Abstract. This paper reports on a research study that was carried out on the use of videos for task-based learning of scientific subjects through English in secondary education. It examines the potential of implementing CLIL classes in language learning contexts with the aim of improving students’ competence by enhancing their motivation. It particularly describes the advantages of using technology and streaming videos in these situations as a way to engage learners. A wide range of video-sharing websites is available on the Internet, including video lessons, documentaries and educational material which can be used to facilitate students’ meaningful learning. CLIL methodology involves a combination of subject and language teaching with careful attention to learners’ language level and skills. Traditional language teaching largely relies on graded material and often corresponds to low levels of participation whereas CLIL employs authentic material and resources, which means creating more realistic learning opportunities but also designing specific tasks to boost students’ understanding. After analyzing the characteristics of videos and describing the advantages of using them in CLIL contexts, this paper provides some practical suggestions for classroom use and discusses the results of this experience.

Key-words: authentic material, motivation, strategies, teacher’s role, life-like experience, learner training.

Introduction

Broadly speaking, people enjoy watching videos and television in their everyday life. In recent years there has been an enormous increase in the supply of audiovisual material, and these resources are accessible in a variety of formats. Video-sharing websites allow us to watch video clips, short documentaries, lectures and even upload our own videos. Statistical reports suggest that young people spend a great deal of their time on the Internet, although they do not always use this resource appropriately. In fact, uploading or watching videos is often associated with misdeeds, violence or imitation of other people’s negative behaviour, as it is often shown in newspapers and TV news. But despite these problems, video resources have too many advantages to be wasted in this way. In fact they give access to information very quickly and help to bridge the gap between formal teaching and informal learning: this is the reason why it is important to teach students how to use them.

Why Use Videos in the Language Classroom?

Advantages and Disadvantages

From this perspective, learning processes can benefit from the use of popular video-sharing websites, because students are familiar with them and learning does not seem to be primarily aligned with formal teaching. So what is the advantage of using videos in the language classroom? They provide instances of authentic language and can be fully exploited with the teacher’s control. Videos have a compelling power in the language classroom, especially when the classroom activities are concentrated on short sequences. Sherman (2003) says that video is today’s medium and, as a matter of fact, people spend more time with audio-visual than with printed material. Watching videos involves two different senses — seeing and hearing at the same time — and promotes interest in the meaning of words. Moreover, authentic material usually proves to be particularly motivating as people find it interesting to understand “real things”. Teachers can use audio-visual material for different purposes: for its own sake, for comprehension of the spoken language, as a language model, to understand cultural issues, as a stimulus or input for further activities, or as a moving picture book. Videos give access to things, places, people’s behaviour, and events. Sherman (2003) also adds that, because of their features, some kinds of videos are particularly useful for projects or the study of other subjects. The advantage of using videos in learning contexts also results from a recent survey (Canning-Wilson, 2000) which suggests that students like learning languages through audio-visual material. This survey also shows that students’ comprehension of video material is largely due to the visual clues instead of the auditory components. These clues may be a key support for helping students to cope with mother-tongue language. Despite the initial bewilderment when listening to native speakers talking, students seem to be able to understand words more easily when utterances are backed up by images or actions.

As previously said, thanks to the rapid advances in technology, we are witnessing a proliferation of tools allowing for the incorporation of audio-visual materials into instruction. Formerly, the most commonly adopted types of videos were those produced specifically for the language learning classroom under the guidance of the foreign language teacher. Conversely, nowadays learners can use this medium outside the classroom as well.

However the use of videos has some disadvantages too. We have already mentioned the difficulty of understanding language in authentic videos. These are usually made for native speakers and have references to social and cultural items that often need to be explained. The language level may also be too high for the students, which makes them less eager to work on the new material or thwarts their
attention. When tasks seem too demanding, the screen of emotions, which is often referred to as affective filter (Krashen, 1987), can block language acquisition and students’ participation in the learning process.

Documentary videos seem to be particularly helpful especially at tertiary level because learners can get extra information on academic subjects. However these commonly feature voice-overs, which can prove very difficult and even hinder comprehension (Flowerdew et al, 2005). Nonetheless documentaries and video lectures deal with very focused subject matter. They examine a single topic and their overall structure is generally the same: they present a case and explain it, support it with images, sounds, examples and even captions. These may be less difficult to understand than most news or films because their style is more sober, with standard phraseology and predictable language (Sherman, 2003). As previously mentioned, the visual element is very supportive, and the teachers have to do their best to tighten the comprehension load. Videos provide the suitable visual stimulus which can generate predictions and reflections, and give teachers a chance to activate students’ background knowledge. They are tools that help to integrate other materials or special features of the language, and pave the way for a variety of interpretations. Notwithstanding the few minor issues that using a video in a learning context may bring, this helps make the learning experience more similar to what occurs in real life.

**How to Use Videos**

The use of videos in teaching/learning contexts inevitably raises some issues: what cognitive strategies need to be developed? Which issues should be addressed? In language learning, should students work with adapted materials or directly with authentic content? What is the right length or type of video to be used in the class? It is generally acknowledged that videos with pictures and visual demonstrations or captions usually facilitate students’ comprehension. Another open debate is whether to use subtitles or not. It goes without saying that they make things easier for students, but sometimes they hinder real understanding as the students may focus on reading instead of listening. While subtitles may be useful when watching a film, they distract students’ attention from tables, pictures and visual representations in documentaries or video lessons. Moreover, another unresolved concern is about using subtitles either in target or native language.

All important decisions need to be taken before starting to use a video in instructional contexts. The teacher must find answers to questions such as: is this video suitable for the students’ age and language level? Careful selection should be made according to the aims and objectives of the course, both at general and specific level (Canning-Wilson, 2000). There are different uses of videos in learning contexts: in segments, developing listening skills, analyzing visual clues in order to support understanding. Images can be used to prompt and inform group analysis, discussion, inquiry, and reflection.

Nonetheless authentic videos are not complete learning units in themselves. Teachers play a key role as they have the responsibility of creating suitable learning environment: they have to “package” video material appropriately for classroom use, they must set activities and tasks which encourage learners’ participation. Especially with lower-level students, there should be time to assemble ideas on the subject and then check references. Planning should include brainstorming and activities such as freeze framing and making prediction — this helps draw students’ attention to some specific topic or item of language. Preliminary vocabulary work is needed in order to set the ground for subsequent understanding. Review activities depend on the type of documentary or video: science-related ones often lead to reports, practical experiments or discussions. If students have independent access to the material too, they can prepare a talk outside the class, presentations or expert panels (Sherman, 2003).

**Types of Videos, Video-sharing Websites**

Technology has made things easier for teachers who are always looking for interesting materials. Video sharing is the service provided by websites or software through which users can distribute and share their video clips with others. Video sharing services can be divided into several categories, ranging from user generated video sharing websites to video sharing platform/white label providers and web based video editing. The most popular one, especially among the young, is YouTube, though others are available, like Google and Yahoo or science stage.

Many educational websites also provide access to videos (MIT world, Research Channel, Teacher Tube, TED, videolectures.net, and the specific YouTube EDU). People can share their own videos but also access information, news and the like. This is changing the way we view media and deal with learning as well. Video sharing websites are easy to use and navigate as they contain lists of content organized in categories. YouTube videos can also be embedded in a blog (it may be a class blog, a project blog or a topic blog) just by copying the code and then pasting it into the blog. This allows a teacher to share content with learners or a group of students. According to the students’ needs or depending on the topic or focus of the activity, different types of videos can be selected. Videos can be tailored to curriculum objectives or provide additional information. Most video sharing sites feature lessons on a variety of subjects, ranging from chemistry and science to physics and art. A large variety of material is available for science in particular.

**CLIL**

Foreign language teaching often faces problems such as lack of motivation, difficulty and low interest in what the activities involve. Content and Language Integrated Learning (CLIL) seems to be the right situation in which inherent language learning potential is released (because of greater exposure to the language and better opportunities for language learning) (Coonan, 2003). CLIL refers to teaching non-language subjects through a foreign language with both subject matter and language learning as goals. Many researchers justify the use of CLIL by claiming that the learning environments created in this way increase the learners’ general capabilities and also add motivation (Knapp
According to Darn (2006) interdisciplinary/cross-curricular teaching facilitates effective learning. He reveals that students seem to be learning more when their language skills are used to delve into, write and talk about the object of their learning. The process used in CLIL is similar to first language acquisition: the students acquire linguistic signs and build concepts at the same time, and they learn how to express themselves in a foreign language about specific contents. If the content has a scientific character, this allows for the development of academic competences in the foreign language (CALP). The acronyms BICS and CALP refer to a distinction introduced by Cummins (1979) between basic interpersonal communicative skills and cognitive academic language proficiency. The Common European Framework of Reference (CEFR) defines as a clear sign of good mastery of the language the ability to deal with more and more difficult situations in the foreign language. This is also identified with the step between general competence (BICS) and a more sophisticated command of the language (CALP): the latter is developed through activities in which students are required to use cognitive processes at a higher level (analysis, synthesis, evaluation, hypothesis, and so on). This is the competence which allows students to learn curricular contents and to develop strategies and skills related to them at the same time. Important factors are the context and the choice of materials. Visually-aided and visually based materials are particularly useful for guiding comprehension of written or oral texts.

As previously stated, CLIL has to find the methodological means to reach two types of objectives, those of the content domain and of the language, with the foreign language being the vehicle through which the content objectives are achieved. But the language development cannot be left to chance. It is important to bear in mind that in CLIL contexts the foreign language has the same function as a native language in traditional ones. What subject teachers often do not realize is that they contribute to students’ language development in their native language, too. A very important issue to deal with is that in CLIL classrooms, the non-language discipline often suffers from difficulties students experience in the foreign language. A common problem is that students’ performance in the foreign language is often quite poor in traditional learning contexts. One of the main concerns for the teachers involved in the CLIL project should be to identify the students’ skill level, and then set specific activities in order to improve their ability to use the language properly with an adequate range of vocabulary.

Depending on the focus and the percentage of foreign language to be used, different types of CLIL classes can be implemented: two or more teachers working together, one language teacher charged with the language development and the other/s dealing with the content. One of the most suitable solutions would be to work in partnership: in this situation two teachers — the content teacher and the language teacher — work together during the lesson. The subject teacher should teach the content in the foreign language while the language teacher should solve language problems and cooperate in the management of group work or other activities (Coonan, 2003). However, this ideal situation is not always practicable and it may have some risks too. Sometimes the subject teacher’s low level of foreign language competence may even lead to misunderstandings or induce students to switch to their native language. There are also a number of constraints that can prevent the adoption of team-teaching in traditional educational contexts: lack of funds, fixed timetables, unwillingness to cooperate with others, etc. Content and language integrated learning is based on the assumption that teaching a subject through a language enhances the students’ language skills. The most important aspects of CLIL are the authenticity of materials, the selection of content and the setting of tasks. Unlike traditional learning contexts, CLIL materials and tasks are based on real-life situations, require real interactions and engage students in active tasks. Learners see a purpose in what they are doing as they are not involved in pseudo-realistic situations like the ones they may encounter when learning a language. According to Coonan (2002), there is a need to guarantee that the student be involved, in the target language, in the cognitive processes and the learning and study activities normally associated with the content. These content-based experiences aim at authenticity and produce more effective results than the “pseudo-ness” which is typical of traditional language classrooms (Coonan, 2003; Wolff, 1997).

CLIL is goal-oriented, based on tasks, students are engaged in real activities, they learn by doing while developing strategies. As for the materials to be used, CLIL should rely on a wide choice of texts, genres and activities, with a higher conceptual and linguistic difficulty. The advantage of CLIL is that students use the foreign language to learn, they see a purpose in learning the language as both the input and the output are “motivated” (Coonan, 2002). Meyer (2001) also suggests that CLIL teachers should be flexible with regard to teaching style, and must be willing to use visual aids extensively as well as able to solve language problems and offer help with listening and reading comprehension. He underlines that one of the greatest challenges of CLIL is the need to become aware of methodology, reconsider teaching practices and place emphasis on effective learner-centred approaches.

**Videos and CLIL**

Teachers seeking to harness the advantages of CLIL face a number of problems, among which the difficulty in dealing with both the language and the content, and dearth of ready-made materials. Using videos in CLIL may also provide solutions to some of these typical problems: teachers who do not want to work in a team or the fact that teachers with double qualifications — foreign language and another subject — is not common in most education systems in Europe.

Many websites show audiovisual material which may facilitate the teaching of curricular subjects in an appropriate way in a foreign language. Videos contain a lot of information, they provide authentic stimulus, and a wide range of reliable video documentaries, lessons and practical experiments is available nowadays. Particularly those focusing on scientific subjects have characteristics useful for expanding students’ vocabulary. CLIL overcomes the limits of conscious learning and encourages language
acquisition, which is a cyclical process. It has a thematic nature which facilitates the creation of a syllabus, with new language added to pre-existing knowledge (Darn, 2006).

Video materials need to be selected in advance so that they adhere to the learning objectives, and suit the learners’ language level. The teacher needs to identify which skills and strategies have to be developed beforehand and afterwards. Receptive skills are very important in CLIL contexts where written and aural texts are generally employed. Students need to develop skills which allow them to understand the input: it is the language teacher’s responsibility to teach the students how to read and listen to texts in a foreign language (Coonan, 2002). But if written texts can be graded or adapted to the students’ level, listening texts are usually employed in their original format and so they need careful preparation.

Strategies and activities generally fall into three different categories: pre-watching (they help students familiarize with the topics, recall useful information or vocabulary), while watching and post-watching. Chamot and O’Malley (1987) have identified various types of learning strategies and among these is the ability to infer meanings (guessing/inductive inferencing). Learners need to understand how to use the context and the images to comprehend or learn new information, and then make analogies. Pre-watching activities usually aim to stimulate the students’ mind and help them remember what they know so that they can refer back to it. Strategies can be taught, and then used to accomplish other tasks. Therefore working with videos helps to develop listening skills but also inferring strategies and the ability to use all the visual information to facilitate comprehension. When teachers adopt a skills/strategies approach, their attention is focused on guiding language learners through effective listening (Zhang, 2008). Teaching listening means concentrating on selection of main ideas, paying attention to linguistic markers, practicing note-taking skills, working in cooperative groups to collect information and then produce written and oral reports (Chamot, O’Malley, 1987). Once students have learnt how to use these strategies they will adapt them to other situations similar to the ones in which they were initially trained — after being “automatized”, they will be saved in the students’ skill banks (Chamot, O’Malley, 1987; Zhang, 2008). Naiman (Naiman et al., 1978) also introduced the idea of techniques employed by learners in order to memorize and learn new vocabulary. CLIL methodology adheres closely to current trends in language teaching where language is seen in chunks, like in the lexical approach. Learners have to communicate with each other about specific content while language input is integrated with skill development (Darn, 2006).

The Study

The research study described here was conducted in a secondary school in North–West Italy, with 30 students from the 4th and 5th grades (aged between 17 and 20). They were attending a vocational school which trains students in different fields, such as dental technology. Their English level was quite low (on average CEF level A2): they particularly liked more practical subjects and working in the lab but did not see any purpose in studying a foreign language. Their studies focused mainly on expertise in making prostheses or implants but they did not realize that English has strong links with science, chemistry and dental materials in general. For this reason, the course subjects we took as a basis were chemistry and biology. The first objective was to raise students’ motivation by involving them in life-like experiences in which they might learn how to improve their linguistic competence. Work performed in the computer suite was useful for providing practical language learning experiences. The students also appreciated the use of YouTube as a means to learn, because they felt quite at ease with it. Much of the initial work was directed to giving students the tools to understand oral language supported by images and reference to previous knowledge. Short, easy sequences were selected at first so that they might learn how to deal with this “new” material. The students were expected to develop useful strategies in order for them to become independent and collaboration between peers proved to be an invaluable tool. One of the first videos to be shown was a very short sequence on the structure of DNA: (http://www.youtube.com/watch?v=qy8dk5IS1f0&feature=related).

We had previously identified three major steps in dealing with audiovisual material: pre-watching, watching and post-watching. While shaping the pre-watching activities, especially during the first lessons, we tried to take advantage of students’ basic language knowledge. The speaker in the video employs quite familiar words to describe the structure of DNA. If students are prepared to catch these words and at least imagine what they are going to see, they will not experience frustration because of the difficulty of listening to a native speaker. The role of the teacher is vital at this stage because he/she has to analyze all the language items that may facilitate understanding.

In these circumstances, after brainstorming some ideas on DNA, the students were asked to define a list of words — Building blocks, Spiral, Handrail, Staircase, Steps, Backbone. These items of language were identified because they would serve as a guide for understanding the whole video. The second step was to concentrate on the images that referred to the previous words and students had to discuss their use in that context. What they had to infer was that the shape of the ladder was the form of DNA, the steps represented the bases and so on. In this way students felt more confident because they were not presented with completely unfamiliar material.

The following steps aimed at teaching new content and vocabulary in the foreign language. The students watched the video again and then were asked to work in groups and answer some questions. They also had to match a new set of words to the correct definition.

Here are some examples of the activities and the recording of the video:

- DNA contains two strands of building blocks called nucleotides arranged like a spiral staircase. Each nucleotide includes three parts of phosphate group: a sugar molecule and one of four bases — adenine, guanine, cytosine and thymine. The sugar phosphate bonds form the double backbone of the molecule, the handrails of the staircase. But we find the genetic key to DNA in the steps of this stairway: the nitrogen-containing bases. These bases link up using hydrogen bonds.
in a very specific way: adenine will bind only with thymine (A to T), cytosine only bonds with guanine (C to G). While these basics pairings never change, the order of the pairs along each strand varies greatly from one species to the next. In this elegant design we see how nature stores the instructions to build all living things.

Answer these questions:

What is DNA like?

What does a nucleotide include?

Match these words to their definition:

| Bond | The smallest particle of a substance that retains the chemical and physical properties of the substance and is composed of two or more atoms |
| Molecule | The physical process responsible for the attractive interactions between atoms and molecules |

Complete these sentences:

Adenine, Guanine, Cytosine and Thymine are…

After watching the video and doing the exercises, the students were asked to discuss the main features of DNA by recycling the new items of vocabulary and referring back to what they had seen in the video. All learning needs were met: all language skills were activated (reading, speaking, reading and writing), vocabulary was gradually widened, new content was introduced, and reusable strategies were developed.

The initial steps were very important as learners needed to become more and more confident in watching videos in a language other than their own, and learning through them. It is better to avoid too demanding tasks especially at first: students like the sensation of being able to cope with new material, especially because of peer pressure and problems of self-esteem. Once all of them learnt how to deal with audiovisual material and what strategies they had to use — e.g. taking advantage of prior knowledge and vocabulary, using visual clues for help, creating expectations about content, etc. — they admitted that they had started watching videos and video lectures at home because they wanted to improve their abilities. Tests conducted at the end of the course showed better students’ performances and proved that they had developed both language and learning skills. Self-evaluation questionnaires also revealed a higher level of confidence when dealing with material in a foreign language.

Conclusion

This report shows how students’ motivation and participation can be enhanced in CLIL contexts. Weak students, lacking interest in learning a language in traditional contexts, are more motivated when they are involved in authentic situations. This experience illustrates how audiovisual material can be employed to teach other subjects through English with low-level learners. Some important issues must be dealt with, such as the analysis of learners’ features and background knowledge. Images aid comprehension and carefully planned activities help students to develop listening skills as well as useful strategies which they would be able to use further on. Regarding subtitled videos, they often prove unsuccessful: most of the students usually concentrate largely on the written words, therefore miss much of the visual representation and aural message. This study shows how important it is to select authentic material and that activities and tasks are fundamental. The students found the experience engaging and started watching this kind of videos on their own too. All of them got used to analyzing both the context and the words they heard, while learning subject content and improving their language competence at the same time.

References


Useful sites

1. CEFR http://www.coe.int/dg4/linguistic/cadre_en.asp
2. www.youtube.com
3. www.scientemag.org
5. www.nationalgeographic.com
Kaip naudoti „You Tube“ ir interneto svetainių vaizdo medžiagą integruoto kalbos ir dalyko mokymosi pamokose

Santrauka

Šiame straipsnyje aptariamas vaizdo medžiagos naudojimo vidurinės mokyklos integruoto kalbos ir dalyko mokymosi (IKDM) anglų kalbos klasėse mokslinis tyrimas. Nagrinėjamos galimybės įgyvendinti IKDM pamokose tikslą kalbos mokymosi kontekste ugdyti moksleivių kompetenciją, skatindant jų motyvaciją. Straipsnyje ypač akcentuojama technologijų ir vaizdo medžiagos nauda kaip priemonė geriau įtaruoti besimokančiusis į mokymosi procesą. Internete esama daug ir įvairios mokomosios medžiagos, pavyzdžiui, vaizdo pamokų, dokumentinių filmų, ir kt., kurį galima naudoti ir taip padėti moksleiviui mokytis. IDKM metodologija reiškia suderintą dalyko ir kalbos mokymąsi, ypač kreipiant dèmesį į moksleivio kalbos lygį ir įgūdžius. Tradicinis kalbų mokymasis daugiausia reiškia daugiausia atrinkta medžiaga ir dažnai atveju reiškia įvairių mokymo procesų lygį; tuo tarpu IDKM naudoja autentišką medžiagą ir šaltinius, todėl yra kuriame realistiškesnis mokymo galimybės būtų tai, jis kelia specifinius kalbos supratimo uždavinius. Pranešime analizuojama vaizdo mokomoji medžiaga, jos charakteristikos ir pranašumai IKDM kontekste, nagrinėjami šios patirties rezultatai ir pateikiami praktiniai pasiūlymai.

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