



Sustainable E-CLIL: Adapting Texts and Designing Suitable Reading Material for CLIL Lessons Using Simple ICT Learning Aids

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Abstract

The object of this paper is to provide CLIL secondary education teachers with user-friendly, free and versatile ICT tools in order to simplify and adapt textbooks and to design suitable, original material from raw web resources.

Textbooks represent the salient content specific input but they are often too “cognitively dense” also for native readers: the aim is to reduce learner’s cognitive overload when they deal with the text to avoid frustration and discomfort. This brief will show some easy techniques to increase school text accessibility and to make text comprehension functional to content&language learning. The text book’s input plays a pivotal role in the learning process: it is a lesson activities generator and a powerful stimulus to gain communicative and linguistic competence in a target language.

In addition, we present interactive on-text- activities ideally planned for foreign pupils who have a different language of instruction’s proficiency in order to enhance their reading performance, according to a student-paced adaptive learning’s vision. Learning tools’ functions for immersive reading, subject-specific vocabulary building and reading comprehension, will be introduced as scaffolding strategies aimed at making disciplinary contents “sustainable” and approachable for all learners. CLIL is an inclusive methodology for mixed skills students: it ensures that all learners have equal access to the curriculum and fully participate in the lesson.

Keywords: CLIL, Scaffolding, Reading, ICT;

1. Text’s simplification in CLIL settings

CLIL methodology is focused on a task-based approach in which textbook’s input is a basic lessons activities generator and a stimulus to acquire communicative and linguistic competence. The main task of CLIL teachers is to build a supporting scaffolding for their students in order to convey the subject contents by anticipating or providing solutions to linguistic problems pupils may meet in interpreting study material.

In a recent article [1] professor Coonan describes some of the CLIL-teacher Profiles that have been elaborated at a European level, underlying his/her role of facilitator.

Reading’s facilitation strategies normally applied in the L2 courses and generally well known and widely used by the foreign languages teachers, but often ignored by the subject teachers who are not familiar with them because they work on L1 texts so they take for granted the linguistic features.

In CLIL settings text comprehension is never a passive process, it actively and massively involves learner’s creative efforts: through inferences and assumptions based on information that learner already has, the text becomes comprehensible, mainly because it is linked to students’ previous knowledge, experiences and skills.

The development of any type of CLIL learning materials follows specific criteria clearly described by Peter Mehisto. The Author underlines that “quality CLIL materials are cognitively highly demanding for learners who need to assume the additional challenge of learning through an L2. However, excessive

cognitive load can be avoided by incorporating enhanced scaffolding and other learner support mechanisms to help students reach well beyond what they could do on their own.” [2]

The demand for scaffolded and suitable materials for each content subject taught through a target language is then remarkably high. Unfortunately, the diversity and specificity of teaching environments make impossible the adoption of a single CLIL textbook that satisfies all the pupils’ learning needs. The available books are normally designed for native speakers and cannot easily be assumed as effective educational tools in CLIL approach lessons.

Skilled readers are able to “catch” the linguistic and cultural clues contained in a text, thanks to the strategy of activation of their prior knowledge that allows them to anticipate the text’s full meaning. On the other hand, the CLIL learner coping with a textbook in a foreign language does not have the



appropriate linguistic skills to decode it nor the possibility to anticipate the content. This issue is emphasized by the high density of not context-embedded and abstract information that characterize academic texts and CALP tasks based on a strong subject's micro language vocabulary competence. As a consequence of this, CLIL teacher should carefully evaluate the textbooks' complexity in order to make them accessible to students.

It is not only a question of reducing or reformulating the text itself, but rather to identify the understanding problems that may occur during the lesson and the right activities to support text's comprehension, without altering or watering its specific and original content. Text's simplification has to be considered as a transitory phase of the text's comprehension process, aimed at a higher competence acquisition of content and language. The objective is not to simplify concepts but language by "diluting and distilling" text's information density: text has not to be simple but difficult at a perfect level. The text's oversimplification has to be avoided: it may cause content's trivialism, learning stagnation, student's lack of motivation and decrease of self-confidence.

A solution to the original text's complexity could be found in selecting, among the texts adopted in the countries where vehicular language is spoken, the textbooks designed for native speakers of primary schools. This may have benefits for both the teacher and the students: from the content point of view, the comprehension of these books is easy, they also provide an authentic context for vocabulary learning. However, to teach content specific academic language to our students, these texts are not useful.

Even better would be simplifying authentic texts by providing them with appropriate activities and exercises created specifically for CLIL learning aims (scaffolding technique). CLIL tasks usually present a sort of linguistic redundancy, to enhance target language's natural acquisition, and they always must be adapted to the learners' foreign language's competence.

The teacher can also self-produce quality didactic materials from scratch according to subject content and linguistic objectives, taking inspiration on a case –by –case basis from both in L1 and L2 texts.

Authentic web texts, such as e-magazines and digital scientific journals' articles, or multimedia materials in general, represent a huge collection of free and adaptable CLIL lesson's material.

In this paper we present a framework to scaffold and adjust academic texts using free online ICT aids, it is divided into 4 phases or steps:

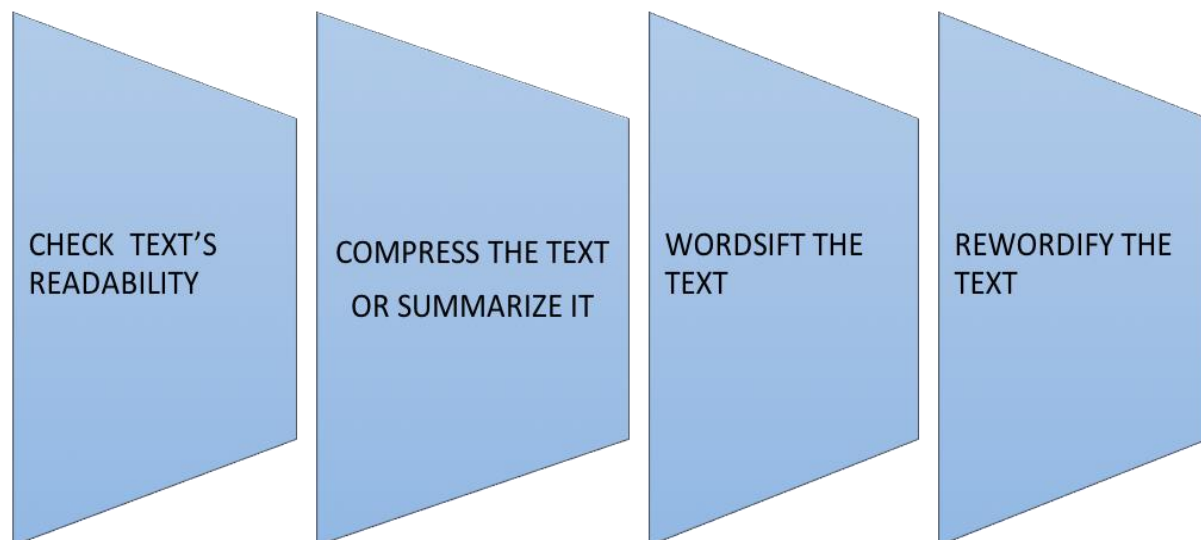


Fig.1. Framework to scaffold and adjust academic texts using free online ICT aids

2. Check text's readability

Two important factors should be taken into account from teachers when they choose, adapt or create "user-friendly" (attractive and involving) study materials: the students' *target language proficiency*, *age and interests*, and the *text's readability*, in order to not overload students with information that they would not be able to process.

A text is considered readable when lexicon and syntax are clear according to mathematic formula and objective criteria (quantitative feature).

There are several free online software tools to automatically measure and check the legibility of a densely packed with information text: they are based on a readability formula that calculates and displays the number of sentences, words, syllables, and characters in a text. These formulas are matched against the reading level of English native speakers as target audience, however, they can constitute a useful instrument to grade the level of comprehensibility of a text given to CLIL students because they highlight polysyllabic words and long, complex sentences: teacher can cut and paste it into a box and see the grade level instantly.

In particular, The readability analyzer [3], not only analyzes readability, but also gives different ways to dig into text, from paragraph-by-paragraph level readability to passive voice detector and difficult and extraneous words finder: difficult academic words may alienate or confuse CLIL learners who are not familiar with them. Using this tool teachers can pay close attention to words and verb tense in passages they choose: the "Long Words" (Complex Multi-Syllable Words) and "Rare Words" tab can help them identify any words that may not be appropriate for their pupils, they are meant to be a guide to detect possible problem words.

3. Compress the text or summarize it

Overwhelming amounts of information in academic texts may jeopardise the lesson topic's insight. Free online summarization tools were created for shortening long text: Text Compactor [4] and Smmry [5] are extremely user-friendly and require no login. To create a summary of the e-book's page by Text Compactor, teachers just copy and paste the digital text into the box, use the slider bar to determine the percentage of text they want to end up with and view the simplified version below the original one. It even links to a text-to-speech and a language translation tool. SMMRY's supplies an efficient way of understanding text by reducing it to only the most relevant sentences. This is accomplished by:

- Rating sentences by importance using the core algorithm.
- Rearranging the summary to concentrate on a topic; by selection of a keyword.
- Eliminating transition phrases.
- Eliminating unessential clauses.
- Eliminating redundant examples.

4. "Wordsift" the text

The path that supports understanding passes through a phase of global approach to the text, during which the students prior knowledge is activated thanks to brainstorming strategy focused on the key elements of the text. WordSift [6] is a tool that allows to build pre and post reading activities, it was designed to aid teachers to manage students' comprehension difficulties arising from academic language in their text materials.

This software supports CLIL learners to immediately seize and display the vocabulary backbone of texts giving them the chance to investigate their language richness and variety.

The program allows teachers and students easily and quickly sift through texts by highlighting key words: a tag cloud is automatically generated and it's possible to set up the cloud style and which words have to be marked, for example the AWL (Academic World List) words, created by Averil Coxhead or the subject's specific words for Art, Science, Math and Social studies, identified in Robert Marzano's important work.

Clicking on any word in the Tag Cloud, the program visualises instances of sentences in which that word is used in the text. In WordSiftIt is also possible a WordNet visualization: this view allows to explore data from the remarkable Princeton Visual Wordnet Corpus (<https://wordnet.princeton.edu/>).

A CLIL teacher can use WordSift to analyze assigned text in order to recognize demanding terms or concepts before the lesson, students can use it to preview text as a strategy for fostering comprehension, identifying the key vocabulary and using the example source sentence feature to skim and to scan the text. WordSift cooperative activities may be easily designed: students can work in small groups on the Tag Cloud using and explaining each other the unfamiliar words in the cloud (peer learning). Another vocabulary building activity inspired to this tool's use would be to take the Visual WordNet display of a word web and have students classify and examine related words.

It is important to underline how these activities "hook" the new text's information to students' previous knowledge, they are aimed at the formulation of meaningful hypotheses and represent a motivating and high cognitive strategy.



5. Rewordify the text

In a CLIL lesson the following stage of academic text approach process consists in the analytical reading, in this stage teacher is assumed to provide different supports: questions to help students to link information, anticipations in order to create expectations on content, micro-summary to be completed from students after the reading, request for identification of text's main concepts and argumentation aimed at building a mind map of the text. This phase is important because it corresponds to understanding's consolidation: the focus is on the acquisition of disciplinary content. A useful web tool to support this step is Rewordify.com [7], a free, online software that enhance reading skills, learning, and teaching. Thanks to this web tool teachers may simplify difficult English to improve students' comprehension and learning outputs, it also helps them to save time and to produce captivating lesson by breaking down text's complexity into digestible chunks. The whole digital text or the URL can be entered into the yellow box at the top of the Rewordify website page, clicking Rewordify text an easier instant version for quick understanding will be displayed. The reworded words are highlighted— click them to hear and learn the original complex word. Teachers can change the highlighted words in order to match the way their students learn. The software provides the so-called Learning sessions to actively teach new words: any time students paste in a block of text, Rewordify finds all the hard words, lets them select which ones they want to learn, and then teaches them in a Learning Session that is not an online quiz but an effective, step by step process where students listen to words and sentences, type them, and read them. When students have learned a word, the site quits "rewording" it, so it grows with them as they learn. Students can chart their learning progress with lots of detailed charts that show how they are doing. Plus, as they use the site, they earn points and get *Learning Stars*, a fun and motivating reward for reading and learning. Clicking the *Print/Learning activities* button teachers can pick from a rich variety of quizzes and learning activities such as cloze and matching exercises, with or without answer keys, and may also create customized word lists so the site rewords and teaches *any* word or phrase exactly the way they want.

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