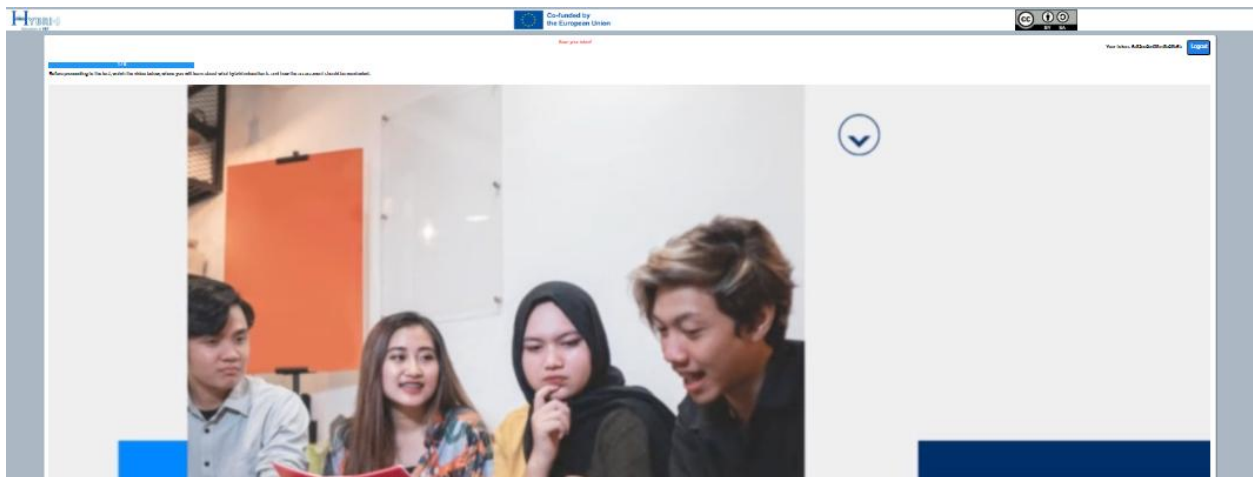
After watching the short video and proceeding further, the student is asked to provide basic personal information, including their first and last name (which will later appear in the automatically generated feedback report), as well as their country, age, and gender (used to select the appropriate norms).

At the same time, a token (a string of numbers and letters) appears in the upper right corner of the page. This token can be used to log in again, allowing the student to resume the test from where they left off or to access their feedback report later. The token can be entered on the homepage in the lower left corner.

After entering their information and clicking the "Next" button, the first part of the test appears, focusing on diagnosing learning styles. This section includes instructions on how to complete the test and 20 statements.

Each statement begins with "When attending a hybrid classroom and joining virtually from home..." and concludes with descriptions of different learning styles. The respondent rates each statement on a scale from 1 (strongly disagree) to 6 (strongly agree), selecting the option that best reflects their beliefs.

Listed below are several statements related to various learning styles. Each statement commences with **'When attending a hybrid classroom and joining virtually from home...'** and concludes with a description of different learning styles. Respond to each statement by envisioning yourself learning in a hybrid format - as a participant in a vocational subject class, connecting with both your classmates and teacher through the internet.

For each statement, please indicate your response **on a scale from 1 (strongly disagree) to 6 (strongly agree)**, selecting the answer that best reflects your beliefs:

1. – strongly disagree
2. – disagree
3. – somewhat disagree
4. – somewhat agree
5. – agree
6. – strongly agree

There are no right or wrong answers here; what matters is expressing your opinion.

When attending a hybrid classroom and joining virtually from home:

	strongly disagree	disagree	somewhat disagree	somewhat agree	agree	strongly agree
I would prefer teamwork with tasks that allow to share different viewpoints	○	○	○	○	○	○
I would like activities that imply the search of data in different sources	○	○	○	○	○	○
I would find it helpful to observe different learning tasks and scenarios before actively participating	○	○	○	○	○	○
I would appreciate the opportunity to work in groups and collaborate with others	○	○	○	○	○	○
I would prefer to explore different learning paths	○	○	○	○	○	○
I would prefer to base ideas on logically correct theories	○	○	○	○	○	○
I would prefer to approach problems logically	○	○	○	○	○	○
I would expect good and clear theoretical explanations	○	○	○	○	○	○

The list of statements is spread across two pages. After responding to the first set, the student must click the „Next" button to proceed to the remaining statements. Once all 20 statements assessing learning styles have been completed and the „Next" button is clicked, the second part of the test begins. This section consists of a series of statements evaluating characteristics of vocational students relevant to hybrid education. As in the previous section, respondents rate each statement on a scale from 1 (strongly disagree) to 6 (strongly agree), selecting the response that best reflects their beliefs. This part of the test contains 35 statements.

Now, it's time for the second part of the test. Below, you'll find a series of statements concerning the crucial qualities of VET learners in a hybrid educational context.

Using the scale below, select the number that best indicates the extent to which you agree or disagree with each statement. There are no right or wrong answers. Please choose the response that best represents your opinion about yourself, using a scale ranging from 1 to 6:

Scale: 1 – strongly disagree, 2 – disagree, 3 – somewhat disagree, 4 – somewhat agree, 5 – agree, 6 – strongly agree

1. – strongly disagree
2. – disagree
3. – somewhat disagree
4. – somewhat agree
5. – agree
6. – strongly agree

	strongly disagree	disagree	somewhat disagree	somewhat agree	agree	strongly agree
I have a positive attitude towards every new issue/topic	○	○	○	○	○	○
I feel a strong sense of enthusiasm to learn and engage in activities related to VET education	○	○	○	○	○	○
I make necessary adjustments when needed to stay motivated and achieve success	○	○	○	○	○	○
I like taking ownership of the learning process	○	○	○	○	○	○
I feel like am driven by intrinsic motivation and find personal meaning in the educational projects	○	○	○	○	○	○
I can analyse a given problem from many points of view, based on various sources	○	○	○	○	○	○

At the end, after selecting all responses, the student must click the "Save the answer" button.

A summary page with the student's results will appear. A chart displays the levels of seven key characteristics essential for effective participation in hybrid vocational education, ranked from highest to lowest. The results are presented on a Sten scale ranging from 1 to 10.

At the bottom of the page, information about the student's dominant learning style is also provided.

Your results

Based on the results you obtained, your level of essential qualities for learners in the context of VET hybrid education has been determined:

Your dominant learning style is : Assimilating

Download the full REPORT with the analysis of your results of the HLQ Test.

[DOWNLOAD]

In the lower left corner of this page, there is an option to Download the full REPORT with an analysis of your HLQ Test results along with the "DOWNLOAD" button.
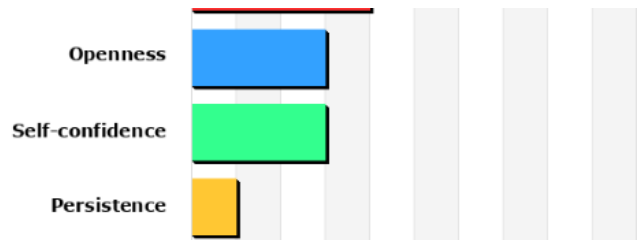
Your dominant learning style is : Assimilating

Download the full REPORT with the analysis of your results of the HLQ Test.

[DOWNLOAD]

After clicking the "DOWNLOAD" button, the system will generate a complete feedback report on the student's characteristics and learning style. The PDF file will be displayed in the browser window and/or saved to the location specified by the user on the device where the study was conducted.

III.   Use of the HLQ Test results

The system automatically generates feedback on the student's characteristics and learning style. The title page of the report includes the name of the test, the student's first and last name (provided at the beginning of the assessment), and the date of the assessment.

The feedback includes:

- A description of the learning styles diagnosed by the test according to Kolb's theory,

- A list of characteristics important for effective participation in hybrid education in vocational schools,

- Identification of the two dominant learning styles, along with suggestions on how they can be leveraged in learning,

- A description of the student's levels of characteristics important for hybrid education,

- A description of potential developmental steps based on the results of the assessment,

- A brief description of the test development process,

- A list of project partners along with their contact information.

A sample report is included at the end of the Manual.

The Hybrid Learner Qualities Test (HLQ) not only allows for assessing preferred learning methods and diagnosing essential characteristics for hybrid education but also serves as a foundation for planning effective educational strategies. This diagnosis offers an opportunity for students to deepen their self-awareness, enabling them to better understand their strengths and areas that require support. This insight makes it possible to tailor learning approaches optimally for the hybrid education model, which combines traditional teaching methods with modern technologies.

The feedback generated by the system provides detailed guidance that can be used to create an individualized development plan for the student. A key step in this process is the thorough analysis of the obtained results, starting with the identification of the student's strengths. These

are primarily the characteristics where the student scored highly in the test. These aspects provide a solid foundation for further effective functioning in the hybrid education environment.

To effectively use the results, it is important to also analyze the student's prior experiences and resources that might be significant for success in hybrid education. In addition to the characteristics diagnosed by the HLQ, other strengths should be considered, such as:

- Self-organization skills – the ability to plan, manage time, and use available educational resources.

- Motivation for learning – the level of engagement, desire to acquire knowledge, and the ability to independently seek information.

- Digital competencies – familiarity with technological tools, the ability to use educational platforms and online resources.

- Interpersonal skills – the ability to collaborate in both online and offline environments, communication skills, and openness to teamwork.

Next, the areas requiring strengthening and development should be analyzed. Based on this, a list of developmental actions should be created to ensure optimal preparation for hybrid learning. It is also worth reviewing the suggestions for learning methods appropriate to the diagnosed learning styles.

The list of tasks should include specific steps, a timeline for their implementation, and the identification of individuals or institutions that can provide support to the student. Example actions might include:

- Participation in workshops to develop organizational and digital skills,

- Utilizing mentoring or tutoring, and peer support,

- Exploring online educational resources, including e-learning courses.

The implementation of these actions should be thoroughly planned, taking into account the student's individual needs and available opportunities. It is also valuable to engage with teachers, tutors, educational advisors, or psychologists who can help interpret the test results, identify areas for improvement, and propose development strategies tailored to the student's individual strengths.

Teachers or tutors can provide practical guidance on organizing learning in a hybrid model, educational advisors can assist in selecting appropriate learning materials, and psychologists can support students in adapting to new teaching methods or managing stress.

Utilizing such support allows students to better understand their strengths and weaknesses, plan developmental actions more effectively, and implement them in practice, maximizing their chances of success in hybrid education. The test result analysis should be supplemented with reflection on past achievements, available resources, and areas requiring development. This approach allows for a holistic view of the learning process and enables the conscious and effective planning of future educational steps.

IV.   Psychometric procedure for the development of the HLQ Test

The development of the HLQ Test followed the standard psychometric procedure commonly used in the creation of psychological diagnostic tools (cf. Hornowska, 2018; Mańkowska, 2010; Fronczyk, 2009).

At the beginning of the work on the new test, the learning styles theory by David Kolb was selected as the conceptual framework. Additionally, based on literature analysis, interviews, and survey research conducted among teachers from Cyprus, Greece, Poland, Portugal, and Turkey, a list of student characteristics important for participation in hybrid education was identified. A total of 110 vocational education teachers participated in the surveys, and 23 vocational education teachers took part in focused group interviews. The research was conducted during the 2022/23 academic year.

For each defined learning style and characteristic, a group of experts created experimental test items. In total, 240 statements were developed to diagnose learning styles, and 420 statements to diagnose characteristics. Repetitive or entirely irrelevant statements were removed based on the previously proposed definitions. A total of 111 statements for diagnosing learning styles and 134 statements for diagnosing characteristics were then sent to evaluation by twenty-one competent judges. The judges were asked to assess each statement regarding its usefulness in diagnosing specific dimensions of the newly developed test. They were instructed to consider the definitions

of styles/characteristics and evaluate each statement on a scale from 1 to 7, where 1 indicated completely incorrect/useless, and 7 indicated completely correct/useful. Based on the judges' ratings, 48 statements (12 for each learning style) and 70 statements (10 for each characteristic) were selected, which received the highest ratings (with the highest content validity and average scores above 6).

The questionnaire prepared in this way (in its electronic, online version) was provided with instructions for answering and a metric. Initial test with the new tool was conducted between January and October 2024. A total of 1,264 vocational students from 5 countries participated: 191 from Cyprus, 171 from Greece, 402 from Poland, 109 from Portugal, and 391 from Turkey.

To verify the structure of the test, a series of psychometric analyses were conducted, leading to the development of the final version of the test. It consists of 55 statements: 20 statements diagnosing learning styles and 35 statements measuring characteristics. The final version of the test includes 55 statements, with 5 statements assigned to each dimension being assessed.

Reliability coefficients (Cronbach's α) were calculated for the test scales, which range from 0.75 to 0.90 for the individual scales, indicating satisfactory to high reliability of the test. The table below presents the reliability coefficients for the scales of the HLQ Test in each language version - Cypriot (CY), Greek (GR), Turkish (TR), Polish (PL), and Portuguese (PT), and the Questionnaire as a whole – pan-European version (EU).

Dimension	EU	CY	GR	TR	PL	PT
Divergence	.75	.71	.87	.78	.70	.68
Assimilation	.80	.74	.92	.84	.76	.70
Convergence	.84	.80	.88	.87	.79	.78
Accommodation	.77	.64	.67	.86	.70	.72
Self-motivation	.82	.73	.91	.84	.79	.77
Problem-solving	.84	.77	.92	.85	.83	.81
Perseverance	.84	.81	.89	.85	.80	.83

Adaptability	.90	.88	.96	.90	.88	.94
Self-confidence	.87	.78	.93	.87	.85	.92
Autonomy	.85	.77	.95	.84	.84	.86
Openness	.90	.88	.97	.88	.89	.91

Standards have also been developed – an important element in the process of interpreting psychometric test results, as they enable the comparison of individual results with the results obtained by appropriately selected reference groups. The developed standards allow for the transformation of the raw result of the surveyed learner into a converted result, which allows for a more precise assessment of the level of competence of the surveyed person in comparison to other learners (cf. Hornowska, 2018).

In psychometric practice, various scales are used to express converted results. In the case of the HLQ Test, a ten-point sten scale is used, which allows for the interpretation of the obtained results in the following categories:

- Low scores – range from 1 to 4 sten;

- Average scores – range from 5 to 6 sten;

- High scores – range from 7 to 10 sten.

The result of the applied psychometric procedure is a content-valid, reliable, normalized, objective, and standardized tool for assessing learning styles and characteristics of students that are essential in hybrid education within vocational training.

V. Bibliography

Fronczyk, K. (red.) (2009). *Psychometria – podstawowe zagadnienia*. Warszawa: Vizja Press&IT

Hornowska, E. (2018). *Testy psychologiczne. Teoria i praktyka*. Warszawa: Wydawnictwo Naukowe Scholar.

Kolb, D.A. (1984). Experiential learning: experience as the source of learning and development. Englewood Cliffs, NJ: Prentice Hall.

Kolb, D.A. (1981). Learning styles and disciplinary differences, in: A.W. Chickering (Ed.) *The Modern American College* (pp. 232–255). San Francisco, LA: Jossey-Bass.

Mańkowska, M. (2010). *Wprowadzenie do psychometrii*. Lublin: Wydawnictwo KUL.

McLeod, S. Kolb's Learning Styles and Experiential Learning Cycle. https://www.simplypsychology.org/learning-kolb.html

VI.　Attachment – a sample report from the HLQ Test

Hybrid Learner Qualities Test (HLQ)

Alan

18.02.2025
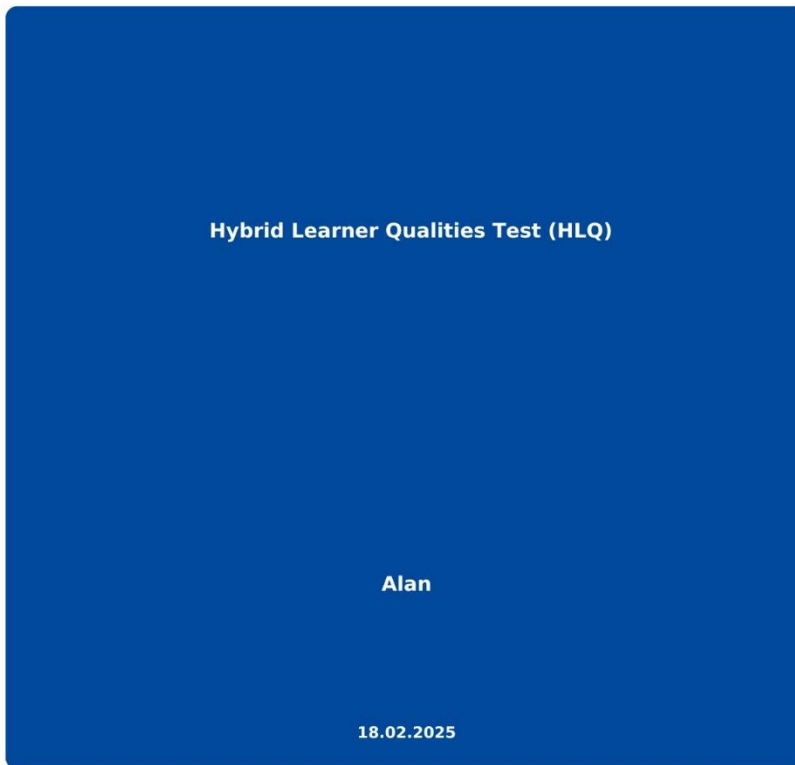
The hybrid model of education involves some students participating in classroom-based learning, while others in online learning, simultaneously, from anywhere.

Learning style is defined as an individual's preference for the learning process and is extremely important in hybrid education. David Kolb's experiential learning model lists four learning styles:

Diverging (feel and watch)	Assimilating (think and watch)	Converging (think and do)	Accommodating (feel and do)

Diverging	These people are able to look at things from different perspectives. They prefer to watch rather than do, tending to gather information and use imagination to solve problems. They perform better in situations that require ideas-generation. They prefer to work in groups, to listen with an open mind and to receive personal feedback.
Assimilating	The assimilating learning preference involves a concise, logical approach. Ideas and concepts are more important than people. These people require good, clear explanations rather than a practical opportunity. They excel at understanding wide-ranging information and organizing it in a clear, logical format. People with this style prefer readings, lectures, exploring analytical models.
Converging	People with a converging learning style can solve problems and will use their learning to find solutions to practical issues. They prefer technical tasks, and are less concerned with people and interpersonal aspects. People with a converging style like to experiment with new ideas, to simulate, and to work with practical applications.
Accommodating	The Accommodating learning style is "hands-on," and relies on intuition rather than logic. These people use other people's analysis, and prefer to take a practical, experiential approach. They are attracted to new challenges and experiences, and to carrying out plans. They commonly act on "gut" instinct rather than logical analysis. People with an accommodating learning style will tend to rely on others for information than carry out their own analysis.

In addition to learning styles, certain qualities of vocational school learners participating in hybrid education are also crucial for the success of this educational format. Based on a literature review and survey results from vocational education teachers, a set of student qualities important for hybrid education has been identified:

Self-motivation	Problem-solving	Persistence	Adaptability
Self-confidence	Autonomy	Openness	

To support you in participating in hybrid classes, OIC POLAND Foundation of WSEI University (project leader), in partnership with: Instituto Politécnico de Santarém (Portugal), PROGRESS Kalińska, Talik spółka jawna (Poland), G.G. Eurosuccess Consulting Limited (Cyprus), Antalya Provincial Directorate of National Education (Turkey), and C.M. Skoulidi & Sia E.E. (Greece), has developed the HLQ Test.

Understanding your learning style and the qualities mentioned above will enable you to participate in classes more consciously and constructively, while also helping your teacher effectively tailor hybrid education to meet your needs.

The Hybrid Learner Qualities (HLQ) Test measures your preferred learning style and the level of qualities important for success in hybrid education.

YOUR RESULTS

The questionnaire you completed measures learning styles and level of qualities relevant to hybrid education. The following conclusions are based on your answers and are reliable only if provided honestly. It is also important to note that every questionnaire is subject to some degree of error.

The interpretation of your results is divided into two parts. The first part provides insights into your preferred learning styles, while the second part identifies the level of your characteristics that are relevant to participating in hybrid education.

Part 1. Learning styles

The first part of the report contains information about the results related to your learning styles. Based on your answers, it can be said that you most prefer the learning style:

Assimilating

The assimilating learning preference involves a concise, logical approach. Ideas and concepts are more important than people. These people require good, clear explanations rather than a practical opportunity. They excel at understanding wide-ranging information and organizing it in a clear, logical format. People with this style prefer readings, lectures, exploring analytical models.

Your second preferred learning style is:

Accommodating

The Accommodating learning style is "hands-on," and relies on intuition rather than logic. These people use other people's analysis, and prefer to take a practical, experiential approach. They are attracted to new challenges and experiences, and to carrying out plans. They commonly act on "gut" instinct rather than logical analysis. People with an accommodating learning style will tend to rely on others for information than carry out their own analysis.

Part II. Qualities essential in hybrid education

Based on your results, the level of your qualities relevant to participation in hybrid education has been determined:
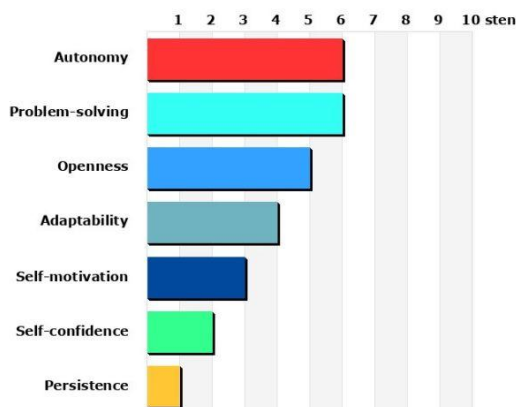
You are characterized by the average level of the following qualities:

Problem-solving

You are fairly good at identifying key aspects of a problem and gathering the necessary data, though this may occasionally require extra time or guidance. You often analyze difficulties and can choose appropriate steps on your own, but may need support or consultation in more complex situations. In the context of hybrid education, you are capable of solving most of the problems you encounter, although you might sometimes struggle to determine the most effective approach.

Autonomy

You strive to act independently and make decisions on your own, although in more challenging situations, you may occasionally seek support or opinion from others. You take responsibility for your actions and have a sense of control over your performance, though at times, you may be influenced or need additional support. In an educational context, you are generally responsible and aim to be reliable, although you may occasionally seek external validation.

WHAT'S NEXT?

The diagnosis of learning styles and qualities of learners that are important in hybrid education within vocational education and training, using the HLQ Questionnaire, provides an opportunity to enhance self-awareness, plan developmental actions, and adequately prepare for participation in this form of learning.

The feedback generated by the computer system can be used to create an individual development plan. The starting point should be a list of your strengths (high levels of qualities) and, based on the diagnosis of your learning styles, a list of conclusions about the most effective learning techniques for you.

Next, analyze the average and low results related to the diagnosed qualities. Based on this, create a list of developmental tasks you will undertake to best prepare for participation in hybrid education. Be specific about the actions you will take, the timeline, and who can support you.

It is also worth contacting a psychologist, counselor, career advisor, mentor, or your teacher, who can help you make the most of the feedback obtained from the HLQ test for your personal development. Discuss these results with your parents or legal guardians as well.

HOW WAS THE HLQ TEST CREATED?

The HLQ test was created on the basis of a psychometric procedure commonly used in the creation of psychological diagnostic tools.

At the beginning of the development of the new test, David Kolb's concept of learning styles was chosen. Based on the literature review and surveys of teachers from Cyprus, Greece, Poland, Portugal, and Turkey, a list of student characteristics relevant to participation in hybrid education was compiled. For each defined learning style and quality, a group of experts created experimental test items, which were then analyzed in terms of content. Repetitive statements or statements that do not fit the previously accepted definitions at all have been removed. The remaining statements were then forwarded to twenty two competent judges for evaluation.

The test prepared in this way (in electronic online version) was provided with instructions for answering and a metric. Initial surveys using the new test were carried out between November 2023 and June 2024. 1321 VET students were in Cyprus, Greece, Poland, Portugal and Turkey were survey.

To verify the structure of the test, a series of psychometric analyses were conducted, which led to the development of the final version of the questionnaire. It consists of 55 statements (20 statements assessing learning styles and 35 statements measuring qualities). The content validity of the test was confirmed. Reliability indicators (Cronbach's α) were calculated for the test scales, ranging from 0.75 to 0.90 for individual scales, indicating satisfactory and high reliability of the questionnaire.

Norms have been developed, allowing for the conversion of an individual's raw score into a scaled score, as well as its interpretation in terms of low (1-4 sten), average (5-6 sten), and high (7-10 sten) results.

The result of the applied psychometric procedure is an accurate, reliable, normalized, objective and standardized tool for diagnosis the learning styles and essential qualities of vocational education and training (VET) learners in the context of hybrid education.