WEBQUESTS AS A TOOL
FOR ENHANCING ACTIVE ENGAGEMENT, THINKING SKILLS
AND CROSS-CURRICULAR LINKS

Stanislava Pavlíková
*Ivana Pekařová

Technical University of Liberec
Faculty of Economics
Studentská 2, 461 17, Liberec 1, Czech Republic
stanislava.pavlikova@tul.cz
* Technical University of Liberec
Faculty of Economics
Studentská 2, 461 17, Liberec 1, Czech Republic
ivana.pekarova@email.cz

Abstract

This contribution examines the role of webquests in undergraduate study programmes. When working with webquests, students develop different types of intelligence: intrapersonal, interpersonal, linguistic, logical-mathematical intelligence. They are encouraged to merge their isolated bodies of knowledge gained in discrete disciplines. Students are actively engaged in constructing their knowledge. This modern approach to teaching encourages students to research a vast amount of varied information and helps them to organize problem-solving processes, which adds another layer to the learning process. It transfers the learning situation into a more stimulating and memorable event. By structuring it carefully and leading students from a simple task to more sophisticated ones, teachers offer an enjoyable and meaningful learning adventure that students will also appreciate and utilise in their career.

Introduction

In the 21st century the majority of young people and children are computer literate. They are keen on using social networking and handle a wide range of tools provided by Web2. They are familiar with software applications such as SlideShare, Wiki, PowerPoint and create their own web -pages and blogs. Why not take advantage of these features and adapt them for use in the educational process? Similar thoughts prompted us to embed various elements of computer-assisted learning into our English language study programmes for both undergraduate and postgraduate students at the Faculty of Economics of the Technical University in Liberec. After positive feedback from our pilot projects and very positive learning outcomes, we decided to examine webquest (WQ) as another type of assignment in our repertoire of teaching tools. Although the model of WQs was designed by Professor Bernie Dodge [1] almost 20 years ago, this type of learning was only used at random in the Czech Republic. So there was still a potential for further research. Our main objective was to go far beyond rote learning and often disengaged learners. In contrast, we planned to fully engage learners in applying higher level thinking to authentic problems and thus to further foster the quality of teaching/learning English. Another accompanying objective was to enrich the crosscurricular links in the study programme for future economists.

1 Working with webquests

In this section the definition of a webquest will be provided; then we will proceed to explaining why they should be used, what attributes they have and what types exist. At the end of this section the advantages of webquests will be listed together with potential obstacles to overcome.

1.1 What is a webquest?

A WQ is an inquiry-oriented activity in which most or all of the information used by learners is drawn from the Web. [1] WQs 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. A WQ usually comprises of 5 stages: Introduction, Task, Process, Evaluation, and Conclusion. By providing scaffolding we guide students through the whole process and encourage them to prepare a product which helps to solve a real-life task and forces them to utilise a combination of skills and knowledge types. Students need to use critical thinking skills and seek interdisciplinary links. In doing so, they are forced to develop necessary expertise for solving real-life tasks they will be involved with in their life and work situations. In contrast to some people's belief, WQs are not equal to treasure hunts or scavenger hunts. No simple wandering through the webspace when students are completely adrift is to be interpreted as a WQ though. In the following section we will examine the reasons for using webquests and discuss advantages and disadvantages of applying this method.

1.2 Why should we use a webquest?

The Internet has turned into an incredible source of information. The tools of Web2 add a new dimension to this network and change the role of their users to become autonomous learners. The models provided by Axel Bruns [2] illustrate this change. The concept of the Internet resembles the mode of industrial production, which can be presented by three main stakeholders: a producer, a distributor, and a consumer - all linked in the added value chain. The mass-produced goods (in case of the Internet – a mass of information) should be distributed (via the providers and users) to the consumers (all users of the Internet). Producers, distributors and consumers are separate entities in the production value chain with clearly defined tasks. Later, however, producers responded better to the needs, wishes, and preferences of consumers. Market researchers started to track consumer purchasing behaviour and in this way a kind of feedback from consumers to producers is provided. Anyway, consumers are not involved directly in the production process (cf. *Fig. 1*).
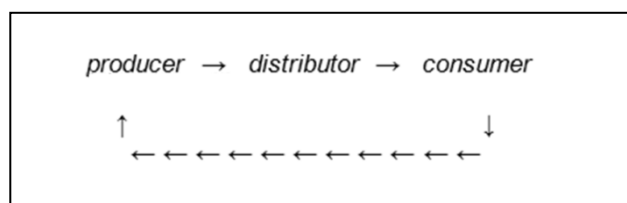

Fig. 1   Feedback from consumers to producers

As far as education is concerned, we can reduce the concept of product to information (goods and services), and in the era of social networking where the Internet is the main mass medium, the traditional distribution of roles changes significantly. The relationship between producers and consumers is no longer based on the dominant role of producers and the typical top-down structure. All users of the network can produce and distribute information; they

communicate on an equal level and, due to digital technologies, content can be shared and modified easily. "In collaborative communities the creation of shared content takes place in a networked, participatory environment which breaks down the boundaries between producers and consumers and instead enables all participants to be users as well as producers of information and knowledge." [2, p. 21). See the model of this situation in *Fig. 2*.
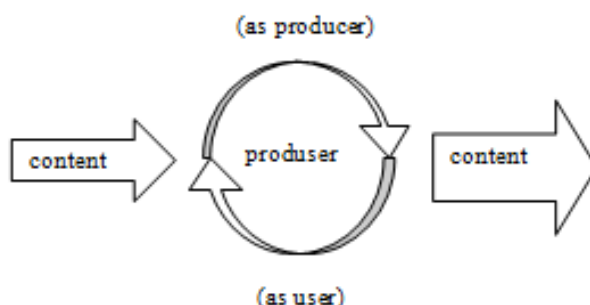

Fig. 2   The model of collaborative communities

Educators must react to the changing milieu and adapt the education process using all the new skills mastered by the younger generation. To be more specific: Let us draw on the possibility of digital technologies to produce pictures, movies and sophisticated presentations. Our students are often much more interested in making their own short spots and presenting these on the Internet than watching traditional movies. They also wait for feedback from the Internet audience and they themselves offer their opinion in different chatrooms. Educators should be aware of this new form of communication and enrich their teaching plans with activities which involve the above mentioned skills – for example, a well-constructed webquest. It is not only the changing environment that advocates the implementation of WQs. The key idea of constructionism emphasises active learning. Knowledge is not simply transferred from teachers to students, "but actively constructed by the mind of the learner. " [3, p.1]. Learners do not get ideas, they make ideas; and students are highly likely to make new ideas when they are actively engaged in cooperative activities which result in a personally meaningful product/project. Such a project based on design and invention activities represents a challenge where learners become intellectually engaged and work on forming new relationships with the knowledge, and making connections with knowledge approached from different perspectives. It is the building of personal connections that is a key part of learning through WQs.

1.3 Attributes and types of webquests

As the history of webquests is considerably long, teachers can search the web to find numerous examples of use (cf., for example [1]). However, the quality of developed webquests differs and educators need to thoroughly select activities. A good webquest usually follows five guiding principles:

A well-designed WQ is an Internet-powered learning experience during which teachers become genuine facilitators of students´ learning, and students are engaged in dependable learning-centred practice grounded on research-based theories.

A webquest is constructed alongside a practical and interesting task that is ideally complementary to what citizens and workers are truly engaged in. This makes it very motivating for students to be involved. The final outcome then is to be that students independently achieve a more sophisticated understanding of problem-solving.

Webquests require higher order thinking skills, not simply summarizing. These include, for example, synthesis, analysis, problem-solving, creativity and evaluation.

It demands good use of the web. Without having the web at the heart of the activity, it can be interpreted only as an alternative of a simple treasure hunt. Inviting learners to simply study web sites and make a presentation about them is also a valuable task, but not a genuine WQ. It would be of questionable educational benefit if learners were encouraged to surf the net without a clear task in mind.

It is a structured activity containing the five usual parts and it is set within a time limit. The basic types of webquests are short-term and long-term WQs. The goal of a short-term WQ is knowledge acquisition and integration, while in a long-term WQ learners analyze, extend, refine and transform knowledge into something that is understandable by others. It can be undertaken by individual students or it can be designed as a group activity. When solved in groups, cooperation is needed and the result is dependent on partial results of its members. This interaction supports the development of students' ability to take another person's point of view and share ideas. Each member of the group takes different roles in the learning process. They act as collaborators, coaches, audience and co-constructors.

1.4 Advantages of webquests and potential obstacles to overcome

The major advantages of webquests for students have already been mentioned above. Let us add that educators´ attempts to motivate students are furthered by the use of probing, open-ended questions. Students find the frequently unusual task worth learning as they work with up-to-date materials which would otherwise not be accessible for them.

 WQs do not have to be limited to the use of the Internet, but other sources such as books or magazines can be included. Another valuable source can also be a person, as the Internet is not just a network of computers, but also of people. There are possibilities to ask a question at ask-an-expert sites, blogs, and authors of videos provided by YouTube. The high expectations of the task focus the students´ attention on outcomes, promote effective and collaborative work and improve their research skills. This means that learners succeed only if they cooperate. They struggle with an authentic task and they complete it successfully while each individual plays an important role in the process. Thus, interpersonal skills are taught and responsibility is experienced.

Studying WQs from the educator's point of view, we appreciate that this tool has been utilised by many teachers and teaching experts; that is why a novice WQ designer can utilise the results and examples available online. One can find a considerable amount of advice for constructing WQs.

Needles to say though that WQs are rather complex and we need to be prepared to face some potential obstacles. First of all, access to computers and to reasonably fast connections to the Internet are crucial. Second, both educators and students must be on a reasonably high level of computer literacy. The sites students search to complete the task should be challenging, up-to-date, accurate and comprehensible. To find and evaluate such sites educators ought to master a search engine by using advanced search techniques. When designing tasks teachers should very carefully select which hyperlinks they introduce as some of these can be broken or become obsolete very fast.

Not surprisingly, the material available on the Internet may be predominantly of American English origin, and teachers who want to keep a balance between more points of view language sources and culture will have to spend time on the careful selection of sources of information to be employed. Moreover, for some of the sources both educators and students may need to register, which might make the task less practical.

2   Webquests contribute to the development of higher order thinking skills

Reflections on our empirical study prove that the less challenging way for educators to start practising this type of a project with students is from introducing the existing templates available on the Internet prior to designing such tasks on their own. We have followed this path to become sufficiently self-confident to be able to introduce our own WQs assignments to classes of undergraduate students. In the following paragraphs we provide some samples to illustrate our approach to webquests.

2.1   Introduction

In the Introduction stage educators set the task and provide basic background information. At the beginning of the enquiry stage students need to articulate personal perspectives about individual issues, ask relevant questions, define problems, practise anticipating, plan and research the topic.

INTRODUCTION

Nowadays in the era of **tough competition** it is really difficult to win a part of the market to place **a new product** there.

The product must be somehow better than the existing assortment and before its real production starts, the future producer needs detailed **information** about

- the current market, the **rival products**
- the possible **future consumers** to define the focus group of customers

Fortunately, the Internet makes our lives easier and we can search the web to find most of the needed information there.

Fig. 3   Example of an Introduction

2.2   Task and information sources

In the following stage a concrete task is defined.

TASK

Your task will be to **design a new Czech product** which will be able to compete with the existing products on the **market in the UK**. You will **search the Internet** to gather as much information about existing products as possible to be able to differentiate your product. **Each member** of the group will **describe one produc**t available on the market. In your group you will decide which features could be improved or adapted somehow to design a better product.

Then you will **prepare a presentation**   where you will inform your classmates about your findings and your product.

Fig. 4   Example of a Task

After the first two stages students start a process of acquiring information to develop a body of knowledge. These two sections are crucial as they provide a common foundation of knowledge before developing expertise from one single perspective.

In the Background section teachers can differentiate content and process in such a way that all students can master required knowledge acquisition and follow to pursue different levels in affective or critical thinking domains. Then the structure of the WQ proceeds to a set of Information sources needed to complete the task.

In the same section often the roles of individual team members are defined.

RESOURCES

First you should look into the offer of some big supermarkets of products sold online:

http://www.waitrose.com/index.aspx
http://www.asda.co.uk/
http://www.freshnfine.com/
http://www.safeway.com/IFL/Grocery/Home
http://www.tesco.com/
http://www.booths.co.uk/
http://www.sainsburys.co.uk/sol/index.jsp

For shopping online in the UK:
http://www.british-shopping.com/

And do some hands-on research in the shops. You can touch original British products in the shops even in the Czech Republic (e.g. Tesco, Marks and Spencer, Robertson, Debenhams).

Fig. 5   Example of a section on Resources

The sources can be of great variety, ranging from web documents to contacting experts via email, to databases and videoconferences, etc. Embedding them in the structure of the WQ makes the whole task more doable and enhances motivation of students to accomplish the given target.

In the next stage educators describe the process the students need to go through by breaking it into small manageable steps.

2.3 Process breakdown

PROCESS

There are four steps you should take to finish the task successfully:

1. **Choose one kind of product** (e.g. a packet of biscuits, a box of chocolate, a lipstick, or any other) you will be designing. This decision should be made in a discussion in the class. Take into account local possibilities (raw materials, workforce, farming, local industry, etc.)

2. **Each member of the group will look for information** on one specific product/ set of products which represents a future competitor of your new product.

MARKS&SPENCER

You will search the Internet, but some research in the shops is possible as well (   ). Your description of the product should include the shape, dimensions, packaging, main features, the price, the place where the product can be bought. Take into account that the first impression is important. So, the design of packaging should seduce the customer, be unique and differentiated. Organize your findings into a presentation to be able to inform the other members of the group.

3. **Discussion in class**. Each member of the group gives a short presentation on the product and in the group you will design a new product. Prepare some rough data for a presentation you will prepare through a wiki in Moodle. In your presentation you will not only describe your product but you will also explain how your product is better than that of your competitors.

4. **Tell your classmates** about your new product in a form of a oral presentation.

Fig. 6   Example of a section on Process breakdown

Students start with information processing. They have to locate and collect information, classify it, compare, contrast, identify and articulate similarities and differences, and then classify and group it in relevant sequences and definable categories on the basis of their attributes. The whole process engages students´ creativity. They look for innovative outcomes, generate and extend ideas, suggest hypotheses, and apply their imagination.

2.4 Evaluation and organisation of the information

In the section providing guidance on evaluation and organization of the information, the notes can take the form of guiding questions, or suggestions for organizational frameworks such as timelines, concept maps, or cause-and-effect diagrams as described by [4] [5] and [6]. Students will be guided to use various types of graphic organizers, such as flow charts, Venn diagrams, tree charts, KWL diagrams, etc. This stage is based on reasoning and evaluation skills. Students proceed from developing criteria, building up confidence in their own judgement, to final evaluating of information.

Moreover, the reasoning skills are addressed, from analysing relationships and themes, inferring unknown generalizations or principles from observations or analyses. Students deduct unstated consequences, conclusions and conditions from given principles and generalisations. During the whole process they must analyse general patterns of information, construct a system of proof for their assertions and explain the evidence on which their conclusions are based. Inevitably, they have to identify and formulate errors in their own and others´ thinking.

EVALUATION

	Not there 1	Needs work 2	Good 3	Great! 4	Score
Internet Research	Very little evidence of research on the topic.	Some research was done, but not enough.	Description of main characteristics, good overview of the topic.	Area was well researched and considered. Good display of data.	

Fig. 7   Example of the section Evaluation

2.5 Conclusion of the WQ

Here the WQ is completed and the accomplished learning process is summed up. It may also provide guidelines for further extension of experience.

3   Webquests enhance crosscurricular links

We claim that skills taught in isolation do little more than prepare students for tests of isolated skills. In the WQs we utilised, there were various types of study disciplines overlapping.

3.1 Linguistic skills

Understandably, as teachers of English we primarily focused on developing linguistic skills. Obviously, English grammar and vocabulary were practised; in the written product students had to practise spelling, cohesion and stylistics to be able to prepare a proper piece of written text in correspondence with its purpose, genre, and type of audience. In the spoken presentation they practised pronunciation, but also all the aspects of delivering a presentation.

3.2 Soft skills

These communication skills can be transferred to other languages on demand. They go hand in hand with the development of soft ski3lls in general, such as interpersonal, team building, time management, leadership, decision making, problem solving, negotiation skills, just to

name a few. Succeeding in gaining this competence, graduates have improved their quality of life in general, increase their employability and ensure their professional survival.

3.3 Presentation and academic skills

University graduates and future middle and top managers of companies are expected to be able to utilise good presentation skills. These are to be also developed during the WQ process. Students practise using appropriate communication techniques, paralinguistic features and working with various visual aids. In the written form they master fundamental stylistics and text cohesion principles of academic discourse.

Working continuously with various sources of information, distilling the main patterns and identifying the underlying relationships are crucial skills necessary for any academic research project students are to be engaged in at the end of their studies. Only with continuous guidance introduced from the very beginning of the course can we expect students to succeed in the research project of a wider scope to be completed at the end of the course.

3.4 IT skills

As stated above, without the technology-enhanced feature, the task would not be a WQ. That is why the IT skills and digital literacy were necessary to be involved. This type of literacy refers to the comfort level people have with using computer programmes. Addressing the issue of a potential digital or general knowledge divide is a contribution of educators to take care of in order to develop skills and competence our graduates will need to effectively participate as digital citizens.

Dealing with authentic tasks focused on issues students will meet in their careers and calls upon their expertise gained in the other components of the course, such as accounting, marketing, finance management etc. A real-life task provides a unique opportunity to focus on links between often isolated bits of learning reached in individual subjects.

Conclusion

When working with webquests in our classes we have managed to utilise the principles of motivation theories. Students formulated questions and when they received partial answers to them, they reformulated them. This has contributed to students´ active learning. Sharing the learning process and the end product with others meant that the full effects of constructionist learning took root. Different roles assigned to individual students helped to utilise learner-centred psychological principles and to differentiate learning. Students utilised a wide scope of thinking skills of the higher order and overt metacognitive development materialised. A synthesis of knowledge and learning achieved in various subjects in the study course was dictated by the nature of the tasks, which terminated with a practical end product for which authentic assessment was provided.

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Ing. Stanislava Pavlíková, PhDr. Ivana Pekařová, M.A.

WEBQUESTS K PODPOŘE AKTIVNÍ ÚČASTI STUDENTA NA VÝUCE, ROZVOJE MYŠLENÍ A MEZIPŘEDMĚTOVÝCH VAZEB

Příspěvek zkoumá roli webquests v pregraduálním vzdělávání, nastiňuje jejich strukturování a možné problémy. Řešení problému kultivuje různé inteligence: intrapersonální, interpersonální, lingvistickou, matematickou, prostorovou a existenční. Studenti jsou vedeni k propojování znalostí z jednotlivých studijních disciplín. Studenti se aktivně zapojují do spoluvytváření vědomostí. Tento moderní přístup k výuce povzbuzuje studenty k prvním výzkumným pokusům, k zacházení s informacemi a uspořádávání výsledků. Výuková situace je stimulující a lépe zapamatovatelná. Strukturováním a vedením studenta od snazšího problému k složitějšímu učitelé nabízejí smysluplné vzdělávací dobrodružství, které přinese výsledky, jež student ocení a využije ve své budoucí profesi.

WEBQUESTS ZUR UNTERSTÜTZUNG DER AKTIVEN TEILNAHME DES STUDENTEN AM UNTERRICHT; DIE ENTFALTUNG DES DENKENS UND DIE INTERDISZIPLINÄNREN KONTAKTE

Dieser Beitrag erforscht die Rolle von Webquests im prägradualen Ausbildungsprogramm. Er skizziert die grundlegenden Instruktionen für die Strukturierung solcher Aktivitäten und zeigt mögliche Probleme. Die Studenten entwickeln eine intra- und interpersonale sowie eine linguistische und mathematische Intelligenz. Sie werden gezielt dazu geführt, oftmals isolierte Gruppen von in einzelnen Disziplinen des Studienprogramms erlangten Kenntnissen miteinander zu verknüpfen. Studenten lernen mit einer riesigen Menge an im Internet zugänglichen Informationen umzugehen und bei der Lösung des gegebenen Problems erlangte Teillösungen zu ordnen. Durch eine sorgfältig strukturierte Lösung und der Führung des Studenten vom leichteren zum komplizierteren Problem bieten die Lehrer ein interessantes und sinnvolles Bildungsabenteuer, das Ergebnisse bringt, die der Student würdigt und in seinem zukünftigen Beruf anwendet.

WEBQUEST JAKO NARZĘDZIE WSPIERAJĄCE AKTYWNĄ PARTYCYPACJĘ STUDENTA NA LEKCJACH, ROZWÓJ MYŚLENIA ORAZ MIĘDZYPRZEDMIOTOWE POWIĄZANIA

Niniejsza wkładka bada rolę WebQuestów w programach wczesnego nauczania przyszłych ekonomów. Daje podstawowe wytyczne dotyczące strukturowania owych działań oraz wyszczególnia możliwe problemy. Ewaluacja procesów myślenia ukazuje, że studenci muszą myśleć na wyższym poziomie. Studenci rozwijają intrapersonalną i interpersonalną inteligencję, lingwistyczną i matematyczną inteligencję. Studenci są celowo orientowani na izolowane dziedziny wiedzy zdobytej przy poszczególnych dyscyplinach programu nauczania. Studenci sie uczą radzić sobie z ogromną ilością informacji włącznie z organizacją częściowych rezultatów. Dzięki dokładnej strukturze dążenia do rezultatu oraz prowadzeniu studenta od łatwiejszego problemu do cięższego oferują nauczyciele ciekawą i sensowną przygodę edukacyjną, która przyniesie wyniki, które student będzie w stanie docenić oraz wykorzysta je w swojej przyszłej profesji.