Chapter 9
VideoClipQuests as a New Setup for Learning

Axel M. Blessing and Ulrich Kortenkamp

Abstract VideoClipQuests (VCQs) are a teaching–learning approach focused on the learners' self-activity while information is collected by searching the Internet, similar to the well-established concept of WebQuests. VCQs can be one element to sensibly integrate the possibilities and advantages of the virtual world into teaching. Some of the advantages of VCQs are that they allow the teachers great latitude, they can be created very easily, they are compatible with a multitude of learning platforms, and they can be used both in e-learning and traditional lectures. Moreover, they appear to inherently motivate the learners and thus become highly accepted. In this chapter, we present the concept of a VCQ as well as first evaluation results of their influence in learning.

9.1 Introduction

“When all you have is a hammer, everything looks like a nail!” This saying, describing the lack of apt tools and the resulting use of inapt ones, is superbly adequate to picture the present situation of many e-learning courses. Already 8 years ago, Rolf Schulmeister (2001) diagnosed that much educational material on the Internet reveals a lack of didactical imagination of the authors, and this can still be observed.¹

Today’s situation may be attributed – at least partially – to the fact that with the emergence of learning management systems, more and more teachers and lecturers start to create their own courses. However, those instructors never obtained training on e-teaching during their studies. On the one hand, it is obvious that the development of online material cannot mean to abandon all educational theory. On the other

²This article is based on the homonymous paper presented at IADIS International Conference on CELDA 2008 (Blessing & Kortenkamp, 2008).

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hand, applying the existing concepts to e-learning literally seems to lead to tedious “scrolling deserts” where learners have to wade through endless pages of screen text. What’s more, we often find stock images as “multimedia enhancements” that correspond to the rest like a parsley decoration to a Wiener Schnitzel and rather hamper than support learning (Mayer, 2001).

The question is why are even contemporary e-learning courses mostly text based? Also, as course creators don’t seem to be acting in bad faith, why don’t they use more appropriate concepts? Either there are no such concepts or the instructors don’t know them or they are not willing to use them, probably because it is too laborious.

Thus, if one of the main problems in developing good e-learning courses is the lack of didactical creativity, or the use of “old school” didactics when not appropriate, then hassle-free concepts need to be created and disseminated. This was the starting point from which we developed VCQs.

9.2 Theoretical Frame Work

9.2.1 Requirements

While investigating how we could leverage the power of today’s networked, high-speed, and rich-media capable computers, we asked several teaching experts about their requirements for such a new pattern. They all agreed on the following essentials:

- Any new method must be easy to use for both the teacher and the learner.
- It should not be restricted to a single subject or topic.
- It should support the learning management system of choice.
- There has to be a real benefit, i.e., the learning process has to be supported properly.
- It should not replace traditional methods, but add to them.
- There should be a way to share such material between colleagues.
- It should use the possibilities of the computer beyond showing text and images.

In conclusion, to be successful, such a concept must meet several demands: it must facilitate the learning process; teachers must be able to apply it to a multitude of subjects; they must be able to pursue different learning targets; the creation of material must be as easy as possible; and the concept should motivate students and hence support meaningful learning.

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2We asked both teachers in schools and higher education, as well as students.
9.2.2 Basic Concept

Using the requirements presented in Section 9.2.1, we developed a pattern that is designed specifically for introducing a new topic or concept. It should raise the learners’ interest and motivation, thereby creating an environment that is suitable for further learning.

VCQs are thus meant to “set the stage”. They are meant as a new building block for the design of online courses, but as we see in the next sections they are at least as suitable for blended learning or even traditional teaching with media support as they are for e-learning.

9.2.2.1 Creating a VCQ

Basically, a VCQ consists of a video clip embedded into a web page and one or more tasks or questions that are in one way or another related to the video. It is of vital importance – and so to speak the trick behind VCQs – that the fundamental terms of the subject dealt with do not appear in the task. In other words, the questions and assignments must be verbalized in such a way that they cannot be completely understood without watching the video – an approach that we call “mask the task”. The following example illustrates this leading thought (Fig. 9.1).

![Fig. 9.1 The concept “mask the task” within a VCQ](image)

Only if the students are aware that the video clip shows the trailer of the movie “The Patriot”, will they be able to answer the question accurately. Hence, after watching the video clip they can tell that it is about the American Revolutionary
War and the important dates are, e.g., the Boston Tea Party (December 16, 1773), the Declaration of Independence (July 4, 1776), and the signing of the Treaty of Paris (September 3, 1783).

9.2.2.2 Solving a VCQ

To deal with a VCQ, the student has to accomplish two major tasks that can be designated *Rewording and Understanding* and *Gathering Information and Solving*.

The students’ first major task is to rephrase the assignment so that it becomes solvable. For this reason, they have to watch the video and thus extract cues and hints from the audiovisual information provided. In the example above, it is relatively obvious (but this doesn’t always have to be the case) that the video clip is about the American Revolutionary War, even if a student didn’t see the related movie as a whole. In the end, the learners will be able to rephrase the question to something like “What do you consider the three most important dates in the American Revolutionary War?” Of course, they should now be able to understand the question and have an idea how to find an answer.

Subsequently, the students’ second major task is to gather the information that is needed and finally answer the question. For this step, common Internet tools like Google or Wikipedia will usually be used.

On closer examination, the two major tasks can be divided into several partial tasks. Rewording and Understanding can be split into (a) read the “masked” task, (b) watch the video clip and extract the necessary cue, and (c) rephrase the task. Gathering Information and Solving can be divided into (a) find the relevant information and (b) formulate an answer. As we will see in Sections 9.2.6 and 9.4, each of the five partial tasks can be used to adjust the total difficulty and complexity of the VCQ, and thus to adapt it to the learners’ prerequisites.

9.2.3 Motivation and Learning

At first sight, the idea of formulating a task or question so that it cannot be understood may seem odd. But when we have a closer look at psychological issues, there is good reason for this modus operandi: motivation.

Motivation can be defined as a current state of arousal that determines the direction, persistence, and intensity of a person’s behavior (Heckhausen, 2003). Especially in learning processes, motivation is of high importance, as it initiates and supports learning (Winkel, Petermann, & Petermann, 2006). Thus, the crucial question in almost every learning setting is how to motivate the learners.

One possibility of motivating the learners is to present them a barrier or an insolvable task, as both are means of motivation (Zimbardo, 1995). For VCQs this means that to overcome the barrier, in order to fully understand the assignment and so change the insolvable task into a solvable one, the learner is virtually “forced” to watch the video. As a person’s motivation is related to essential aspects of the learning process like learning rate or resistance to extinction (Zimbardo), VCQs can
be presumed to facilitate learning, a matter for which we already have statistical evidence (see Evaluation).

Moreover, video clips belong to the real life of adolescents and young adults. This fact allows us to deduce a supplementary motivational potential and additionally answers one of the five key questions of Klafki’s (1962) Educational Analysis: What particular cases allow for a structure of the matter that is interesting, worth questioning, accessible, comprehensible, and clear for the students?

### 9.2.4 Emotion and Learning

Not only motivation, but also emotion is intimately connected with learning success (Spitzer, 2002). Due to a lacking uniformity in science, the least common denominator is as follows: Emotions can either be strong or weak, and they can either be positive or negative. In general, we can remember things better when we have been emotionally involved with them. It is primarily irrelevant if the matter was good (a first kiss) or bad (a car accident) and, in principle, this applies to instruction too.

As negative emotions like fear or distress don’t have a supportive impact on problem-oriented learning and are rather an undesired adverse reaction, they are not mentioned here. However, the beneficial effect of positive emotions\(^3\) – in contrast to neutral or negative emotions – was depicted in the following experiment: Test persons were first shown pictures to evoke positive, neutral, or negative emotions and right afterward a neutral word, which they were supposed to remember. It could be shown that the words they were positively affected by were remembered best (Spitzer, 2002).

Hence, learning is more effective when combined with positive emotions, but the common instructional approaches that are based on the mere presentation of facts and data are highly unlikely to provoke them. Any person is more affected or driven by emotions, stories, and particularly other persons. As most video clips are in fact stories, include other persons, and/or are supposed to evoke emotions, this can consequently be regarded as another beneficial factor of VCQs, although this has not yet been statistically confirmed.

### 9.2.5 Ease of Creation

Except for the rule “mask the task”, VCQs allow any latitude. The possibilities are manifold and mainly limited by the video clips that are available, but as video hosting Web sites become more and more popular and even specific educational programs exist, finding a suitable video clip isn’t difficult. YouTube (www.youtube.com), TeacherTube (www.teachtube.com), Curriki

\(^3\)As a side note, it is important to realise that “positive” doesn’t only comprise emotions like delight or pleasure. It is rather an emotional involvement which is not negative, like Cahill et al. (1994) could show.
(www.curriki.org), and Apple iTunes U (www.apple.com/itunesu) are some of the most prominent examples. Most Web sites provide code snippets which can be used to embed the video into a web page using copy and paste.

The complete process of creating a VCQ is as follows. As an e-learning environment, we used Moodle (http://moodle.org), a free, open source learning management system.

1. Find a suitable video clip and copy the relevant code snippet to the clip board. Since it is possible to embed video clips in Moodle, we use the accordant code for embedding (Fig. 9.2).

2. In the Moodle course, turn on editing and add a web page as a new resource in the designated week/topic (Fig. 9.3).

3. In the new web page, enter a name and summary, then toggle the editor to the HTML mode by using the “<>” button and paste the code snippet into the HTML source code (Fig. 9.4).

4. Toggle back to the WYSIWYG mode and specify the task or question (Fig. 9.5), then save your web page.

VCQs are independent of specific software. If VCQs are to be conducted within an e-learning course, any learning management system can be used for embedding or linking videos, presenting texts, and assessing students via quizzes or uploads. These are all basic features that any learning platform should include.
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9.2.6 Learning Targets, Tasks, and Assessments

Due to the freedom of action that VCQs permit, learning targets based on learning theories of almost any kind are supported, as there is a strong relationship between learning theories on the one hand, and learning targets, assignments, and assessments on the other. Hence, depending on the topic, on the video material available, and on the task, various matters with various objectives can be presented to various audiences.

Because learning success is dependent on many factors on the learners side, like previous knowledge, intelligence, giftedness, or learning strategies (Leutner, 2006), it is important that the learning – or teaching – process is matched to the learners
prerequisites. As mentioned previously, the learners handling of a VCQ consists of two major tasks which can be divided into several partial tasks. This fragmentation is quite helpful when having a closer look at the possibilities VCQs offer in terms of the distinction between low and high achievers.

For low achievers, the Rewording and Understanding and the Gathering of Information and Solving mustn’t be too difficult. We will exemplify this with the “Maid of Orleans” VCQ, depicted in Figs. 9.6 and 9.7.

The first partial task of Rewording and Understanding is to read the “masked” task. Therefore, it mustn’t be too complex or confusing. As you can see in Fig. 9.6, the task is formulated unambiguously. Second, the learner has to watch the video clip and extract the necessary cue. Please note that it is very easy to extract the important hint from the video clip because the song title is displayed. So the third step is to rephrase the task, which will lead to “When and where did the Maid of Orleans die?”

Gathering Information and Solving consists initially in finding the relevant information. In the case of low achievers, this should be subdivided into (a) finding...
a web resource that contains the answer and (b) finding the answer within the web page. The teacher can help students to master (a) by giving a hint to use Wikipedia as a web resource. When entering the search term “Maid of Orleans” in Wikipedia, the student is confronted with a disambiguation page offering four options: an unfinished poem by Voltaire, a historical tragedy by Schiller, an opera by Tchaikovsky, and a single by Orchestral Manoeuvres in the Dark (OMD). Even if the learner didn’t recognize that the video clip is by OMD, this doesn’t matter as each of the four pages contains a hyperlink to the page “Joan of Arc” (“An epic and scandalous satire concerning the life of the not yet canonized Joan of Arc (‘the Maid of Orleans’) [...]”; “The play loosely follows the life of Joan of Arc”; “[...] based on several sources: [...] Jules Barbier’s Jeanne d’Arc (Joan of Arc) [...]”; and “Both songs are about the French heroine Joan of Arc”). So once the learners are on the respective Wikipedia page, they only have to look for the place and date of Joan of Arc’s death, both to be found in the section “Execution” (“Eyewitnesses described the scene of the execution by burning on 30 May 1431. Tied to a tall pillar in the Vieux-Marche in Rouen, she asked two of the clergy, Fr Martin Ladvenu and Fr Isambart de la Pierre, to hold a crucifix before her”).

In a final step, the students have to formulate an answer. It is of course easier to answer a closed question, and in an e-learning environment this means a multiple-choice test (Fig. 9.7). There are many advantages and disadvantages of multiple-choice tests on computers, which don’t need to be discussed here in detail. But one of the advantages is that the students receive immediate feedback as soon as they have submitted the test, which again is conducive to learning (Musch, 1999).

High achievers can be faced with tougher tasks. Assignments don’t have to be made of closed questions and hints don’t need to be easy to extract. Quite the contrary, the more challenging the assignment, the better the learning success (Schnotz & Kürschner, 2007).

As an example, let’s use the subject “School Rampages” that can be introduced with The Boomtown Rats’ video “I don’t like Mondays”, followed by tasks like:

- By what incident was the song inspired?
- Where and when did the incident that the song is about happen?
- Find at least three more examples of similar incidents.
- Where did such incidents happen in your vicinity?
- What reasons are given to explain why people act like this?
- Give your opinion, what causes such incidents.
- Etc.

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It is quite obvious that all five partial tasks are more demanding, especially extracting the cue, finding the relevant information, and formulating the answers.

In order to answer the questions or fulfill the tasks, the learners’ first mission is to find out what the song is about. This can be done by using the chorus “I don’t like Mondays” as a search term. Finally, they will find out that the song is about the 16-year-old Brenda Ann Spencer, who fired a gun at people in a school playground across the street from her home, killed two adults and injured eight children and one police officer. With this information, the learners can rephrase the questions and tasks and solve them.

Tasks like the ones mentioned here can, in Moodle, be realized with the assessment activity, where students can upload a file. Such a task is naturally more ambitious than a quiz and therefore more appropriate for this audience. The little drawback on the side of the teachers is that they have to revise the assignments manually, while quizzes are corrected automatically.

We will give more examples and variations in Section 9.4 and further possibilities, but the presentation of our evaluation outcomes first.

### 9.3 Evaluation

We used VCQs in the e-learning part “Internet search engines” of a blended learning course called “Basics in Information Technology” at our university. The learning target thus being the sensible handling of search engines, i.e., getting high-quality search results as fast as possible.

A feedback module in the e-learning course served to evaluate the method. It contained four statements that could be rated by a five-point Likert scale from “strongly disagree”, “disagree”, “neither agree nor disagree”, and “agree” to “strongly agree”. Forty-four students participated in the survey. The statements and ratings are shown in Table 9.1. The first value gives the number of students that selected this answer and the second gives the percentage of this answer with respect to the sum of all answers.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>VideoClipQuests are fun</td>
<td>3</td>
<td>3</td>
<td>11</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>6.8%</td>
<td>6.8%</td>
<td>25.0%</td>
<td>34.1%</td>
<td>27.3%</td>
</tr>
<tr>
<td>VideoClipQuests are motivating</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>21</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>4.5%</td>
<td>9.1%</td>
<td>11.4%</td>
<td>47.7%</td>
<td>27.3%</td>
</tr>
<tr>
<td>Using VideoClipQuests, searching the Internet can be well practiced</td>
<td>0</td>
<td>4</td>
<td>13</td>
<td>16</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>0.0%</td>
<td>9.1%</td>
<td>29.5%</td>
<td>36.4%</td>
<td>25.0%</td>
</tr>
<tr>
<td>There should be at least one more VideoClipQuest in the progression of the course</td>
<td>4</td>
<td>3</td>
<td>6</td>
<td>17</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>9.1%</td>
<td>6.8%</td>
<td>13.6%</td>
<td>38.6%</td>
<td>31.8%</td>
</tr>
</tbody>
</table>
It can be clearly seen that a majority of students agreed or even strongly agreed to all of the four statements. This fact becomes even more convincing when we oppose the two combined disagree columns to the two consolidated agree columns (while omitting the neither-nor column):

- 61.4% vs. 13.6% of the students hold that VCQs are fun.
- 75.0% vs. 13.6% find them motivating.
- 61.4% vs. 9.1% agree that one can exercise Internet searches with VCQs.
- 70.4% vs. 15.9% would like to carry out another VCQ in the progression of the course.

The means and standard deviations of the items substantiate these findings (Table 9.2; “strongly agree” = 5, “strongly disagree” = 1).

<table>
<thead>
<tr>
<th>Statement</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>VideoClipQuests are fun.</td>
<td>3.68</td>
<td>1.16</td>
</tr>
<tr>
<td>VideoClipQuests are motivating.</td>
<td>3.84</td>
<td>1.08</td>
</tr>
<tr>
<td>Using VideoClipQuests, searching the Internet can be...</td>
<td>3.77</td>
<td>0.94</td>
</tr>
<tr>
<td>There should be at least one more VideoClipQuest ...</td>
<td>3.77</td>
<td>1.24</td>
</tr>
</tbody>
</table>

In brief, it can be said that a vast majority of the students value VideoClipQuests as being fun and motivating while they also agree that the learning aim can be achieved. So from a student’s point of view, VCQs are well accepted.

### 9.4 Further Possibilities

Supplementary to the facts and examples already mentioned, we will bespeak further possibilities in this section in order to show the methodical richness of VCQs.

*Video clips.* The video clip can basically be anything from entertainment to education, including music, movies (or rather a part, like a trailer), or news. It is of course important that the film is able to provoke emotion, motivation, and/or curiosity, so that a typical (i.e., boring) educational video clip is rather inapplicable. The video shouldn’t be too long; we made good experiences with videos that have a running time of 30 seconds to 3 or 4 min.

*Assignment and assessment.* With VCQs, learners can work on the same or on different tasks and they can do so alone or in groups. To differentiate within a heterogeneous group, students can work on core and bonus tasks. Weak learners can, for example, identify facts while strong learners can, additionally, give their opinion. Learners can be tested with a typical online test that consists of multiple-choice questions or text fields and they can write and upload a paper. Furthermore, students can work together on a wiki (see below) and the teacher can use third-party
software like Hot Potatoes (http://hotpot.uvic.ca) to create special assessments like crosswords.

**VCQs and wikis.** As it isn’t easy to imagine how a wiki can be used in a VCQ, here is a concrete example. As a video clip, the song “We didn’t start the fire” by Billy Joel is used which can, e.g., be found on TeacherTube. The verses simply consist of a sequence of historical events from 1949 (Joel’s birth year) to 1989 (release date of the single), the first one being “Harry Truman, Doris Day, Red China, Johnnie Ray/South Pacific, Walter Winchell, Joe DiMaggio/Joe McCarthy, Richard Nixon, Studebaker, television/North Korea, South Korea/Marilyn Monroe”. The “unmasked” task for the learners is to select one of the names or incidents given, to figure out what is behind it, and to write a short text in the wiki. The wiki itself can consist of the lyrics (with additional dates separating one year from another), where each name or event is a hyperlink to a subpage.

**VCQs in face-to-face learning.** Besides dedicated e-learning courses and blended learning situations, VCQs are also suitable for lectures and seminars without additional e-learning material. The task can be written on the blackboard or handed out as a paper-based work sheet. The teacher starts the video clip using a PC or notebook and an LCD projector. The only premise is that the students have Internet access. In such a setting, VCQs gain a special appeal when only the length of the video clip is available to find the answer. This requires a minimum length of the video of course, and at the same time it makes it easier for the teacher to reckon the teaching time.

Let the students quest. It doesn’t always have to be the teacher who creates VCQs, it is just as well possible that students develop them. For this purpose, the students can be divided into groups and each group works on their own VCQ. After the teamwork, all VCQs are presented and the students have to solve the VCQs where they weren’t involved. Depending on the class, the teacher can scaffold this by naming possible resources and by giving individual help.

**Sharing VCQs.** Aside from the customary information concerning learning and teaching (like class level, subject, learning aims, etc.), VCQs merely consist of two further specifications in most instances: the web address of the video clip and the masked task (in some cases where multiple-choice questions are involved, the distractors used may be a third useful statement). If both teachers use the same software, it is usually possible without any difficulty to export a course – or even only a part of it – and to import it. The transmission of the data can be done via e-mail, flash drive, and so forth. In the event of different systems, some text has to be exchanged, i.e., the hyperlink to the film and the masked task (plus maybe the distractors), which can be done via e-mail. As VCQs can be created easily, there is no problem in rebuilding it.

### 9.5 Summary and Future Work

With VCQs, we present an e-learning pattern whose main advantages lie in its ease of use; in its induced freedom of action of the teacher regarding learning targets, assignments, and assessments; and in the apparent motivation of learners.
Furthermore, they can be shared without difficulty, even from one learning management system to another. The basic idea is simple yet clever and – as the evaluation shows – feasible. Due to their simplicity, VCQs can be combined perfectly with traditional methods like group work or differentiation. Hence, VCQs meet all the demands that teaching experts make.

In prospective investigations, we will include aspects of emotion in the questionnaire for the students in addition to the already existing statements about motivation. Thus, we can examine the theoretical basis of this facet with empirical data. Furthermore, a comparison of VCQs with other approaches will be made in order to gain insight into the effectiveness and sustainability of the method.

To prove – or challenge – the easy creation of VCQs, we will first of all include the topic in the next semester’s class about e-learning and let the students develop VCQs. Additionally, we will introduce VCQs to teachers by further training and by letting them create VCQs as well. So we will have feedback from future and already employed teachers regarding this hypothesis.

Finally, we can imagine a Web 2.0 application that is based on VCQs created by a community of teachers. A repository that is created as a mash-up based on, say, YouTube could serve as a pool of ideas that will stimulate the dissemination of the concept and its use in the classroom or in e-learning.

References


*Meanwhile such a web application has been created. It can be found online at http://myvcq.de, currently in German language only.*