VET Web?uest

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WebQuest Guide

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„DEVELOPMENT OF WEBQUEST LESSONS IN THE VET CLASSROOM"

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WebQuest Definition

"A WebQuest", according to Bernie Dodge, the originator of the WebQuest concept, "is an inquiry-oriented activity in which most or all of information used by learners is drawn from the Web. WebQuests are designed to use learners 'time well, to focus on using information rather than looking for it, and to support learners 'thinking at the levels of analysis, synthesis, and evaluation."

The model was designed with the purpose of instilling in students the capacity to navigate the Internet with a clear task in mind, retrieve data from multiple resources, and increase critical thinking skills.

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1.0. INTRODUCTION

In the last decade, teachers around the world have been faced with new challenges related to new concepts and theories of learning. Information and communication technologies (ICT) are seen as a powerful tool for implementing these concepts in educational practice. The World Wide Web has opened up a global classroom full of resources and challenges for students and teachers. Many educators were quick to recognize the potential of the Web, but just as quickly to realize the complexity of the Web and its resources.

Vocational education already develops independent, critical and creative thinking in students. One possible solution to this is to use the WebQuest model, introducing Inquiry-Based Process. WebQuest is a good and spreading new pedagogical approach in teaching, to design and combine theoretical and technological knowledge.

WebQuests provide a unique way to organize a specific learning activity using resource sites, and the variety of projects allows educators to share their work and experiences around the world.

WQ Guide will provide you, the vocational schools and high school teachers, with innovative technology, instructional materials, and practical guidance for developing your own, new WebQuests for teaching a specific discipline or part of it, and as well as using ready-made WebQuests, enriching your challenge-based pedagogical approach to learning. WebQuest uses the Inquiry-Based Process, where students are the active part in the learning process and you, the teacher, take the lead in guiding the learning process.

WQ Guide gives you theoretical and practical information on how to structure classroom teaching involving web investigations so that students can use online time wisely and productively. At the same time, you will be able to define web-based learning as well as projects in a way that offers great variety to learners. Thus, all students will be able to freely use web-based activities, developing new professional knowledge and competences in your chosen subjects

1.1. WebQuest Method

The Inquiry-based process can be seen in Figure 1. It begins with asking questions, creating hypotheses, investigating and testing the hypotheses constructing new knowledge, discussing the learning experience, reflecting upon and evaluating discoveries, generating new questions, and inaugurating the process again from the beginning.

Figure 1: The Inquiry-Based Process

The WebQuest method is based on the interactive learning model, in which the student becomes the subject of interaction - he/she himself actively participates in the learning process, performs a certain learning task, following his individual route to construct knowledge based on his own experience and from the new information from internet resources.

WebQuests have been developed to maximize the integration at the Internet at various academic subjects, at various levels of learning in the educational process. The technology is applicable to each individual problem, to each subject, topic, and can also be applied in interdisciplinary lessons.

A WebQuest can be designed for both group and individual work. It is suitable both for organizing lessons in the classroom and for extracurricular work. When we talk about "WebQuest Lessons in the VET Classroom" it usually means that the activity is designed to fit into the standard curriculum and be completed during the lesson, regardless of the training number hours.

WebQuests that take place outside the classroom can include activities that are completed as homework, vacation projects, or even as part of extracurricular or enrichment programs. Such WebQuests extend learning by allowing students to explore and learn in a more unstructured environment. In most cases, they refer to large projects, requiring more time to complete and are often multidisciplinary and challenge students to connect knowledge from different fields.

WebQuests can be short-term, with the aim of deepening knowledge with integration, intended for one to five lessons, and long-term, with the aim of deepening and transforming the knowledge of students, intended for a long period of time - a school's term, or school year.

WebQuests can be single-topic or with cross-search. The researchers note that in the second case this work is more effective.
WebQuests are best suited for small group work, but there are also WebQuests for individual students. WebQuest encourages searching the Internet for information that the teacher assigns to students so that students learn independently of the teacher.

1.2. The role of the teacher and the student in the WebQuest model

Inquiry-based learning requires a student-centered teaching approach in which the student plays a central role by asking questions and exploring the material. The teacher has a guiding role in which, rather than providing materials or defining correct answers, the teacher encourages learners to lead group discussions, explore, think critically and form their own answers and opinions about the research questions. Training with the help of Inquiry-Based Process, allows teachers to guide learners through the process of scientific inquiry, following specific steps to arrive at valid conclusions or correct decisions. Active learning that the teacher organizes builds knowledge through active student engagement.

WebQuests are usually conducted in groups - working in a team consisting of peers. Applying the WebQuest model, students learn more effectively when they work together with other classmates who have a broader or different set of knowledge and skills than their own. In this way, each student sees different perspectives, which broadens the scope of learning and knowledge compared to working alone.

When using WebQuest teaching strategies, teachers do not tell students what to do because it is already described in the WebQuest implementation process. The teacher's role is to give guidance to students and facilitate the process of their pursuit of knowledge by guiding them on how to complete their tasks. Teachers do this without expressing direct opinions, criticizing, discussing what is wrong and what is right.

Teachers are responsible for providing students with the necessary Internet resources and learning materials to create the final product. The teacher also organizes the learning environment and delegates various goals that each student must achieve.

Each student participating in the WebQuest learning model, using their teamwork skills, is individually responsible for their participation in achieving the goal and sharing the knowledge they have acquired. This sharing of knowledge makes WebQuest effective. WebQuest allows students not to use only Internet resources preselected by the teacher and also those they find on their own effectively and creatively. The learning process requires students to search for information, think, analyze, make decisions based on the information they find.

1.3. Development of skills, knowledge and competences

Using the WebQuest, students will:

- ✔ get **knowledge** of how to independently build work according to an algorithm;
- ✔ acquire **skills** through various activities, such as: searching and systematizing information on a given topic, conducting research in an educational environment, formulating the revealed model in the form of a hypothesis, proving and presenting the results of the work;
- ✔ acquire **skills** in the process of work, to put themselves in a situation of choosing a role, topic, resources;
- ✔ get **knowledge** of how to use different sources of information: materials from textbooks; resources published on the Internet, etc.;
- ✔ develop the **skill** of public speaking. This skill is evident in the preliminary defense of the task / topic, project / with the presentation, with questions and discussion.

When learning with WebQuest, students develop the following significant competencies:

- ✔ use of information technologies to solve professional problems (including finding the necessary information, formatting work results in the form of computer presentations, websites, flash videos, databases);
- ✔ self-learning and self-organization;
- ✔ teamwork (planning, distribution of functions, mutual assistance, mutual control);
- ✔ the ability to find several ways to solve a problem situation, to determine the rational option, to justify their choice ect.

ΠBenefit for teachers:

✅ The experience of teachers from countries in the education system of which WebQuest training is carried out, reports an improvement in the level of student behavior and in the organization of the lesson in the classroom. These results are expressed, on the one hand, in increasing student motivation and, on the other hand, in team work with a clear goal - solving group tasks.

✅ WebQuest can also be seen as a "source of help" for the teacher, as this methodology allows for adapting the teaching approach to different learning styles. On the other hand, creating a WebQuest is itself a learning situation for a teacher, as he is forced to think about a topic from a new perspective.

✅ WebQuests can be especially helpful for teachers who are new to technology because they offer prepackaged, self-paced lessons ready to go. Ready-made WebQuest sites contain lessons, rubrics, and teaching tips. In this way, WebQuests allow the teacher to make an easier transition to using Internet technologies, with the support of a wider community of teachers.

1.4. Added value delivered through WebQuest teaching and learning

WebQuests can be identified as **quests for knowledge, a means of new knowledge**. Rather than being a static body of content to be taught, a WebQuest can offer evolving content to be learned, explored, and processed. Most WebQuests require students to perform multiple tasks far beyond simply presenting their findings to the class or writing a report. These possible tasks include creating multimedia projects, video conferencing, using email, databases and spreadsheets, and countless other technology-rich possibilities.

The development of students' cognitive skills is neglected in all levels of education. These skills are enhanced with cognitive training with good WebQuests, whose cognitive characteristics are as follows:
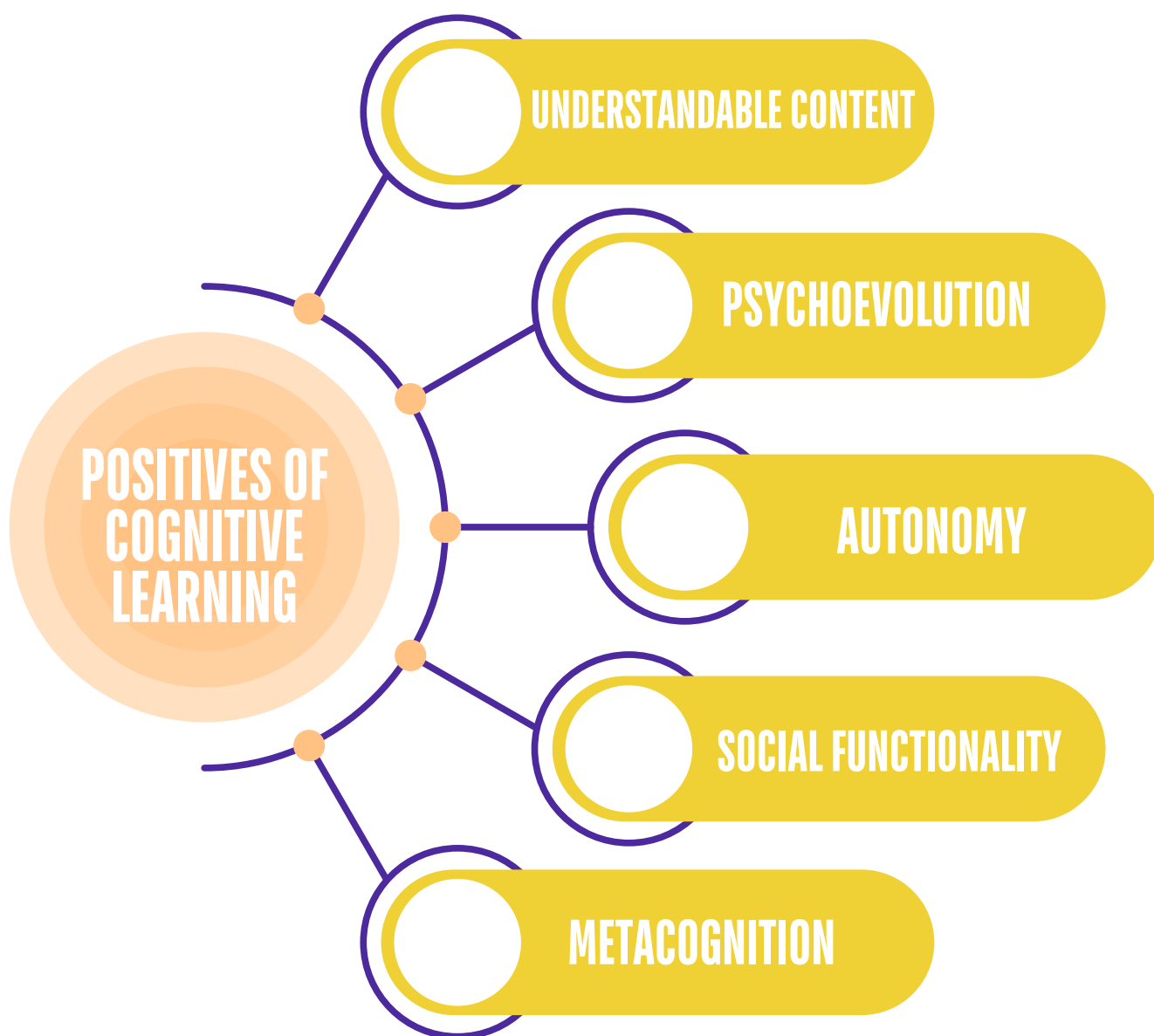
In WebQuest, the teacher can structure the content in a way that is understandable to the students, provided with **logical meaning** possible for the students. By using different types of tasks or design models (e.g. investigation task, case problem, design problem) the structure of knowledge in the discipline can be modeled;

Psychological significance. With an appropriate selection of resources, WebQuest allows to build a learning activity that is adapted to the psycho-evolutionary level of the student. Group study results in the student performing better with the help of a more able classmate than him/herself is capable of;

Self-directed learning. In WebQuest, the main work of the student is autonomous: he/she is the one who selects the information he/she considers relevant; and also structures knowledge, building his own cognitive schemes. Therefore, in WebQuest, tasks for synthesizing, summarizing, analyzing, comparing different sources and means of information should be preferred;

High "social functionality" of the learning. Using the Internet as a learning tool is of great importance to students. This can lead to learning processes that are also applicable to other non-academic areas: how to spend free time, independence in solving school tasks, etc. This can also lead to a high level of motivation to learn;

Metacognition. Solving complex problems and learning situations requires certain skills of control, self-assessment and observation. Moreover, while conducting their own learning based on discovery and effective use of ICT and solving problems, students can gain comprehensive knowledge about their own learning.

POSITIVES OF COGNITIVE LEARNING

- UNDERSTANDABLE CONTENT
- PSYCHOEVOLUTION
- AUTONOMY
- SOCIAL FUNCTIONALITY
- METACOGNITION

2.0. THE WEBQUEST STRUCTOR

Teachers who use WebQuests share online that WebQuests promote higher-level thinking, develop problem-solving skills, and provide an opportunity to seamlessly integrate technology into the curriculum.Each WebQuest always has its own stages of creation with building blocks for each stage.

2.1. The WebQuest building blocks

The Building blocks, also called "Critical Attributes" of WebQuest, defined by Bernie Dodge, for the period from 1995 to 2001. have undergone three changes without changing the meaning and results of the procedure. The third evolution of the WebQuest considers five building blocks aimed at student activities and a sixth block dedicated to the teacher (Teacher Page). Resources are now integrated into The Process to facilitate student interaction with research links.

The building blocks are the following:

● **Introduction/Topic** - orients students and captures their interest. For this purpose, teachers must be motivating, address their students with comprehensive vocabulary and explanations. It is important to initially formulate the main topic, the main question around which the whole project will be centered.

● **Task -** The task is the most important part of the WebQuest. It describes the final product of the activity. The task is distributed among the team members. Each member is responsible for their specific role in the team.

● **Process and Resources** – the process explains the strategies students should use to complete the task and provides students with step-by-step guidance on how to work on the task. The process begins with forming the teams and assigning roles within the team.

● **Resources** - The WebQuest site is provided and search resources are already assigned by the teacher.. Students have access to the Internet for information. At the end of the process, students summarize their findings.

● **Evaluation -** The process and final results/products are evaluated. The assessment is carried out by the students / peer review /.The teacher summarizes and forms the final evaluation.

● **Conclusion** - summarizes the activity and encourages students to reflect on its process and outcomes. Students must collaborate on a final written paper and present their work orally to the class.

● **Presentation** - Each team will present their findings and possible solutions in a creative way. This can be done through video or PowerPoint presentations. It is important to plan carefully so that the presentation is persuasive, creative and attractive.

● **Teacher Page** - This page is critical to the effective introduction and management of WebQuest in the classroom, as it provides the necessary support and resources for teachers, allowing them to maximize the educational potential of the activity.

2.2. Stages in Creating a WebQuest

Building blocks define the classic stages of creating a WebQuest.

Stage one — **Defining the topic.**

Stage two — Site selection, that has a template for creating a web search or create your site freeform or based on the template.

Stage three — Inventing tasks. From the very beginning, the form in which the students will receive the assignment must be chosen. This form is presented in a way that is preferred by the teacher. Here are some examples:

a) In the form of a presentation – for example on PowerPoint. Place a picture on the slide and write a question or two. So that on each slide you can look at a specific topic.

b) As Word text. Insert information with pictures and questions in the form of rich text.

c) Visual material. For example, insert a set of photos, video material.

Stage four

Process and Resource. Finding and researching sources of information that students will use to solve the case study/task. This stage is sometimes performed in conjunction with Stage Two and Stage Three, where critical

decisions are made about the actual task to be developed.Teachers and students alike quickly find that for some topics and there is a much more web resources, and other topics are not best served by Web exploration.

Stage five

Creation of an evaluation system. For example, you can use ready-made systems where you only define:

a) the number of points awarded for a specific question;
b) which level, how many points it corresponds to (e.g. 5 points is good).
c) if there is no specific answer, describe how to evaluate the ralanswer/story if it is reasoned, supplemented by own knowledge or, on the contrary, - incomplete, inaccurate.

Stage Six

When the teacher already has a rough plan and basic information in writing, entered into the Teacher Page, they can move on to posting on the web template. Once the case study/task process is finished, all pages of the template should already be completed. The WebQuest is ready for publishing, after which it will become available to other users
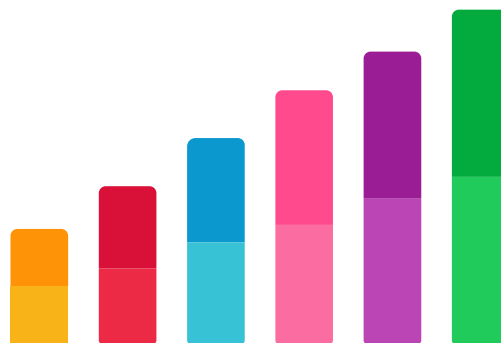
2.3.   Non-critical WebQuest attributes

The non-critical attributes of each WebQuest are related to collaboration, cooperative behavior, and interdisciplinary approaches to specific learning topics - a prerequisite for active and purposeful learning that meets students' needs and interests.

Setting common goals is best achieved when students work together. Collaboration is motivating and also allows for covering large, controversial or complex learning topics.

During the training, with several WebQuest groups in the same classroom at the same time, students will encounter different learning and problem-solving solutions that can become models for their own learning. Cooperative student behavior should be valued.

WebQuest also aims to extend student learning beyond the classroom. This leads to interdisciplinary approaches to specific learning topics that sometimes require a group of fellow teachers to design and manage learning situations.

2.4.   Structure of web search in the learning process

The teacher introduces the students to the topic and the task /stage one and stage three/, then presents them with a list of information resources, with links to the Internet, with website addresses on the topic, as well as CD, video and audio media.

УThe teacher describes the working, operational procedure that each group, or each participant in the mission must perform, with self-accomplishment of the task(s). The roles in the team are assigned: 1-4 students for 1 role

There is a "Role Stage"- individual teamwork for a common outcome. The participants simultaneously, according to the chosen roles, perform tasks.

Since the goal of the work is not competitive, in the process of working on the web search, team members train each other in the skills of working with computer programs and the Internet. The team jointly summarises the results of each task, the participants exchange materials to achieve a common goal – creating web site by:

- ✅ search for information on a specific topic.
- ✅ site structure development.
- ✅ creating material for the site.
- ✅ finishing materials for the site.

The team works together, under the guidance of a teacher, and feels responsible for the results of research published on the Internet. Based on these, conclusions and suggestions are formulated. The solution to the problem is compared and evaluated - the attitude to the given topic, the reliability of the information used and its structure, the critical analysis, the coherence, the approaches to solving the problem, the individuality of each participant and the professionalism of its presentation. Teachers and students participate in evaluating the results through discussion or interactive voting.

Placing WebQuests on the web can greatly increase students' motivation to achieve the best educational outcomes.

3.0. WEBQUEST DESIGN

Once you, as an educator, teacher, mentor, facilitator ect. have your outline or web template in hand, you can begin the work of designing a WebQuest. The design process in Figure 2 is presented by key building blocks.

Figure 2. WebQuest design

INTRODUCTION/TOPIC

TASK

PROCESS AND RESOURCES

EVALUATION

CONCLUSION

WebQuest Design
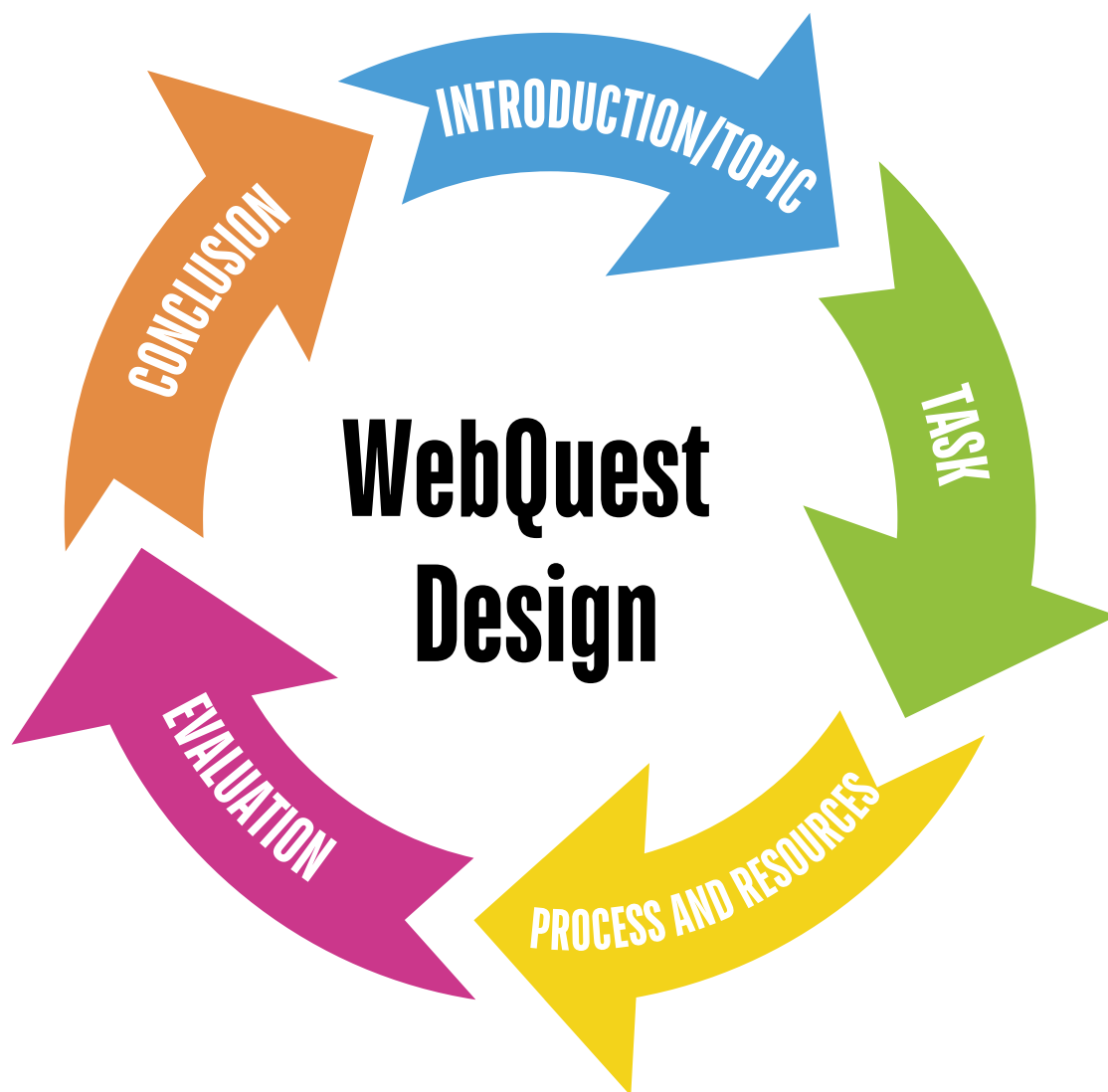
3.1. Introduction/Topic

You may have already decided on a topic related to current events or an area of the curriculum that is inadequately covered in the available texts. If you have an area that is your specialty, something you are passionate about teaching, that you know inside and out, ups and downs, start there.

Set clear goals for what students will learn and accomplish by the end of the web mission. Identify a topic that invites creativity, forces analysis or synthesis, or otherwise requires students to transform the information into some new form. Do not use the WebQuest format to pursue questions that have only one correct answer.

3.2. Task

The task should be motivating for learning and be doable. The task should be challenging but achievable, encouraging students to apply what they have learned.

The task should be related to certain cognitive activities that students should perform - analyze, synthesize, transform, create, judge and evaluate, create new information, edit, share, etc. Therefore, the task should challenge higher order thinking. Ideally, the main task in a WebQuest is a scaled-down version of what you, the teachers do in your professional training.

Make connections to curriculum standards both subject-specific and cross-curricular. Set a learning context that allows students to approach the task from an original, challenging perspective.

3.3. Process and Resources

In this section, you will include the roles that the students will take on. You group students into teams with clearly defined roles. Roles are necessary and must be strictly defined to accomplish the task. Assign roles to all students.

Offer guidelines for activities that involve student or group collaboration.
Suggest frameworks or templates (formats) for actions.

You can outline a step-by-step process for students to follow. This may include a research phase, an analysis phase, and a decision phase. These phases are extremely useful and applicable in VET tasks.

In the texts you will propose, address the second person "you" and not "students". Use the word processor's capabilities wisely (paragraphs, underlining, links, bullets, and numbers).
Resources should be sufficient and grouped according to logic and visible criteria.

Identify available online resources on your topic by compiling a list of related words and using the search list of relevant sites. As you search, create a hot list of up-to-date, accurate, and age-appropriate sites for your students that will engage their interest.

Include interactive elements if possible. Integrate technical resources as well.
Years ago, the web was mostly about calculations. Now, any topic under the sun can be discovered if you "dig" deep enough. You might find an amazing site that will inspire you to teach the subject in a whole new way. If for some reason you can't find enough relevant information, go back to step 3.1 of the Guide and come up with another topic.

Some of the WebQuests mention offline resources along with online ones. The basic structure of a WebQuest can be made with just a pile of books and magazines. Still, the philosophy of WebQuest projects implies choosing topics that cannot be done with printed materials alone.

Use a WebQuest template, or another template you'll develop, and start "hacking" away. In the ready-made templates, you can find variations of the WebQuest format in Templates.

3.4. Evaluation

As **Kentan Letkeman** points out, "Traditional assessment techniques are not the best means of evaluating WebQuests because all students may not be learning the same content. Individual assessment rubrics should be developed that follow the objectives of the curriculum and are easy for students to understand."

3.4.1. Types of evaluations

Evalution in the WebQuest context, which involves working in small groups, can be done in different ways depending on the specific learning objectives and your preferences.

Here are three main approaches:

a) group evaluation   б) individual evaluation   в) combined approach

a) Group evaluation

Advantages - Encourages cooperation and collective efforts; Emphasizes the importance of teamwork and joint achievement of goals.

Disadvantages - It may not reflect the individual contribution of each student; Students who are not actively participating may receive the same grade as those who have worked hard.

б) Individual evaluation, within the group

This approach involves valuing each student's individual contribution within group work. You may use a variety of methods to assess personal effort, including independent assignments, individual reports, etc.

Advantages – It reflects the individual contribution and effort of each student; It encourages each student to actively participate, knowing that their efforts will be individually assessed.

Disadvantages - It can reduce the incentive to cooperate if students focus exclusively on their individual tasks; It requires more time and effort on the part of the teacher to evaluate.

c) **Combined approach**
Some teachers choose a combined approach where both group and individual efforts are assessed. Thus, both the collective work and cooperation, as well as the individual contribution of each student, can be evaluated.

3.4.2. Criteria and resources for evaluation

Each WebQuests grading rubric should provide a number of criteria for evaluating students' WebQuest success. Evaluate the very aspects that represent the specific, formative characteristics of a WebQuest: higher-order thinking, collaboration, use of ICT, transformative learning, etc. Include both quantitative and qualitative criteria.

Assessment criteria/resources in a WebQuest context can be very varied and depend on the specifics of the WebQuest in question as well as the approaches the teacher prefers to use. The creation of evaluation criteria and resources is carried out:

a) **By the Teacher:** Usually the teacher creates or adapts the evaluation resources to meet the specific objectives and requirements of the curriculum. This may include rubrics, tests, quizzes, projects, and other forms of assessment. The teacher determines the criteria that will measure the acquisition of knowledge and skills achieved through the WebQuest;

b) **Together with students:** In some cases, especially for students of classes XI, XII, evaluation tools can be included and created in the learning process, as part of a wider strategy for active learning and development of critical thinking

3.4.3. Carrying out the evaluation

a) **From the Teacher:** Most often, the evaluation is done by the teacher, who uses pre-prepared criteria and rubrics to evaluate the students' work. The teacher reviews completed assignments, projects, tests, and other activities to determine how well students have met the learning objectives;

b) **Self-evaluation by students:** Some WebQuests may also encourage self-evaluation, where students independently assess their work against the criteria provided. This helps to develop self-reflective skills and the ability to critically analyze one's own work.

c) **Mutual evaluation:** It is a method in which students evaluate the work of their classmates, which can contribute to a deeper understanding of the learning material and the development of critical thinking and communication skills. Experience has shown that the students themselves are the harshest judges of work.

3.4.4. Integrating evaluation into learning

Evaluation should be integrated into learning so as to provide continuous feedback to students on their progress. This includes formative assessment throughout the WebQuest process to help students identify their strengths and areas for improvement, and summative assessment at the end of the WebQuest to assess overall achievement of the learning objectives.

So, successful evaluation in a WebQuest context requires well-developed strategies and resources created and/or adapted by you, the teacher, but also active student participation in the evaluation process. Organizing and conducting effective mutual evaluation in the classroom, with several specific examples, is outlined in Annex 1 of the WebQuest Guide.

3.5. CONCLUSION

3For the public presentation of the completed work, a constructive discussion should be organized. The open evaluation of the student's own work and the work of his classmates allows the student to learn to be correct in comments, to identify the most interesting findings in the completed tasks and to formulate his own evaluation criteria.

A conclusion is a summarizing section that concludes the activity, encourages students to reflect on what they have learned and how they can apply that knowledge or those skills in the future.

The presentation of the task performance can be presented as a group, and each student can have responsibility for a certain part of the presentation, where they can demonstrate and explain their contribution.

This may include:
- ✅ Explanation of a specific role or task that he performed in the project;
- ✅ Presentation of part of the research or analysis for which he is responsible;
- ✅ Demonstration of specific skills or knowledge acquired during the project.

It is recommended that in the case of a group presentation, all individual materials and documents should be collected in one portfolio. Thus it is shown how individual efforts have contributed to collective work.
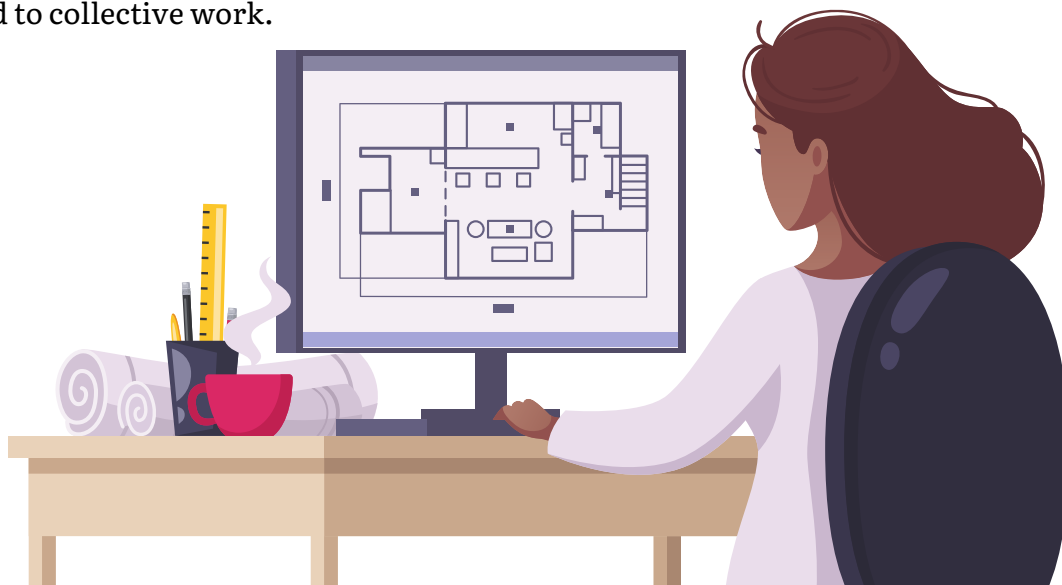
3.7. TEACHER PAGE

MDodge's WebQuest model includes both Teacher page and Student page, but at the teacher's discretion and based on the information on his/her page, the student can use certain parts of the Teacher Page without developing a page specifically for him/her as well.

The teacher's page is not considered or described as a critical part of WebQuest, it is not required, but it is desirable to develop and include it in this section because it acts as a didactic guide for the teacher as presenting of information for future users of this WebQuest.

The teacher's page in each WebQuest plays a key role in the successful navigation of the learning activity. It supports and ensures that teachers who will be using this WebQuest for the first time in their work will be, well prepared and supported with recommendations for resources they can use to enrich the learning process. It will provide detailed instructions and guidance on how to use WebQuest in the classroom.

.From this page, teachers will understand how they can integrate the activity into a broader curriculum, learn about strategies and instructional methods they can implement to facilitate student learning and engagement, and how to assess the achievement of learning goals.

Recommendations for developing the teacher page, introducing key elements into the Teacher page are outlined in **Annex 2** of the Guide.

4.0. TRAINING WITH READY- MADE WEBQUESTS

This section of the Guide is based on publicly available information from WebQuest creators/designers and educators abroad with significant experience implementing WebQuest projects in the classroom.

The most important factor related to student learning and use of WebQuest is how teachers connect WebQuest to prior and subsequent activities, so that WebQuest not to be an isolated experience with no connection to the VET curriculum. Teachers in Vocational Educational School are already gaining experience, and soon they will recognize the key cognitive features embedded in a good WebQuest and successfully guide and direct students in their own explorations and discoveries.

4.1. Advantages of working with a ready-made WebQuest

Using ready-made WebQuests, rather than creating new ones, has several advantages that can be particularly useful in an educational context:

Time saving: One of the biggest advantages is the significant time saving. Developing an effective WebQuest requires a lot of planning, design, and testing time. Using ready-made WebQuest resources allows teachers and VET professionals to focus on teaching rather than technical training;

Proven effectiveness: Ready-made WebQuests are usually developed by professionals and often tested in real learning environments, which guarantees their effectiveness. They are optimized to deliver educational content in a way that is engaging and useful for learners.

Standardization: Using standardized WebQuests helps ensure consistency in learning. This is particularly important in VET because multiple teachers work with the same curricula.

Resources and Support: Ready-made WebQuests often include access to additional resources, such as teacher support, learning materials, and assessment tools. This can facilitate the teachers in conducting the courses and enrich the educational process.

Exchange of ideas: Using ready-made WebQuests allows teachers to share ideas and approaches with other colleagues from different educational institutions or even different countries. This can contribute to improving the quality of education and broadening perspectives

4.2. Using a ready-made WebQuest Procedure

Before you start, familiarize yourself with the content of the Teacher Page. Using a ready-made Teacher Page in the context of a particular WebQuest is extremely useful. It will serve as your resource center, providing important information and guidance that can help you use WebQuest effectively.

Teacher Page provides the necessary information in one place, making it easy for the teacher to monitor and manage WebQuest related activities. It offers detailed instructions on how to conduct the WebQuest, as well as suggestions for time frames and classroom organization. This will help you prepare and execute the lesson more effectively.

Teacher Page includes tips for adapting the material to meet different student needs, providing different approaches for different levels of skill and ability. Assessment criteria or rubrics are if you can use to assess student progress and achievement within WebQuest.

Teacher page often includes recommendations for additional resources, such as articles, videos, websites, and other materials that can enrich the material and provide more context. The Teacher Page can offer guidance and tips for solving technical problems that may arise during WebQuest implementation.

By the next steps outlined below, you can successfully integrate and deploy ready-made WebQuests.

a) Selecting an appropriate WebQuest
✅ **Content Evaluation:** You need to make sure that the content of the WebQuest is appropriate for the age / grade level / and interests of your students;
✅ **Educational Objectives:** Ensure that the WebQuest helps meet specific educational objectives and professional needs within your curriculum;
✅ **Resource Quality:** Review the resources WebQuest provides to ensure they are reliable and up-to-date.

b Integration Planning
✅ **Curriculum adaptation**: If necessary, adapt tasks or resources to meet the needs of your students;
✅ **Timeframe:** Determine how long the WebQuest will take to complete within the learning process;
✅ **Group work:** Consider working in small groups to encourage collaboration between students.

c) Preparation of Materials
✅ **Technical Preparation:** Ensure that all technical resources, internet and software required for the WebQuest are available and functioning properly.
✅ **Tips for teachers**: In the Teacher Page you will find tips and recommendations for the preparation and implementation of the task. Suggestions for how to present the WebQuest to students, facilitate the learning process, and integrate the activity into the broader curriculum. In some of the WebQuests, there are even strategies for differentiating instruction to accommodate the different needs of learners.
✅ **Student Instructions**: Prepare clear and precise instructions for your students to navigate the WebQuest on their own.

d) Running the WebQuest
✅ Introduction: Begin with an introduction that explains the goals and objectives of the WebQuest.
✅ Observation: Observe the students during their work and help them if needed;
✅ Interactivity and Feedback: Provide opportunity for interaction and provide timely feedback.
✅ Troubleshooting: There may be exposed information about common problems that may occur during WebQuest and suggested solutions to help you deal with these challenges smoothly.

e) Evaluation and Reflection

☑ Evaluation of results: Measure the success of the WebQuest by evaluating the completed tasks and projects;

☑ Reflection with students: Have discussions with students about what they have learned and how they can apply their knowledge in the future;

☑ Self-Evaluation : Evaluate how the WebQuest has contributed to the learning process and consider opportunities for future improvements.

f) Sharing the Experience

☑ Sharing with colleagues: Share your observations and experiences with colleagues who can also benefit from using WebQuest in the educational process;

☑ Adapting new WebQuests: Use what you've learned to create or adapt other WebQuests that meet the specific needs of your students. You can offer to extend the learning experience beyond the WebQuest, including follow-up activities, projects, or discussions that deepen understanding or apply skills in a new context.

☑ Contact Information - Information for teachers to contact with questions, feedback or for additional support, fostering a community of practice around WebQuest.

5.0. OVERCOMING DIFFICULTIES AND POSSIBLE OBSTACLES

5.1. Computer skills

Teachers, students, facilitators, mentors, and anyone who will be delivering WebQuest training must be able to surf the Web (www). They need to know how to use search engines for information, e.g. Google; how to make an html document with a word processor or web page editor, etc. Knowledge of basic digital competency is required. It is recommended that teachers have received training at least the basic level of the European Digital Competence Framework DigComp 2.1.

5.2. Fluency in English

Most WebQuest projects and resources are written in English. Therefore, English language skills would be of great help. However, as this learning strategy has spread around the world, there are a number of resources in various other languages: Spanish, Italian, Finnish, Romanian, Polish. Modern IT technologies offer translations as you use the method, but fluency in English, even at a lower level, is advisable.

5.3. Time resources

Time resources are required, not only for the creation phase, but also for the time needed to adapt for a finished WebQuest.

Writing a WebQuest takes time, at least the first time, but is very challenging. To make the most of your efforts and increase your chances of satisfaction and success, you can do the following:

Connect WebQuest to the curriculum - for example, choose as topics for a WebQuest project some knowledge you've taught before and were never completely satisfied with their standard content;

Replace a lesson that you are not satisfied with or does not meet your requirements with a WebQuest or introduce a WebQuest into it, but not just as an extra activity, but something to enhance the lesson.

5.4. Study connection

WebQuests are designed for students and teachers. Topics should be aligned with the curricular goals and outcomes that teachers identify and assess. Developing a good WebQuest is an involved process with knowledge of classroom practice, student ability and knowledge, and use of technology tools.

It is wise to spend time creating lessons that can be tied to the curriculum that you and other teachers recognize as important topics and issues. The use of the Internet and information and communication technologies should be encouraged where it brings added value compared to standard teaching.

5.5.   Creativity and Web use

Make the most of information on the web. The Web can provide primary sources that would not normally be available or used in schools. This may cause you to be dissatisfied with the information you have found /insufficient, imprecise/, but it may also offer multiple points of view on the subject. Information on the web offers multiple perspectives on any topic.

5.6.   Difficulties in implementing WebQuest in the classroom

They are mainly related to the management of the students' learning process and the use of Internet resources. The biggest obstacle that emerges is the access to technology - the dependence on the type of web access / fast Internet access/, as well as the number of personal computers that the school has, as well as a person responsible for their maintenance in working mode.

These difficulties could be temporarily limited by the following solution:

✅ Teachers who want to introduce case-based learning activities, and are restricted from using the Internet for a period, can print out the web pages for students to use temporarily in class;

✅ If the number of computers in the classroom is limited, also maybe for other reasons, teachers can pair students, and create a modular classroom to work on their web quests. If only one computer has Internet - "rotating stations" can be made - one computer can surf the Internet, print out materials. The students whose English is not at a good level can use textbooks, library books, magazines, videotapes, CD-ROM etc.

6.0. ELEMENTS OF GOOD WebQuests

The original creator of the WebQuest, Bernie Dodge encourages continuous improvement of the WebQuest in his materials and also encourages comparing and evaluating many similar WebQuests to find better solutions for each part of the WebQuest - especially for the task, the processes, and the evaluation.

The well-designed WebQuest:
- ✅ allows students to easily get an idea of the task and the process they have to follow, as well as to easily move from one place of information - to another, in the execution of the task;
- ✅ enables students to discover information about a topic as part of a wider context or to explore a topic as an interdisciplinary problem to be solved;
- ✅ effectively uses Internet resources and data access and processing tools
- ✅ has a motivating starting point and/or desired end point that should be interesting to the student;
- ✅ fits more closely into the curriculum;
- ✅ relies on material that is appropriate for the age and ability of the students. With a successful collection of links, WebQuest can offer suitable requirements to students of different abilities;
- ✅ contains a multi-dimensional rubric to assess the skills and knowledge acquired during the learning process. Rubric dimensions may include questions about collaboration, sharing ideas, student products in the form of written materials, presentations, and more.
- ✅ it becomes useful for other teachers when there is a comprehensive Teacher Page that explains the didactic design of the learning task;
- ✅ can serve as a model for easy adaptation.

The repeated experience of some teachers designing WebQuests, as well as the research of others, has led to the identification and evaluation of several important elements that are necessary for successful WebQuest lessons:

✔ Simplicity

Often, educators tend to get too involved in using many technologies, sites, and resources. The best is the simple, doable approach that can be achieved by most educators. Good WebQuests are easy to use. Students are able to easily get the idea of the task and the process they need to follow as well as easily navigate the Internet.

✔ Design

WebQuests are run as live web sites. Attractive sites that are easy to navigate and up-to-date are essential.

✔ Visibility

The web is a visual medium, and with proper use of visuals can build a learning context. The visuals can also increase students' interest.

✔ Resources

The heart of WebQuest is the resources. Educators developing WebQuests should find excellent resources from reliable sources that have a high potential to stay online over time.

✔ Organization

Web quests should follow a certain pattern, but still need to be well organized. Activities should be clear and simply stated.

✔ Mission Element

Webquests are effective when they are actually presented more like quests than simple to-do lists. It is often better to leave some things to the students' imagination and creativity rather than being too prescriptive about products and evaluation.

7.0. CONCLUSION

The web offers many and varied WebQuests for secondary education of students, but unfortunately those related only to general education subjects - mathematics, physics, chemistry, etc. Our information, as well as the publications of teachers from vocational schools in Europe, Japan and the USA, show that there is a lack of ready-made WebQuests related to compulsory curricula of specific vocational training. Small exceptions are some professions such as construction, applied informatics, etc.

The WebQuest model is one that has great potential for teachers and educators. It is a proven, flexible model that allows for variety and collaboration, structure and imagination. WebQuest represent one of the many ways, in which we need to rethink training and the teacher education process, if we are to prepare educators to meet the challenges of the technology-rich classrooms, that will characterize education in the very near future.

To effectively implement WebQuests as a tool for developing and cultivating these skills, WebQuest best practices must parallel, illustrate, and promote these skills. It is proven - WebQuest best practices are:

- ✅ creating joint and collaborative tasks,
- ✅ invoking and encouraging critical thinking for creative problem solving and innovative ideas,
- ✅ requirement for written and oral communication within the task,
- ✅ integration and ICT skills from the beginning to the end of the task,
- ✅ effective mutual assessment aimed at the acquisition of knowledge,
- ✅ incorporating different learning styles into the task,
- ✅ promoting adaptability, creating authentic, applicable, relevant real-world tasks,
- ✅ embedding individual and global accountability and responsibility in the task.

It is imperative that we prepare our learners for the global workforce of the 21st century. Using WebQuests as a channel to achieve this is reasonable and achievable if it embodies and incorporates the suggested best practices. The future is here; our learners need to catch up and we, as educators, need to teach better in a way that meets these demands.

ANNEX 1

SAMPLE RUBRICS FOR EVALUATING PROJECT WORK

1. PROPOSALS FOR CRITERIA, WITH CHARACTERISTIC ASSESSMENTS

1.1. UNDERSTANDING THE TASK

- **Excellent (A):** The student demonstrates an accurate understanding of the task.
- **Very Good (B):** The student demonstrates a good understanding of the task.
- **Good (C):** The student understands the task but uses limited sources of information.
- **Average (D):** Student includes materials not directly related to the topic; one source is used. Information gathered is not analyzed or evaluated.
- **Poor (E):** The content of the assignment is incomprehensible to the student. Searching for information on the Internet is difficult.

1.2. ACCURACY OF THE TASK

- **Excellent (A):** Student submits work on time.
- **Very Good (B):** Student submits work several hours late.
- **Good (C):** Student turns in work 1 day late.
- **Average (D):** Student turns in work 2 days late.
- **Poor (E):** Student submits work more than 2 days late.

1.3. CONTENT AND KNOWLEDGE

- **Excellent (A):** The student provides extremely well developed and in-depth content that covers all aspects of the assigned topic.
- **Very Good (B):** The student provides well-developed content with a good understanding of the topic.
- **Good (C):** The student provides adequate content with a basic understanding of the topic.
- **Average (D):** Student provides incomplete content with some gaps in understanding of the topic.
- **Poor (E):** Content is incomplete or incorrect with significant gaps in knowledge.

1.4. ORGANIZATION AND STRUCTURE

- **Excellent (A):** The project is logically structured, information is presented coherently and effectively.
- **Very Good (B):** Good organization, with minor inconsistencies in the sequence of information.
- **Good (C):** Acceptable organization with some problems in structure and consistency.
- **Average (D):** Organization is unclear or not consistent.
- **Poor (E):** Lacks clear structure, information is fragmented and difficult to follow.

1.5. CREATIVITY AND ORIGINALITY

- **Excellent (A):** The student demonstrates original thinking and an innovative approach.
- **Very Good (B):** There are elements of creativity and originality.
- **Good (C):** Standard ideas that are appropriately presented.
- **Average (D):** Little creativity, mainly following established patterns.
- **Poor (E):** Lack of creativity, repetition of others' ideas without original contribution.

1.6. GRAPHICAL PRESENTATION.

- **Excellent (A):** Very attractive graphic presentation, adequate to the topic.
- **Very Good (B):** Attractive graphic presentation.
- **Good (C):** Acceptable graphical presentation.
- **Average (D):** Presentation is not consistent and clear.
- **Poor (E):** Poor and inadequate graphical presentation.

1.7. PRESENTATION SKILLS

- **Excellent (A):** Student uses effective communication skills, clear and persuasive presentation.
- **Very Good (B):** Good communication skills with minor errors in presentation.
- **Good (C):** Adequate communication skills but with some errors in presentation.
- **Average (D):** Inadequate communication skills, presentation not effective.
- **Poor (E):** Lacks clarity and persuasiveness, significant problems with communication skills.

1.8. COMMUNICATION SKILLS

- **Excellent (A):** The student actively collaborates with and assists classmates.
- **Very Good (B):** Good collaboration with minimal communication problems.
- **Good (C):** Basic cooperation with some problems in teamwork.
- **Average (D):** Limited cooperation, visible difficulties in teamwork.
- **Poor (E):** Lack of cooperation, teamwork is ineffective.

2. MUTUAL ASSESSMENT IN THE CLASSROOM

This is an example of how effective peer assessment can be organized and conducted in the classroom.
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2.1. Preparation and training

Setting criteria - The teacher should develop clear and specific assessment criteria for students to use. These criteria should be explained and discussed in advance with the students.

Assessment training - Provide training or demonstration on how students can assess the work of others according to the assigned criteria. Sample papers (pre-prepared or from previous classes) can be used to give students practice in assessment.

2.2. Evaluation process

Anonymity - To avoid bias, student work can be anonymised. This means that the authors' names are removed and replaced with numbers or codes.

Distribution of work - Each work is given to several students for grading to ensure objectivity and gather different opinions.

Use of rubrics - Students use pre-set rubrics to assess work - applies to large projects.

2.3. Feedback

Constructive Feedback - Students should not only provide grades, but also point out strengths of the work and areas for improvement.

Discussing the results - Once all the work has been graded, the teacher can organize a class discussion about the grading process where students can share their observations and discuss what they have learned.

2.4. Teache evaluation

Reviewing Grades - The teacher reviews the grades and feedback provided by students to ensure that they are objective and reflect the set criteria. The teacher may also correct some grades if he considers them to be unreasonably high or low.

2.5. Reflection

Self-Evaluation - Finally, students can self-assess their work using the same criteria and rubrics. This helps develop self-awareness and self-regulation.

ANNEX 2

SAMPLE CONTENT OF TEACHER PAGE

1.0. DEVELOPING A TEACHER PAGE. INTRODUCING THE KEY ELEMENTS OF THE TEACHER PAGE

The information presented in this section will assist the teacher to develop the Teacher Page tied to the task.

1.1. Introduction - Topic

The teacher should introduce and describe the origins of WebQuest (motivation, use in a specific context), and briefly describe what it is about. Describe the level and course for which the activity is intended, as well as opportunities for it to be transferred and adapted to other levels. Describe the requirements, prerequisites of the students needed to complete the project. When presenting in the classroom, remember that the purpose of the introduction is to both prepare and capture the attention of the students.

1.2. Task

The task must be described, with a clear end result of the learner's activity. Do not list the steps that students will go through to get to the end point - this is done in the next part - **The Process.**

Describe the grouping of learners to complete the task and how you have allocated roles. Clearly define the roles, and the need for the task in which you have involved all students.

After selecting the topic and task, teachers begin the actual work, outlined on the WebQuest Teacher Page, to define all of the WebQuest components. This information part will be very useful for those teachers who want to introduce this particular WebQuest, in their curriculum, without even making any adaptations and changes, as well as for those teachers who wish to develop WebQuest.

1.3. Process

You must decide and describe how you will take the following organizational actions or complete the following organizational activities for the specific WebQuest:

- Will you be introducing more than one class in this lesson?
- If students will be divided into groups, you may explain why and what criteria you have used to do so, for the information of the teachers who will be using the ready-made WebQuest you have developed.
- What is the time period for the WebQuest - a day, a week, or is it divided into parts of several periods, i.e., how many days or weeks are needed for the project?
- What is the discipline - just one standard discipline, interdisciplinary, multidisciplinary, or another type?
- How many teachers are needed to conduct a lesson with this WebQuest. Is one enough?
- Are there roles for facilitators in the classroom?
- What additional knowledge does the teacher need to conduct the lesson? Will this be easy for new teachers? Is any prior experience of working with WebQuest recommended and what - e.g. direct debates or role play?

If you have any problems or obstacles that you expect to occur, explain them here and say how you think they could be worked around.

Describe here:
- ☑ Are there roles for facilitators or classroom help.
- ☑ Do you need to coordinate with a teacher from another school or with a partner in the students' professional practices or another person?
- ☑ Is a visit or field trip planned as part of the lesson?

If the WebQuest you designed is large and not easy, for the facilitator included in the training who oversees and guides the discussions, make a link from the teacher's page that will contain a printable script for the facilitator to follow.

1.4. Resources

Describe what is needed to present this lesson.
- Email accounts set up for all students; availability of specific software /if needed /- how many copies; availability of specific hardware /if needed- what type and how many; specific reference materials for classroom or library;
- Video or audio materials;
- Links to Internet resources;
- URLs to websites on the topic;
- A set of textbooks and books.

If the lesson requires an extended need for specific websites, it is recommended that they be listed, described, and linked to here on this page.

A detailed description of the process and resources will help teachers who will be using the finished WebQuest to see how your lesson flows and how they can adapt it / if necessary / for their own use, so the more detail and attention you put into this section the better for everyone.

1.5. Evaluation

How will you know that this lesson was successful?

-Describe the products or performances from the students that you will observe and how they will be evaluated.
-Describe the type of evaluation you used - group, individual, combined.

Describe the evaluation criteria. For convenience, you can use the sample evaluation rubrics set out in **Annex 1**. Describe what you have chosen and used and enter it on the Teacher Page here so that it can be used by other teachers.

Describe who did the evaluation - the teacher, student self-assessment or peer evaluation

1.6. Publishing the WebQuest

The WebQuest is ready to be published, after which it will become available to other users , by posting it on a website, on a blog or on a website with a blog - a matter of your choice. Many opportunities and technologies are available to make the most of the Internet in educational activities.