# LEARNING A LANGUAGE THROUGH OTHER SUBJECTS: SOME PRINCIPLES

Dieser einleitende Artikel beschreibt einen Ansatz zum Zweit- und Fremdsprachenlernen, der auf eine breitere Bildungsbasis abzielt, indem er das Erlernen von Fachinhalten mit der Entwicklung kommunikativer Kompetenzen verknüpft. Im ersten Teil beschreiben wir diese „Postmethodische Pädagogik" (Wiesemes, 2009), die vorzugsweise bei Gymnasiasten und zunehmend auch bei jüngeren Lernenden eingesetzt wird. Im zweiten Teil werden verschiedene Arten von Inhalten und Sprachintegration diskutiert, die im dritten Teil in eine kurze Analyse der Schulfächer und ihrer Potenziale münden. Der vierte Teil, mit dem Titel „Issues, Outcomes and Benefits", stellt Forschungsergebnisse über die Wirksamkeit von inhalts- und sprachintegrierten Ansätzen vor und diskutiert die Herausforderungen, vor denen dieses Modell steht. Schließlich werden Schlussfolgerungen in Bezug auf die Grundprinzipien des Ansatzes und die Notwendigkeit, diese zu überdenken und zu überarbeiten, gezogen, so dass der Leserinnen und Leser eine Grundlage für die nachfolgenden Beiträge in dieser Ausgabe erhält.

● **Daniel Stotz**
PH Zürich, Uni Bern
**& Ute Massler**
PH Weingarten

Dr. phil. Daniel Stotz war bis Juni 2018 Dozent für Fremdsprachendidaktik an der PH Zürich. Seit Herbst 2017 ist er Präsident der Fondazione Lingue e Culture, der Herausgeberin von Babylonia. Er ist auch Lehrbeauftragter an der Uni Bern.

Dr. Ute Massler ist Professorin für Fremdsprachendidaktik an der PH Weingarten. Zu ihren Schwerpunkten in Lehre und Forschung zählen die fremdsprachliche Lese- und Literaturdidaktik, die Didaktik mehrsprachiger und bilingualer Lehr- und Lernprozesse.

## 1. A rationale for content and language learning for young learners

Children acquire a second language through usage in socially situated contexts. The formal study of language features plays a limited role in the lower primary grades, and it is *meaning* (content, message) which drives language development in children (Ellis, 2005; Pinter, 2006). Situations which foster language learning are embedded in the everyday lives of the learners, their caretakers and teachers. Clearly, the structures and phrases that are used as models and for the purpose of interaction are simple and scaffolded with gestures and visual support. Still, they need to function as carriers of meaningful messages. An example would be a teacher's instruction for the children to come to the front of the classroom and to sit down in a semi-circle. The success or not of the communicative act can be observed in the children's reactions. With increasing age, comprehension and beginning language production can be enhanced by raising learners' awareness of the properties and workings of the new language.

If messages which are articulated in the learning context are to be meaningful, they need to include content that children can relate to and that leads to further action on their part in the here-and-now of the classroom or playground. Such an act of communication could, for example, be elicited if a child explains a drawing of her family in simple words. From a pedagogic point of view, it makes little sense with young learners to practise communicative situations which they are likely to encounter only when they are much older, for instance shopping or restaurant transactions. However, this poses a content problem for instructed language learning that starts in primary school: what, apart from stories, rhymes and songs, should the lessons be about? When children with a migration background learn a second language (the language of schooling) in the every-day of the school, they are immersed in the new language, often without much explicit teaching. A similar model of a language bath was adopted by special schools, with pioneering work in Canada in the 1960s, under the label of full immer-

sion (Genesee, 2013). Majority children are exposed to classes conducted by native-speaker or bilingual teachers in a second language, which they acquire in a long-term naturalistic process based on understanding input and negotiating meanings at an age-appropriate academic level. Many immersion programmes were successful, yet in mainstream schooling they are rarely feasible for political and social reasons.

A more recent approach that has the potential of overcoming the content problem of second language education for majority children is known under the acronym *CLIL*, which stands for Content-and-Language Integrated Learning. As the label suggests, the approach has a dual focus on second/foreign-language learning and the development of subject-specific competences through social practices in school communities. According to Dalton-Puffer (2007), CLIL "refers to educational settings where a language other than the students' mother tongue is used as a medium of instruction". In other words, "language and content integration concerns the teaching and learning of both language and subject areas (e.g. science, mathematics, etc.) in the same classroom, at the same time" (Barwell, 2005: 143). Content-and-language integrated learning and teaching fulfils the need for meaningful content in second language education by including thematic aspects from different educational topics across the curriculum.

The rationale for complementing foreign language lessons with CLIL or substituting CLIL for conventional foreign language teaching goes beyond the simple two-for-the-price-of-one argument. Additional benefits are based on the following claims (cf. also Genesee *et al.*, 1998; Massler, 2012; Egger & Lechner, 2012; Lightbown, 2014):

› The time for exposure to and acquisition of the L2 can be extended if CLIL complements FL teaching or occupies more class time.

› The second language is used for communicative and educational purposes in the reality of the classroom, providing usage opportunities for an increasingly wide range of receptive, productive and interactive skills and functions.

› Language pedagogy can benefit from up-to-date subject-specific methodologies, providing for hands-on experiential learning opportunities and challenging discovery activities.

› The rituals and practices in kindergartens and schools provide a frame for repetition and recursion that is more authentic and meaningful than mechanistic language drills.

› Children and teenagers learning a second or foreign language may be more motivated to deal with content that is included in the regular curriculum than with contexts such as tourism, international encounters or occupations that will play a role only later in their lives.

› CLIL-type lessons tend to be attractive for learners who are not especially gifted at language learning. With a connection to other, possibly favourite subjects, children experience the value of literacy education beyond the school language.

Ideally, a CLIL lesson would aim at combining the following elements according to Coyle's 4Cs curriculum (Coyle, 1999; Coyle *et al.*, 2010):

› **Content** – Progression in knowledge, skills and understanding related to specific elements of a defined curriculum;

› **Communication** – Using language to learn whilst learning to use language;

› **Cognition** – Developing thinking skills which link concept formation (abstract and concrete), understanding and language;

› **Culture** – Exposure to alternative perspectives and shared understandings, which deepen awareness of otherness and self.

In sum, the case for the integration of subject content and second language learning is based on the principle that learners can benefit from participation in integrated learning events provided that the learning content is interesting and has added educational value. In other words, as a 10-year old stated in response to a researcher's question about why he liked CLIL: "Well, because it is fun. I don't really like English, but when we work on topics, then I like it better" (cited in Massler, 2012: 39).

## 2. Types of content and language integration

Teaching content through language has a long history and dates back some 5,000 years (Pérez-Cañado, 2011: 315). The rise and expansion of CLIL programmes in Europe beginning in the late 1990s can at least partly be attributed to the European policy to educate multilingual European

citizens (European Commission, 2004; Eurydice, 2006). More recently, CLIL and content-based learning has spread far beyond Europe as a result of globalization processes and the subsequently increasing language demands in mainstream education (cf. e.g. the special CLIL issue of the *Asian EFL Journal*, December 2013). In European classrooms, but also worldwide, various combinations and orientations towards the integration of content and language learning can be observed which can broadly be differentiated into three principal types of CLIL implementation (cf. Lorenz & Met, 1989; Massler & Stotz, 2013):

> **Type A** (our nomenclature): CLIL in subject lessons such as science, arts or physical education (PE), ranging from occasional lessons in a foreign/second language to single or several subjects taught in a foreign language. This type borders on partial immersion, but includes a stronger language focus.

> **Type B**: CLIL in foreign language lessons. The spectrum can range from theme-based foreign language instruction to projects in which aspects of other subjects are taught and learnt in the L2 lessons. While most learning aims are based on the foreign language curriculum, they are enriched with content aims. Consequently, assessment focuses on communicative competence in the foreign language, but may also evaluate thematic/subject knowledge. This CLIL type is most often carried out in regular primary teaching (cf. the model adopted in the Canton of Zurich, Bildungsrat, 2003). Sometimes, it is also used in modular forms (cf. Massler *et al.*, 2014).

> **Type C**: Balanced CLIL. Learning aims and assessment are based on a wholly integrated curriculum or a mix of aims from existing subject and foreign language curricula. Bilingual pre-schools with their more holistic curricula are ideal settings for Type C CLIL.

A number of CLIL authors tend to categorise Type B as "content-based language teaching" (e.g. Cenoz, 2015). However, this would make it difficult to delimit Type B from conventional functional-communicative language teaching around topics of interest for learners. While Type A and B can be encountered in numerous classrooms, Type C, or balanced CLIL, understood as the fully integrated teaching and learning of a subject and a foreign language, shown

in the pupils' timetable as a subject of its own or as a project, remains a rare phenomenon in primary as well as in secondary schools. Concluding with Vollmer, this type of CLIL would be neither "extended foreign language teaching" nor "a traditional subject which happens to be taught in another code", but a true integration of subject and content learning (Vollmer, 2002: 105, our translation; see also Nikula-Jäntti & Moate, this issue). In plurilingual contexts, such integrated language-cum-content projects could work across more than two languages, such as in the example of the Basque country presented in this Babylonia issue (see Ortega & Anakabe).

## 3. Approaches towards the integration of different subjects

How can teachers build bridges between various disciplines and include them in the process of second language learning? The question will be answered differently depending on the level of schooling. In a bilingual kindergarten or a CLIL-type preschool, integrated lessons or immersive islands are likely to focus on hands-on topics such as "water", "using tools" or "winter festivals". Teachers using a CLIL approach at this stage are aware that they need to offer second-language input that is highly contextualised, and that they have to "create an environment which promotes multi-sensory learning" (Kersten *et al.*, 2010: 107). Activities in which children can connect sensory experience with particular language functions tend to support memory better than purely verbal activities.

In lower primary school (typically Grades 1 to 3), nearly any subject discipline may be linked with second or foreign language learning. Starting with the cognitively least demanding, physical education has been seen as a useful site especially for improving listening skills (Rottmann, 2007). Understanding instructions and rules for games and other sports activities requires care and concentration. The success of such acts of comprehension is easily noticeable for teachers in the actions of the children.

Many teachers look at arts, crafts and music as the most suitable subjects in which to conduct lessons or do projects in a second language since the cognitive and verbal demands tend to be less severe here than in science. Working with sculptures, drawings and paintings is inspiring and offers opportunities for

affective responses. The range of ways of engaging with art is immense: learners can express their reactions with movements, gestures, mime, or they could draw a product (see also Frank Schmid, this issue). Verbal responses can start out from models and use language support (Clegg, 2007: 114). Productive speaking activities that learners typically engage in are expressing likes or dislikes or comparing two paintings. If literacy in the new language is not a big problem, they might label their own products or, in crafts, provide simple instructions for creating an artefact.

Science has long been a cornerstone of CLIL provision, especially in secondary school, where it is often compartmentalised into subjects like biology, physics, etc. Wide experience in bilingual schools and in regular schools with CLIL modules shows that it is possible and indeed desirable to do elementary science topics in a second language at primary school as long as certain conditions such as visualisation and contextualisation are met (cf. Chapter 5.1 in Elsner & Kessler, 2013). One of the aims of science teaching is the development among the learners of scientific literacy, that is, a basic familiarity with "ways of doing things" in the study of natural phenomena. Among these methods and modes, learners encounter a range of discursive practices where language is used to express scientific facts, observations, categorisations, generalisations etc. There is no reason why pupils should not develop their repertoire of discursive functions in more than one language, going from less complex forms (identifying and naming things, ordering and categorising things, recognising differences and similarities) to more complex stages (describing a series of events, estimating sizes or amounts, analysing and explaining a phenomenon). The concept of "academic language" and its cognitive discourse functions has been discussed amply in documents issued by the Council of Europe (e.g. Chapter 2 in Beacco *et al.*, 2016). In addition to science, technology lends itself well to CLIL with English in particular because of its association with world-wide standardisation (see also Tinner in this issue).

A viable CLIL concept needs to consider the following three dimensions, irrespective of the subjects that are integrated: the subject dimension can be seen as a double perspective referring, first, to *thematic content knowledge* (e.g. knowing

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about the basic necessities for life to exist) and, secondly, to *aspects of subject competence* (e.g. learning how to perceive, observe, discover and analyse natural phenomena). The third dimension, which captures communication and language, is interwoven with the others; the *linguistic competences* that are built up through second language learning can be plotted on a scale of levels such as that provided by the Common European Framework of Reference for Languages (Council of Europe, 2001). The design or choice of activities and tasks for CLIL should ensure that progress along subject-specific and language-competence pathways is enabled. In classroom practice, CLIL teachers will provide extra scaffolding in the form of language and cognitive support and refrain from putting learners under undue pressure to produce utterances in the L2 if they are not ready do so yet. Such learning scenarios will afford the children opportunities to express meaningful messages and interact verbally, with clear and obvious reference to the here-and-now of the classroom or field trip environment.

Learning subject content and a second or foreign language at the same time is often associated with positive attitudes and increased confidence on the part of young learners (see 4 below). It is vital that the motivation to keep on learning is upheld and that any form of evaluation is considered under the motto of maintaining interest and fostering integrated, enriched learning. For this purpose, CLIL teachers give pupils ample opportunity to leave traces of their learning, for instance by asking them to collect samples of work or successful task outcomes in a portfolio (Poisel, 2007). Such practices are in line with the call for assessment *for* learn-

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ing instead of summative assessment *of* learning, where evaluation is seen as a part of the learning process and also helps the learners raise their awareness of where they stand (Wewer, 2013: 79). At the same time, there is often no way around summative assessment, which presents a particular challenge for CLIL contexts in so far as school systems usually require a clear separation between the assessment of communicative and linguistic performance and that of subject content knowledge and competence. Teachers tend to resort to different strategies, e.g. using the language of schooling for their assessment procedures or creating test tasks with a low share of foreign language instructions or texts and low demand for spoken or written learner reactions (Massler & Stotz, 2013: 69f.). From a theoretical perspective, it has been shown that content and language can and should be assessed in an integrated way (Mohan *et al.*, 2010). Practical proposals have been put forward and partly tested by Massler and Stotz (2013; Massler *et al.*, 2016 for assessment tasks), as well as by the European project AE-CLIL (Quartapelle, 2012) and the Finnish project PROFICOM (Wewer, 2013). Wewer concludes that "CLIL teachers should arrange more functional language use situations for pupils in which they can exhibit their language skills, and teachers should practice more systematic observation and data gathering of the progress made in language development" (*ibid.*, 85). Assessing learner performance in CLIL-type classrooms is a challenging business for teachers, yet it is vital for mainstreaming this form of learning and teaching.

### 4. Issues, outcomes and benefits

Teaching in a CLIL framework presents a number of challenges that are unique to its dual focus. Although, of course, CLIL

teachers need the specific competences of both the language and the content subject, it does not suffice simply to add up the training profiles of prospective foreign language and subject-matter teachers (cf. Wolff, 2002: 254; cf. also Marsh *et al.*, 2008). Rather, a CLIL teacher needs to be able to acquire the methodologies and strategies for teaching another subject through the medium of a foreign language and has to be capable of teaching a content subject and a foreign language in an integrated way. As educational policies all over Europe strive to replace regular foreign language classes with CLIL classes, the demand for qualified CLIL teachers is rising. Primary school teachers who are trained to teach a broad range of subjects thus have an advantage over secondary school teachers, who are often either language or subject teachers (see also Bartholemy's contribution in this issue). In order to help learners cope with the dual focus of CLIL, Wolff lists a wide range of knowledge and skills relating to methodology and assessment that CLIL teachers should have (2002: 254). They deploy strategies to support continuous language growth. They are able to build direction and focus, i.e. they identify key concepts of content subjects and make them accessible to learners by modifying teaching to take into account students' diverse language competence and needs. Being able to build safe and meaningful learning experiences is another essential skill. This implies, for example, supporting students in managing the affective side of learning through an additional language. CLIL teachers need to be able to support learners in building their capacity for self-motivation, self-assessment, cooperation, etc. (Meyer *et al.*, 2015). It is also essential that teachers foster and use co-operation with colleagues in order to reflect on and improve learning. In agreement with Genesee *et al.* (1998: 117), we would like to conclude that if the preparation of CLIL teachers is not designed to support the heavy demands of such instruction so that teachers are both effective language and subject matter teachers and additionally trained in CLIL methodology, then the potential of such instruction will be seriously compromised to the detriment of student learning. Therefore, we recommend that CLIL training be part of initial as well as further teacher training.

The number of research studies examining CLIL learning outcomes has grown substantially over the last two decades although so far, most research has focused on language learning. Thus, comparing numerous studies, Dalton-Puffer (2011), Pérez-Cañado (2011) and Ruiz de Zarobe (2015) conclude that there is increasing evidence that CLIL programmes are more successful in developing foreign language competence than traditional language classes. In relation to language learning, content learning in CLIL contexts has not been investigated as thoroughly and the research is not entirely conclusive. Still there is evidence to show that CLIL learners manage to attain similar results in content learning as non-CLIL students (Wiesemes, 2009; Dalton-Puffer, 2011; Pérez-Cañado, 2011; Ruiz de Zarobe, 2015). Yet, compiling and analysing findings across different studies is difficult "as there are a number of different subjects being taught through CLIL and different local curricula and syllabi that define the content's learning outcomes" (Iouannou Georgiou, 2012: 501). Furthermore, teacher qualifications might also influence quantity and quality of learning outcomes.

It is clear that the variety of CLIL models "obstructs the replication of studies, the compilation of a substantial body of research, or opportunities for meta-analyses of research results, all of which could enhance our understanding of CLIL" (Ioannou Georgiou, 2012: 498). Among the studies that yield positive results with regard to primary CLIL programmes is Jiménez Catalán and Ruiz de Zarobe's study (2009). It investigated CLIL and non-CLIL students' receptive vocabulary of Grade 6 bilingual Basque-Spanish learners of English (FL) and found that the CLIL group showed significant gains over the non-CLIL group on vocabulary depth, but not on vocabulary size. A longitudinal study among Finnish primary students documented that after four years, CLIL students outperform monolingually taught students with regard to the formation of relative clauses (Järvinen, 1999). Two Finnish studies (Merisuo-Storm, 2006; 2007) in Grade 1 and 2 furnished evidence that no statistically significant differences were detected between CLIL and non-CLIL students in terms of mother tongue literacy skills, but that the CLIL strands showed more positive attitudes towards language learning. Studies by Romu and Sjöberg-Heino (1999) and Södergård (2006) state that primary CLIL students showed positive attitudes, satisfaction, and increased confidence through these programmes. These are impacts that might be essential and extremely beneficial with regard to sustained, long-term language learning. Most of the available studies are cross-sectional, comparing CLIL with non-CLIL environments. A recent large-scale longitudinal investigation (Pérez Cañado, 2018), one among a whole number of studies from Spain, has found that positive effects of CLIL provision are pervasive, especially in the aspects of use of English and speaking, lexical range and task fulfilment. The effects increase over time, but are "mitigated if these [CLIL] programs are discontinued" (Pérez Cañado, 2018: 62). The author concludes that "these types of programs require approximately 20 years to come to fruition" (*ibid.*, 68). It is regrettable if, as happened in parts of Switzerland, CLIL concepts are implemented half-heartedly or watered down after a few years, with a lack of continuity as the pupils progress from primary to secondary school.

## 5. Concluding remarks

Over the last decade, CLIL has become a fixture in many school systems, especially in Europe, but also in other parts of the world. A dual focus on language and subject content is seen by many practitioners and theorists as a rewarding combination which fruitfully challenges the traditional partitioning of educational goals into seemingly neat boxes such as maths, science and crafts. Although more CLIL experience has accrued at the secondary school level, the more holistic curricula of pre-school and lower primary are a context conducive to building bridges between language and subject content. If we strive to develop the CLIL model further, we would be well advised to carry over insights from the highly contextualised and socially embedded setting of the primary classroom and aim for more pedagogically pertinent modes of working in secondary school as well. Rethinking CLIL would also mean to question the rigid borderlines between subjects and thus to venture beyond Type A and Type B CLIL provision. As long as the system requires teachers to provide assessments for competences in single subjects, there is little freedom for true integration (as in Type C). This seems slightly absurd in so far as the descriptions of competences in present-day cur-

ricula such as the Swiss Lehrplan 21 and PER (Plan d'études romand) often refer to transdisciplinary abilities and knowledge structures, for example:

> [Schülerinnen und Schüler] können in einfachen zusammenhängenden Themen über ein Ereignis berichten (z.B. Reisebericht, Experiment, kultureller Anlass) (LP21, Englisch Schreiben B1.1)
> [l'apprenant] cite et commente des événements qui induisent un changement (PER, histoire, Cycle 2)

The acts of describing, paraphrasing and commenting events all encompass linguistic as well as thematic and factual components. Therefore, in development as in assessment, there is no way around considering all of these dimensions, whether the subject label is "foreign language", "science" or "history".

Implementing CLIL is certainly a challenging endeavour for schools and teachers as well as teacher training institutions; they are called upon to adapt the best of the various methodologies to the make-up of their classes and individual learners. In the past, CLIL has suffered from a selective adoption so that it was offered only at privileged schools or to high-achieving learners, which has led to a so-called "creaming effect" (Pérez Cañado, 2018:54). If CLIL as a promising educational project is to be mainstreamed, the concept of differentiation bears rethinking as well. As long as the content of what is taught and learnt is pitched at the right cognitive and affective level, young learners' curiosity and dedication will often make them forget that they are learning a new language at the same time.

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