

## Teaching CLIL With Digital Literacies

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### Resumen

A pesar del creciente interés en la integración de la tecnología digital en el ámbito educativo y de que muchos profesores se enfrentan al reto de apoyar e implicar a sus alumnos de la Generación N(et) en la utilización de la tecnología de manera didáctica en el aula, existe aún falta de orientación sobre su aplicación en entornos emergentes CLIL/AICLE. Como resultado de investigaciones anteriores realizadas con el fin de obtener una comprensión más profunda sobre la adquisición de la competencia digital en la enseñanza de lenguas a través de la adaptación de contenidos digitales, de las nuevas tecnologías y de herramientas virtuales, este artículo se centra en la ilustración de diferentes estrategias implementadas en el Centro Universitario Cardenal Cisneros que, siguiendo el enfoque AICLE, tienen como meta conseguir un aprendizaje efectivo. Hasta la fecha, el discurso sobre estas dos importantes cuestiones (AICLE y alfabetización digital) ha estado orientada a la práctica y carece de estrategias integradoras o de fundamentación teórica. Esta laguna en el discurso actual sobre la vinculación del aprendizaje integrado de contenidos a través de una lengua extranjera con tecnología digital exige una revisión fundamentada de los principios que sustentan estos conceptos y propuestas de aplicación motivadoras, que es el fin último de este estudio.

**Palabras clave:** alfabetización digital, principios teóricos, AICLE/CLIL, estrategias didácticas.

### Abstract

Despite the growing interest in digital literacy within educational policy, guidance for educators in terms of how digital literacy translates into the CLIL classroom is lacking. As a result, many teachers feel ill-prepared to support and engage their Net Generation learners in using technology effectively in a CLIL context. Following earlier research aimed at gaining a deeper understanding of digital competence through a review of literature

related to digital content, new technology, virtual tools in education and CLIL frameworks, this paper focuses on the illustration of different digital literacy strategies carried out at Centro Universitario Cardenal Cisneros that are considered necessary for effective and pedagogical learning in emerging CLIL environments. To date, the discourse on both of these important issues (CLIL and digital literacies) has been practice-oriented, and lacks integrative strategies or theoretical foundation. This lacuna in the current discourse on linking content and language integrated learning and teaching with digital literacies, calls for a clear and theoretically-grounded view of the digital literacies and principles required for effective learning in CLIL situations. The purpose of this article is to propose some strategies to enable motivating and effective content and language integrated learning using digital literacies.

**Keywords:** digital literacies, guiding principles, CLIL, didactic strategies.

## 1. Introduction

Consider asking your students how much reflective writing and reading they do about a specific topic. Then, for comparison, ask them how much time they spend texting, using MSN Messenger and surfing the Internet; most will be heavily involved in the latter (Garcia, 2013b, 2014, 2015). To the current generation of students, the internet and other forms of electronic discourse are not necessarily associated with their concept of “reading and writing” in an educational sense, but rather are tools for social interaction, which is now considered to be on top of Maslow’s (1954) hierarchy of motivational needs, according to researchers and psychologists (Dörnyei, 2006; Reig, 2012).

Students today have grown up within a world of pervasive technologies. Described as, “Gen-X, Millennials, Net Generation and digital natives” (Tapscott, 1997; Oblinger, 2003; Olsen, 2005), these students born into the digital age play games, listen to podcasts, instant message friends, listen to music, author their own video for YouTube, blog and collaborate on the creation of ‘digital stories’ for their e-Portfolio. They absorb information quickly, in images and video as well as text, from multiple sources simultaneously and expect to be in constant communication and ease of access in the learning and creation of their own content (Prensky, 2011).

The implication here is a possible shift from the basic archetypical vehicles used for teaching today (lecture notes, printed material, PowerPoint, etc.) towards a “learner-centered” or “student-centered” education (Marzano, 2006). It is not sufficient to use online learning and teaching technologies simply for the delivery of content to students; digital technology provides educators different possibilities for engaging students in

desirable practices such as collaborative content creation, peer assessment and motivation for the acquisition of content and language (Duffy, 2008).

In agreement with Halbach (2012:1), teaching content through a foreign language presents students with the double challenge of having to understand new concepts and doing so through a foreign language. To be successful in meeting this challenge teachers have to adapt their teaching style and the tasks they work on with their students.

## **2. Literature review**

In education and society more broadly, the concept of 'literacy' has been applied to an increasingly wide range of contexts, leading to formulations such as 'media literacy' or 'computer literacy'. The rapid development of digital technology presents students an information society with situations that require them to employ a growing assortment of cognitive skills. These skills are often referred to as "digital literacy" (Lanham, 1995; Gilster, 1997; Pool, 1997, etc.), which is presented as an approach that enables users to perform intuitively in digital environments, and to easily and effectively access the wide range of content and information (Gilster, 1997; Tapscott, 1998; Eshet-Alkalai, 2004).

According to Hockly et al. (2013) digital literacies are the individual and social skills needed to effectively interpret, manage, share and create meaning in the growing range of digital communication channels. Eshet-Alkalai (2004) states that there are five types of literacies that are encompassed in the umbrella term that is digital literacy: (a) photo-visual literacy; (b) reproduction literacy; (c) information literacy; (d) branching literacy and (e) socio-emotional literacy:

- a) Photo-visual literacy is the ability to read and deduce information from visuals.
- b) Reproduction literacy is the ability to use digital technology to create a new piece of work or combine existing pieces of work together to make it your own.
- c) Branching literacy is the ability to successfully navigate in the non-linear medium of digital space.
- d) Information literacy is the ability to search, locate, assess and critically evaluate information found on the web.
- e) Socio-emotional literacy refers to the social and emotional aspects of being present online, whether it may be through socializing, and collaborating, or simply consuming content.

Dudeney (2011) suggests different ways to work digital literacy with images, video, words, websites, audio, dialogues, presentations or journals in the language classroom and

they represent a shifting pedagogical paradigm for the use of a new set of tools within education (Duffy, 2008; Warschauer & Matuchniak, 2010; Dudeney, 2011, etc.). These literacies can be used in a broad range of digital devices such as tablets, laptops and desktop PCs or smartphones, all of which are seen as network rather than computing devices and often involves BYOD (Bring your own device) practices in the classroom, the use of educational software to teach content and course materials being made available to students online.

Digital literacies make new demands on learning, and provide new support to learning, if we agree that there are changes occurring in education and, that new conceptualisations are required to use these emerging technologies, then some considerations should be taken about the impact of digital technologies on the processes and practices of education (Pinto, 2015).

The focus of this paper will be on a pragmatic exploration of digital literacies such as Websites and journals, videos and audio, blogs and words, platform and dialogues or presentations, as illustrative examples of the use of digital technology in education; more specifically in CLIL. Clearly, the choice of these literacies does not delimit the categorisation to only the mentioned ones. By limiting the choice of digital literacies within this paper it is envisaged to provide the reader with some starting frames of reference within which to consider strategies for using digital literacies in content and language integrated learning.

### **3. A learning context**

This study, based on Garcia (2014, 2013a) illustrates undergraduates' involvement with digital literacies to reinforce the contents of different subjects following a CLIL methodology at Centro Universitario Cardenal Cisneros, where students were involved in the following activities to work some specific contents and topics from the subject: create a blog and a video; create and work on webpages; share and comment original content such as literature, stories, news or videos online; and remix content found online into a new creation with discussion. This is however, more than an adaptation to accommodate different learning styles; it is the placing of the control of learning experience itself into the hands of the learner. The phenomena of digital literacies provide students an unprecedented way to access, socialize and co-create (Lenhard & Madden, 2005).

CLIL is considered a useful methodology to develop language skills and content language (structures, functions and vocabulary) as well as cultural awareness (Marsh & Lang, 2000). As different topics have to be covered, students and teachers often need to prepare well for classes –find materials, resources and information from different sources- and the

web is one of the main technical resources proposed for language learning because it enables access to digital literacies as well as to all kinds of information in educational platforms, websites and journals (specific texts, reports, articles, etc.) and facilitates multimedia interaction (Alexander, 20106). The web allows students find information making a difference between authentic and teacher created materials (Dudeney and Hockly, 2007).

The web offers the potential for creating and publishing personal tasks or projects ensuring a collaborative didactic approach with the possibility of discussion and visualization of contents. Strategies for teaching with digital literacies can be encouraged to practice the linguistic skills and contents of a topic with web links to EFL sites containing related specific texts, interactive activities, online dictionaries, grammar references, etc. This form of digital content also promotes writing and reading with the participation of the students in posts, chats, forums, etc. engaging them in motivating desirable practices such as collaborative content creation and/or peer assessment (Duffy, 2008:120).

The Web is evolving to become an area for social and idea networking. Students negotiate meanings and connections within Web 2.0 social spaces or idea networks, exchange bits of content, create new content, and collaborate in new ways. User-centered Web 2.0 phenomena such as blogging, social video sharing (exemplified by YouTube) and collective editing (wiki or Wikipedia as an example) are disrupting traditional ideas about how students interact online and how content is generated, shared and distributed (Gillmor, 2007).

Video can be also a powerful educational and motivational tool; it is not however an end in itself but a means toward achieving learning goals and objectives. YouTube is increasingly being used by educators as a pedagogic resource to teach students ESL; from instructional videos to an online space to share student authored content. Teachers and students alike will find that video is an effective catalyst and facilitator for classroom discourse and analysis. Coupled with hands-on learning, video-enhanced curriculum can be invaluable for expanding the learning experience. By incorporating this popular, forceful and familiar medium, educators can tap into the existing enthusiasm towards this form of new media (Godwin-Jones, 2007).

Blogs, wikis and podcasts, deal with social software in which a variety of social actants have the opportunity to include their own contents. Among these, podcasts are significant for the language teachers because teachers find difficult to find resources for pronunciation with a variety of accents and registers to be used in the classes. Wikis and blogs incorporate a wide variety of images and audio-visual items that are worth

incorporating in the foreign language classroom (Laborda and Royo, 2007).

Blogging, as a socially driven public written reflection, can change the dynamic of teaching rhetorical sensitivity and reflection. Many students are already highly socially active in internet-based environments, interacting with and commenting on one another's written materials –even without formally realising that they are doing so-. The proclivity and popularity of video sharing and blogging indicate a growing impetus towards personal expression and reflection as well as the sharing of “personal” spaces and content (O'Reilly, 2005).

According to Paquet (2003) within the structure of a blog, students can demonstrate critical thinking, take creative risks, and make sophisticated use of language and design elements. In doing so, the students acquire creative, critical, communicative, and collaborative skills that may be useful to them in both scholarly and professional contexts. The growing popularity of blogs suggests the possibility that some of the work that students need to do in order to read well, respond critically, and write vigorously, might be accomplished under circumstances dramatically different from those currently utilized in education.

#### **4. Guiding principles of digital literacies and CLIL**

According to (Coyle, 2005, 2007), successful content and language integrated learning requires teachers to engage in alternative ways of planning their teaching for effective learning. In adopting a CLIL approach, there will be elements of both language and subject teaching and learning which are specific to the CLIL classroom presided by four guiding principles (4Cs) upon which any CLIL programme should be built.

Beshlaw (2011) also maintains that there are eight elements that can be considered the core features of digital literacies. The eight elements are Confidence, Creative, Critical, Constructive, Civic, Cultural, Cognitive and Communicative. As quoted below, the last ones coincide with Coyle (2005) main four guiding principles upon which a CLIL programme can be built:

- Cultural: The cultural element of digital literacies requires technology use in different contexts and an awareness of the values and concepts specific to the varying contexts. According to Coyle (2005:5) for our pluricultural and plurilingual world to be celebrated and its potential realised, this demands tolerance and understanding. Studying through a foreign language fosters international understanding. 'Otherness' is a vital concept and holds the key for discovering self. Culture can have wide interpretation.

- Cognitive: The cognitive component of digital literacies aims to enable mastery of the

use of technological tools, software and platforms. Gaining expertise in digital tools helps learners become more digitally literate (Beshlaw, 2011). For CLIL to be effective, cognition must challenge learners to think, review and engage in higher order thinking skills. CLIL is not about the transfer of knowledge from an expert to a novice. CLIL is about allowing individuals to construct their own understanding and be challenged. A useful taxonomy to use as a guide for thinking skills is that of Bloom's (1956).

-Communicative: The communicative component involves a systematic awareness of how digital media are constructed and the unique "rhetorics" of interactive communication. Being digitally literate means communicating in the digital world in several ways (Buckingham, 2006). In CLIL, Language is a conduit for communication and for learning. The formula learning to use language and using language to learn is applicable here (Marsh & Lange, 2000). Communication goes beyond the grammar system. It involves learners in language using it differently from traditional language learning lessons.

-Content: Through the creative element of digital literacy, digital learners create new data in digital environments based on personal interests. This element places emphasis on taking risks while developing searching skills and producing new contents (Beshlaw, 2011). At the heart of the learning process lies successful content or thematic learning and the acquisition of knowledge, skills and understanding. Content is the subject or the project themes (Coyle et al., 2010).

Although it is content which determines the learning route, the emphasis is always on accessibility of language with the appropriate resources in order to learn.

## 5. Using digital literacies for effective CLIL pedagogy

From a pedagogical perspective, digital literacy seeks to include knowledge and understanding of the applications and implications of digital technologies. The following are some possible uses of digital technology (Duffy, 2008) in a CLIL context (Coyle, 2005) following some appropriate frameworks.

Within a didactic **cognitive** perspective digital literacy involves the ability to use a set of cognitive tools (Johnson, 2008). Some strategies for effective CLIL pedagogy are:

- Promote thinking & understanding
- Review and engagement in higher order thinking skills
- Learners' construction of their own understanding and challenge
- Use of an appropriate taxonomy (e.g. Bloom's) as a guide for thinking skills
- Reflection on teaching contents and experiences

- Making use especially of the commenting feature
- Categorized descriptions of resources and methodologies for teaching
- Ramblings regarding professional challenges and teaching tips for other academics.

In order to reinforce correct and relevant meaning and applying it through active practice, students can be asked to search for academic data in the web and write a blog entry or record a video relevant to the content and use the Blog or YouTube comments feature to generate some discussion. After watching their own video-recordings in YouTube or Dropbox, students can be required to work through a questionnaire about self-performance, language development and appropriate use of terms and concepts related to the subject contents. Answers can be posted in the Forum of the subject platform (Blackboard).

According to Duffy (2011) the use of video has several advantages over graphic and textual media for this purpose as it allows a portrayal of concepts involving motion, the alteration of space and time; dramatization of historical and complex events and demonstration of sequential processes the viewer can pause and review, etc. This process involves assuring that students analyse and understand the concepts and contents, and this is done through participation and task-setting. Questions for critical thinking can be used in the classroom to develop all levels of thinking within the cognitive domain. Results will be improved with students' attention to detail, increased comprehension and expanded problem solving skills.

Within the **content** perspective, digital literacies require a professional culture that is dominated by a prescriptive curriculum and routine practices (Conlon & Simpson, 2003). In a CLIL environment it involves creating new data about a particular topic or content in digital environments considering:

- Output basis on content, literature, readings, etc.
- Images, presentations and reflections related to production assignments
- Creating an online gallery space for review of works, writings, etc.
- The development of a student e-portfolio on a topic.

As an illustration of language learning support in content acquisition, at the end of one of your classes, decide on a particular topic and ask your students to search for related websites or short videos on this subject to watch and create a difficult vocabulary guide. Students can also be asked to capture a series of video vignettes about the specific

contents or language difficulty. This will provide a rich authentic resource and will make students realise which vocabulary or chunks they might need while carrying out the subject assignment.

To challenge students and ensure language and content learning, instructors can teach a topic considering language appropriateness and show related digital texts or videos to consolidate learning and reduce cognitive load. The L2-level has to be slightly above the estimated one of the student's to stimulate learning. In this communicative context teachers will have to adapt and use different strategies to generate understanding, both of content and language. Gesturing and non-verbal communication are important as they generate subconscious understanding even if not explicit language, and social media such as YouTube can provide it with supporting educator's explanations in digital media (e.g. Read, 2013; Pérez, 2012).

Within a **communicative** perspective, digital literacies require awareness about different communication devices both digital and mobile (Buckingham, 2007), which in a CLIL environment involves:

- Interaction, using language to learn
- To use language as a conduit for communication and learning beyond the grammar system
- Teachers encouraging reactions and ideas by commenting on their students' output
- A collaborative space for students to act as reviewers for course-related materials.

Allow your students create a short blog or video as part of an assessment item and present it to the class. Becoming involved in the creation of a video "heightens a student's visual literacy, an important skill in today's electronic culture". Different interactive formats (e.g. dialogues, group work, etc.) where everyone has a voice, anyone can contribute, and the value lies equally within the creation of the content; might be implemented to facilitate meaningful communication in English (Educause Learning Initiative, 2006).

Digital literacies can provide students with didactic resources where exposure in the FL is just beyond the estimated level of the learners and is aligned with the expected learning or performance outcome (Graaff et al. 2007). ESL videos (eg. Underhill, 2015) can provide speakers communicative exchanges with appropriate use of body language, sentence structures, descriptions, etc. which facilitate understanding.

Within a **cultural** perspective digital literacies require technology use in different contexts and an awareness of the values and concepts specific to the varying CLIL contexts:

- Self and other awareness/citizenship
- Explore the subject from a different perspective whilst improving foreign language
- Discover cultural opportunities different from a mother tongue setting

- Interaction of students from different cultural backgrounds using authentic language
- The ability to experience another culture and be open minded, interested, and curious about it.

One strategy for effective content and language integrated learning can be to record a video of an educator relevant to your content (e.g. Kay, 2010 and Senser, 2012) and use the YouTube comments feature to generate some discussion. The teacher can then pose a question at the end of class to be considered from distinct viewpoints or ask students to search for 2-3 video references or websites relating to the different perspectives. Subtopics related to citizenship, cultural environment, etc. can be analysed and further discussed.

Subject knowledge is constantly evolving and the speed of this change has increased with the development of digital technologies, which allow online content to be more readily produced and updated. Developing digital literacy in content teaching supports young people to be effective, competent, critical students of that subject in the digital age (Hague and Payton, 2010).

## **6. Discussion**

The review of the different theoretical frameworks and illustration on learning and teaching CLIL using digital literacies show that the process meets the objectives succeeding appropriate CLIL approaches based on Westhoff (2004), Coyle (2005, 2010) or De Graff et al. (2007). As stated by these authors, effective CLIL teacher pedagogy develops L2 by facilitating exposure to input, meaning-focused processing, form-focused processing and output production, and digital literacies enhances this learning.

Extended exposure to meaningful and functional foreign-language input is a crucial pre-requisite for foreign-language acquisition. Before a lesson, a CLIL teacher can select and tailor input material using different digital literacies in order to make it challenging but still comprehensible for students, as suggested by De Graaff et al. (2007).

However, as stated by Westhoff (2004), mere exposure to language in the classroom is only effective if the input is processed for meaning. A CLIL teacher can, therefore, be expected to help students understand the content of oral or written texts by creating tasks that involve students in grappling with meaning, which involves to give support by providing feedback or supplementary exercises from educational ESL digital journals and websites (One Stop English, BBC, etc.).

Creating language awareness and promoting the correct use of both oral and written language is pertinent. L2-learners need to be pointed in the right direction and peer cooperation is also supportive. Blogs including audio-visuals (images, text, video and

audio) can also provide form and meaning-focused processing with the teachers encouraging reactions, reflections and ideas when commenting on their students' blogs, with student responses and comments based on content, literature, readings, etc., and by creating a collaborative space for students to act as reviewers for course-related materials (Duffy, 2011:123).

As suggested by De Graaff & Koopman (2006), a CLIL teacher can use activities aimed at 'awareness-raising' of language form, thus making students conscious of specific language features. An instructor might indicate and direct students' attention to correct uses of form, or give examples of such uses in educational websites (e.g. National Geographic), which facilitates noticing of language form in input material.

Output production enhances fluency. In promoting output production in the target language a CLIL teacher can encourage students in several ways as well as stimulate interaction between students in the target language (Westhoff, 2004). Communication is a key factor in CLIL. It is important to get students communicate effectively, and using social media (videos, blogs, wikis, etc.), multimedia (images and audio) and the web for carrying out virtual assignments ensures that the language and discourse features are salient, meaningful and frequently encountered as they facilitate interaction and communication (Garcia, 2013a, 2013b). ESL websites, blogs and YouTube allow learners to experiment in new media to convey information and knowledge. The use of video to promote discussion on a topic can be a useful tool to engage with an audience already enamoured with the social media phenomenon (Duffy, 2008).

According to De Graaff et al. (2007) teachers can stimulate *receptive* knowledge and understanding texts or discourse using reading (e.g. forum discussions) or listening (e.g. video comment feature) strategies focusing on concepts and structures.

To improve the *productive* competence, students develop communication skills such as negotiating meaning and paraphrasing. A CLIL teacher can assist students to develop their language and content comprehension and communication offering a repertoire of receptive and productive compensatory and communication strategies (De Graaff et al., 2007). Video can be used to provide productive compensatory strategies to help the students develop their oral language production avoiding direct audiences. Creating a short video as part of the assignment will reduce anxiety (Laborda and Royo, 2007) and will stimulate students to talk in their own words, using gestures or body language to clarify what they want to say.

Finally, it should be noted that the experience was positively assessed by the students. This study was based on the collection of qualitative data using natural focus group discussion and unstructured direct personal interviews (Malhotra, 1997: 117). Students

were asked three open questions concerning the rationalization of their experiences, namely: how much reflective writing and reading about a specific topic they did with and without technology, if they feel more motivated acquiring contents and language using digital literacies, and if they know how to use them. Answers were confirmatory in all cases. The purpose of this qualitative assessment coincides with the idea of Barrios Costell (2004) of obtaining information about attitudes and opinions of a group of individuals with similar needs and interests, using basically words instead of numbers to communicate findings (Miles and Hubermann, 1994).

## **7. Conclusions**

This report has sought to illustrate how effective language and subject learning can be attained using motivating digital literacies that expose Net Generation learners to authentic contents following appropriate didactic frameworks. This evidence is certainly not new, but researchers believe that an illustration of the use of digital literacies can enhance actual performance in specific contexts.

Digital content comes in many forms: from text, audio and video, to graphics, animations, images, etc. These can be adapted to educational trends such as CLIL to help students improve language acquisition and learn a subject as they facilitate the ability to share contents in the foreign language as well as using online digital learning objects and the web in a communicative, participative and reflective way. Digital literacies are considered, therefore, useful resources not only for reading and writing texts in English, but also for speaking about, listening to, and watching content through the use of social media and different multimedia resources.

According to the theoretical foundations and review of the data, we can conclude that digital literacies provide appropriate mechanisms for teaching and learning content, as they are considered educational resources that students can use autonomously following didactic BYOD practises to acquire the knowledge of a specific subject in a guided way.

This can be carried out asking students to search for and display information, to exchange and communicate contents (eg. reading, creating, presenting and discussing videos or blogs), and promoting self-assessment and critical thinking. This involves the development of certain digital literacy and CLIL pedagogical skills, following Beshlaw (2011) and Coyle (2005, 2007) core elements of cognition, culture, communication and culture.

A second conclusion drawn from this action based on the application of different frameworks and approaches in the area is that digital literacies can be integrated into the CLIL classroom to facilitate effective L2 pedagogy in CLIL by enabling language

input, meaning-focused processing, form-focused processing and output production. This instruction involves motivation in learning for digital native students under the supervision of a tutor. Therefore, if we consider that the best educational context is one that allows students to work online because it is highly communicative, enables collaboration and exposes students a broad and new language, digital literacies facilitate not only this, but also the opportunity to access to up-to-date contents and language in an easy and economical way.

Finally, as Dudeney and Hockly (2007) pointed out, Net Generation students believe that technology are part of their everyday life and understand that technology must be integrated into education. The role of the teacher is, therefore, to teach and help students learn with appealing literacies following appropriate frameworks and pedagogies.

The potential use of digital literacies for self-reflection or skills improvement through teacher support, specific contents and language improvement can definitely facilitate student's upgrading and research in this direction should be further analysed. This report is based on a sample size which could be quantified in future research. Further study should also include the applicability and data analysis of each prospective student's subject and the use of specific literacies thus, considering, that this paper is not an end in itself but a very promising beginning.

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