Improving the effectiveness of language learning: CLIL and computer assisted language learning

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Introduction

This report arises from the work of the members of the OMC Group Languages in Education and Training and draws on a literature review produced for the Group and peer learning activities involving delegates and experts in Helsinki and Graz.

1.1   Background

The recent detailed comparative analysis of the Member States' foreign language teaching policies[1] reveals that despite significant investment in foreign language teaching in recent years, the competence level of European students continues to be below expectations. The analysis shows that while it is clear that there are gradually less problems with the *availability* of foreign language learning in a school setting, the effectiveness of foreign language education in many Member States is problematic[2]. A renewed focus must be made on the *quality* of language teaching.

The comparative analysis shows that many countries have strategies and plans that focus on different ways to increase the efficiency and effectiveness of foreign language education in schools.

One method which is used in an increasing number of Member States, according to the comparative country analysis, is the CLIL method (a teaching method in which the foreign language is used for the teaching of non-language school subjects). Given that the comparative analysis found that a considerable number of Member States have experience to share in the use of this method (at least 12 countries) but understanding of how it works is still evolving, the Group agreed to explore how learning outcomes could be improved through this method.

The comparative country analysis also found that at least eight countries had large scale strategies to increase the use of information and communication technologies (ICT) in language education. This will be described as computer assisted language learning (CALL).

The use of ICT and on-line learning material is still not fully exploited in education. Member States have raised problems associated with the use of ICT in language education, such as the lack of adequate training for teachers and the low quality of on-line teaching material. The Group wished to explore how teaching outcomes could be improved through the use of ICT and open educational resources (OER).

1.2   The literature review

This report draws on a systematic review of published and grey literature on the use of CLIL and CALL to improve the learning of languages. This includes the acquisition of each of the different language competences (reading, writing, speaking and listening) and the levels reached as well as learners' motivation to learn languages. The approach to the review can be found in Annex 1.

This report draws on a detailed review and synthesis of 57 publications identified as providing relevant evidence. These are listed in Annex 2.

1.3   Good practice resources

The report also draws on the good practices in language teaching produced by the European Centre for Modern Languages (ECML) and the promotion of innovation and development of

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[1] Languages in Education and Training: Final Country Comparative Analysis, prepared in 2013 by the TWG Languages in Education and Training with support by GHK.

[2] The findings of a comparative analysis of Member States' foreign language education policies discusses the possible reasons for the disappointing state of students' foreign language competences in the Member States. According to this analysis, there are a fair number of countries, where learning time is considered to be adequate, but achieved competency levels at the end of secondary education are too low, thus pointing at a problem with the efficiency and quality of teaching.

language expert networks which the ECML has supported over the last ten years or so[3]. These are designed to enable the implementation of more effective approaches to language education.

The resources are based on evidence in the research literature about what works which are then translated into draft tools which practitioners review and reflect on in relation to their experience. This process is iterative and involves a mix of active practitioners, academics and policy implementers to develop effective tools in workshops and co-writing that reflect best practice and can assist them on the ground.

Box 1.1 below sets out examples of recent projects relating to CLIL and CALL.

Box 1.1   ECML project examples

Developing online teaching skills (DOTS)[4]

The aim of the project was to assist language teachers in using up-to-date technology in their teaching. A training kit was developed, which includes bite-sized activities for ten online pedagogic tools. By completing the activities, teachers can learn to use these tools and integrate them into their language classes. They can also watch video clips of experts explaining their use of the tools and discuss their experiences and needs.

Developing CLIL competences (CLIC)

The CLIC Matrix is an internet awareness raising tool for teachers that provides a series of indicators that teachers can use to assess their teaching in a CLIL context together with good practice to help them improve. The indicators cover the four aspects of culture, communication, cognition and community, each from the perspective of context, language, integration and learning.

A framework for the professional development of CLIL teachers[5]

The European Framework for CLIL Teacher Education provides a set of principles and ideas for designing curricula for professional teacher development in the area of content and language integrated learning (CLIL).

It is a macro-framework that identifies the target professional competences for CLIL teachers; it includes the competences necessary to teach content subjects and an additional language in an integrated manner; and it proposes professional development modules to help teachers attain these target professional competences.

Resources and guides on all these and other projects are available on the ECML website (http://www.ecml.at/).

1.4   Peer learning activities

Members of the Group and invited experts provided examples of their experience implementing CLIL and CALL initiatives. Experiences shared in discussions drew out learning about what is needed to achieve effective implementation of both CLIL and CALL which both corroborated and expanded on the findings of the literature review and the good practice materials.

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[3] http://www.ecml.at/Aboutus/ECMLMemberStates/tabid/149/language/en-GB/Default.aspx

[4] http://dots.ecml.at/

[5] http://clil-cd.ecml.at/EuropeanFrameworkforCLILTeacherEducation/tabid/2254/language/en-GB/Default.aspx

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2 Content and language integrated learning (CLIL)

This chapter covers the outcomes of CLIL for language learners on their language competences, other outcomes for learners and the impacts on teaching, and what is required to implement CLIL effectively.

2.1 What is CLIL

2.1.1 Defining CLIL

In order to delineate CLIL more precisely for this review, we can distinguish three types of bilingual education (Budvytyte-Gudiene and Toleikien, 2008).

■ The first is 'immersion', where education is orientated to teaching a country's other language (e.g. Canada, Belgium, Ireland, Luxembourg, Malta, Finland and Switzerland) or regional language (Slovenia and United Kingdom). Here, a language that is not the language of the larger society is the medium of instruction (Admiraal et al. 2006). The language is often the other official language of the country. Immersion teachers are native speakers of this language who otherwise possess exactly the same qualifications as would the mother-tongue teachers of the students concerned (Dalton-Puffer, 2007). The theory and practice of bilingual education originated with immersion programmes in Canada in the 1970s where English students were immersed in French language instruction.

■ A second kind of bilingual education, sometimes referred to as 'submersion', relates to the linguistic and cultural integration of migrants (the linguistic minority). Here, language minority children are taught in the language of the majority group, with the aim of developing skills in the language that may be foreign to them but which is needed for access to the curriculum and daily life inside and outside school (Admiraal et al. 2006). Therefore, 'second language' competencies are developed through the teaching of curricular content that is not typical of language classes per se (Dalton-Puffer, 2007). This is common in the teaching of migrant children in schools in many European countries.

■ The third kind is where the target language of bilingual education is a foreign language and the target group is the linguistic majority of a certain country. This is a more specific definition that distinguishes CLIL as a particular form of bilingual education, and which reflects a particular relationship between subject, student, and language. This defines CLIL as "*an educational approach in which a foreign language is used as the medium of instruction to teach content subjects for mainstream students*" (Nikula et al. 2013). This definition of CLIL is used here.

2.1.2 How is CLIL expected to improve language competences cost effectively

In CLIL, the language of instruction is a foreign language and is rarely used (or not used at all) in social contexts outside the classroom which limits the extent of non-formal and informal learning (Budvytyte-Gudiene and Toleikien, 2008). Classrooms form the major, often the only, context in which learners have opportunities to use the target language. As a consequence, CLIL increases the opportunities for language learning and practice without increasing the curriculum time and specialist language teacher time allocated to language learning.

The distinctiveness of CLIL is its integrated approach to content and language (Lasagabaster, 2008). It integrates content and language by learning a content subject through the medium of a foreign language and by learning a foreign language through studying a content-based subject (Ruiz De Zarobe, 2008).

2.1.3 What does CLIL expect to achieve

The overall goals of CLIL can be wide-ranging but should include (Dalton-Puffer, 2007) to:

■ Develop intercultural communication skills;

- Prepare for internationalism;
- Provide opportunities to study content through different perspectives;
- Access subject-specific target language terminology;
- Improve overall target language competence;
- Develop oral communication skills;
- Diversify methods and forms of classroom practice; and
- Increase learner motivation.

These are often expressed as the '4Cs' (cited in Meyer, 2010; Ruiz De Zarobe, 2013):

- **Content** matter is not only about acquiring knowledge and skills, it is about the learners creating their own knowledge and understanding and developing skills (personalised learning);

- Content is related to learning and thinking (**cognition**). To enable the learners to create their own interpretation of content, it must be analysed for its linguistic demands; thinking processes (cognition) need to be analysed in terms of their linguistic demands;

- Language needs to be learned through **communication**, reconstructing the content and its related cognitive processes. This language needs to be transparent and accessible; interaction in the learning context is fundamental to learning. This has implications when the learning context operates through the medium of a foreign language;

- The relationship between **culture** and languages is complex. Intercultural awareness is fundamental to CLIL. Its rightful place is at the core of CLIL.
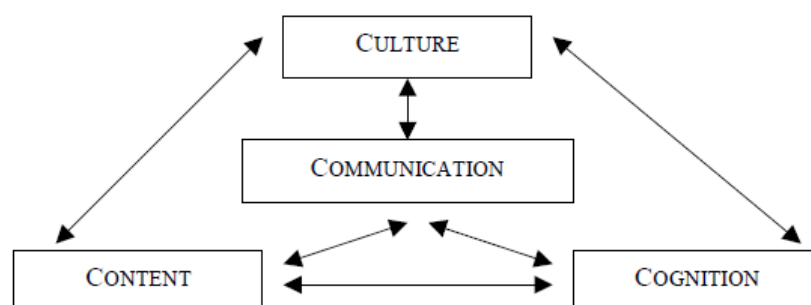
2.2 What does CLIL achieve

2.2.1 How far does it improve language competences

There is considerable evidence of the positive impact of CLIL on children's language competences when compared to standard foreign language programmes. This is based on testing before and after a significant degree of exposure to CLIL and comparison to groups of children who have not experienced CLIL teaching.

From available evidence, Dalton-Puffer (2007) concludes that CLIL students can reach significantly higher levels in a foreign language than by conventional foreign language classes.

A large-scale study of CLIL in Germany (Ergebnisse der DESI-Studie) in 2008 (see table below) found that the CLIL learners had a higher foreign language competence at 15 years old than their non-CLIL control groups. Lasagabaster (2008) highlights work by Hellekjaer in Norway that suggests that CLIL programmes in upper secondary education can boost students' reading skills for students to manage English textbooks later on at university level. The study found that 74 % of CLIL students scored satisfactorily on the IELTS Reading for Academic Purposes Module Test compared to 33 % for non-CLIL students. In Spain, for both CLIL elementary students and secondary students' better language competency levels are achieved than for non-CLIL students, especially in written comprehension (Gallardo del Puerto and Martínez Adrián, 2013).

Detailed studies showing the positive impact of CLIL on language competences are set out in the table below.

Table 2.1   Key studies

Context	Study details	Results	Source
English language instruction in the Netherlands	1,305 students across four cohorts in five schools, 584 of which were part of a CLIL programme and 721 of which followed the regular programme (control).	Students in the CLIL programme performed better on reading comprehension (77.2 compared to 55.1 as measured by the national final examinations for English for intermediate general secondary education) and general oral proficiency (78.0 vs. 54.6 as measured by the Cito Oral Proficiency Test for English, where students have to use language in various real-life situations). There were only moderate positive effects for pronunciation (76.4 vs. 62.3). The CLIL group also scored significantly higher than the control group for achievement on the final exams in English (81.3 vs. 67.6). There were no significant differences for receptive word knowledge	Admiraal et al (2006)
English language instruction in Germany	958 grade nine students from 38 classes. Only schools which had been offering CLIL for at least four years were considered for selection to ensure reliable treatment. The selection was random but took States (Laender) and school types proportionally into account. Test results were only included in the analysis if at least 95% percent of pupils in the class had participated in	Students in the CLIL programme performed better on all aspects of the assessment encompassing text reconstruction, listening comprehension, reading comprehension, grammatical proficiency, writing, and socio-pragmatic competency (i.e. linguistic consciousness and linguistic acting). The differences in scores ranged from 46 in writing to 74 in listening comprehension. The study concludes that students in CLIL programmes score significantly higher in all aspects of language learning. Particularly with regard to listening comprehension, the yearly increase in proficiency is twice that of students in traditional programmes.	Ergebnisse der DESI-Studie (2008)

Context	Study details	Results	Source
	CLIL at least from grade seven onwards.		
English language CLIL programmes in the Basque Autonomous Community, Spain	50 students in three cohorts / control group of 70. CLIL delivered over two years in six secondary schools (first cycle of CSE, third cycle of CSE, and first cycle of post-compulsory education). Testing before and after.	The experimental cohorts (assessed in Oct 2004 and then in May 2006) obtained better results than the control group in all the tests. The first cycle CSE outperformed the control group by 22 %; third cycle outperformed control by 4 %; post-compulsory cohort outperformed control by 18 %.	Alonso et al. (2008)
	Comparison of 28 non-CLIL 15-16 year olds in the fourth year of secondary education with 170 CLIL students in the third and fourth year of secondary education each receiving four hours of CLIL per week.	The CLIL groups significantly outstripped their non-CLIL counterparts in pronunciation, vocabulary, grammar, fluency, and content. Students in the third year of secondary education also scored higher than non-CLIL fourth year students in all respects except listening.	Lasagabaster (2008)
	Longitudinal study of two groups of CLIL students, one CLIL group taught social science for three/four hours per week, and the second CLIL group taught social science for three/four hours a week plus Modern English Literature for two hours a week (both began CLIL at 14 years old in addition to standard EFL). The control group took three hours of EFL classes per week. All the participants started learning English at school when they were eight years old.	Tests showed that CLIL groups significantly outperformed the non-CLIL group in pronunciation, vocabulary, grammar, fluency, and content. Students taking two CLIL subjects also obtained significantly better results than the one CLIL subject. In the higher grades (fourth year of secondary education and pre-university grade) differences were less pronounced. At pre-university grade, there were no statistically significant differences between the more intensive CLIL group and the non-CLIL group for pronunciation, fluency, and content (there were effects for vocabulary and grammar). Longitudinally, in the non-CLIL group there was a positive relationship between grade and linguistic outcomes with significantly better results on fluency and content.	Ruiz De Zarobe (2008)
Bilingual Education Programme (BEP), Spain	An evaluation of the BEP focused on identification of evidence on pupils' English language proficiency as developed and demonstrated through the study of subject matter in a bilingual context; and on their achievements in Spanish. The study involved visiting 21 schools, sixteen of which received periodic visits and five of which received single visits. There was no control group for this study.	Pupils aged 3-7 showed substantial progression in learning during their initial years. The evidence suggests there is a benefit of beginning at a young age. By the end of the third cycle of primary education (11 year olds), evidence shows that there was a good general participation in class and intellectual engagement with subject matter. Pupils demonstrated confident command of technical vocabulary and an ability to produce extended utterances and not just single-word responses. In the first two years of secondary school education, students demonstrated a wider range of specialised vocabulary, greater sureness of distinctions and definitions and greater length of utterance. Students spoke coherently at	Dobson et al. (2010)

Context	Study details	Results	Source
		some length and with little hesitation, with no notes or prompting.	

One of the largest CLIL programmes has been developed in Spain with striking results.

The Spanish Bilingual Education Programme (BEP) (Dobson et al. 2010)

BEP is a CLIL initiative that began in 1996 in 43 state schools with 1200 pupils aged three and four. Since 1996, bilingual education has been introduced at every level of education from age three through to sixteen in the project schools. In the school year 2008-2009 there were 74 primary schools and 40 secondary schools involved in the BEP. A significant amount of curricular time is allocated to English language, roughly equivalent to 40 % of each week at school, allowing pupils to learn science, history, and geography through English. The skills of reading and writing in English are introduced from an early point, in order to complement the skills of listening and speaking and to promote an underlying general competence in language. Students continued the CLIL programme from primary through to secondary school. Supernumerary teachers were made available to each participating school in order to support the everyday classroom teachers in implementing the programme.

Pupils aged 3-7 experienced through English a range of visual, auditory and kinaesthetic learning. Evidence shows substantial progression in pupils' learning during their initial years. Initially, their activity is based on actions, songs, chants, games, objects and visuals. Their pronunciation is generally very good they show high speed of comprehension and an ability to demonstrate this quickly through actions and mimes. By Year 2 of primary school, they have moved into the use of English for studying the environment, and can understand quite complex incomplete utterances given by the teacher. The evidence suggests there is a benefit of beginning at a young age, provided that the teaching is appropriate. Knowledge, understanding, insights, attitudes, routines and skills are all being developed in these early years which provide the foundation for outcomes in later primary and secondary school.

By the end of the third cycle of primary education (11 year olds), evidence shows that there was a good general participation in class and intellectual engagement with subject matter. Pupils demonstrated confident command of technical vocabulary in respect of several different aspects of science, and also of English-language structure, revealing an ability to produce extended utterances and not just single-word responses.

In the first two years of secondary school education, students' comprehension becomes more challenged as they study a wider range of subjects. Students demonstrated a wider range of specialized vocabulary, greater sureness of distinctions and definitions and greater length of utterance. Students spoke coherently at some length and with little hesitation, with no notes or prompting. They could organise their own group work, conduct experiments, construct their own arguments more or less on the spot, to express the implications of particular propositions, and explain alternative points of view.

2.2.2 Which competences are improved

In CLIL classes certain aspects of language competence are developed more than others (Dalton-Puffer, 2007). A review of evidence (Dalton-Puffer, 2007) suggests that language competences favourably affected are as follows:

■ Receptive skills (listening and reading as opposed to the 'productive' skills of speaking and writing);
■ Vocabulary;
■ Morphology (the structure of linguistic units such as morphemes - a morpheme is the smallest single unit of language that has meaning, such as prefixes and suffixes);
■ Creativity, risk-taking, and

- Fluency and the quantity of spoken language.

The review also shows that the greatest gain for CLIL learners is that they possess larger vocabularies of technical and semi-technical terms and possibly also of general academic language because of the subjects they have studied. Gains are particularly great if vocabulary is worked on explicitly.

Language competences unaffected or less clearly affected are: syntax (grammar); writing; informal/non-technical language; pronunciation; pragmatics (the ways in which context contributes to meaning). Gallardo del Puerto and Martínez Adrián (2013), for example, suggest that outcomes do not emerge for pronunciation, syntax and discourse skills.

Studies in different contexts do not necessarily arrive at the same conclusions. Lasagabaster (2008) (see table of key studies above) found impacts for pronunciation, vocabulary, grammar, fluency, and content. Ruiz De Zarobe (2008) (see table above) also found the same variations. Admiraal et al (2006) (see table above) found no significant differences for receptive word knowledge, meaning that CLIL students did not acquire English words at a faster rate. There were also only moderate positive effects for pronunciation.

While the evidence points to the overall benefits of CLIL programmes for language learning outcomes, some academics, such as Bonnet (2012), argue there are no conclusive links between learning outcomes and classroom practice. The drawback is that studies take a limited functional-pragmatic concept of competence and do not go beyond a predetermined set of categories used for classroom analysis. There are also methodological limitations, if CLIL participants are self-selecting and begin at a higher level of competence than comparison groups. However many of the studies referenced here use testing before and after.

2.2.3   How does CLIL affect content learning outcomes

CLIL does not have a negative impact on children's performance in content subjects. Reviews of evidence suggest that CLIL students attain as well as or even better than non-CLIL students learning subject content in their first language (Bonnet, 2012; Coyle, 2010; Dalton-Puffer, 2007; Meyer, 2009). This may be more likely for skills-based learning as for factual learning, which may be owing to the enhanced interaction often present in good CLIL classrooms (Coyle, 2010).

CLIL does not have any detrimental effect on learning the content subject although in Belgium (fr) it is reported by inspectors that there is slower progress at first but children catch up with their peers. There was no loss of learning of subject-matter in the Spanish BEP (Dobson et al. 2010). Pupils were able to express a wide range of language functions which reflect the discourse of science lessons. A cohort of BEP students took the University of Cambridge IGCSE examination in 2009. The performance in content subjects, especially Biology, History and Geography (all examined in English), showed that BEP students were able to tackle successfully subject matter in their additional language that was cognitively demanding.

There was also no detriment to written Spanish for CLIL students in Spain's BEP (Dobson et al. 2010). A study comparing BEP students with non-BEP students showed that the performance of the students in the BEP groups was clearly stronger than that of those in the non-BEP groups. For example, 25 % of the BEP students' performance was rated as 'not adequate', compared with 45 % of non-BEP students.

Studies in Finland have investigated possible detrimental effects on first language learning and cognition. A study of the effects of CLIL on the development of children's literacy skills during their first six school years found that CLIL students achieved significantly better spelling skills in the Finnish language than children in the other classes (Merisuo-Storm, 2011).

Learners may struggle considerably during the initial stages of CLIL and success may be heavily dependent upon students reaching a threshold level of competence in the foreign language (Bonnet, 2012). CLIL students, for example, can have difficulties in verbalising concepts in the foreign language. This may be because in the course of the cognitive

processes of concept formation the close link between ideas and particular languages breaks up. Bonnet (2012) also reports evidence that the linguistic and cognitive difficulty in CLIL classrooms can lead to more intense reading, paraphrasing and cognitive processing. This means that 'scaffolding' and a greater repertoire of learning strategies may be needed.

Bonnet (2012) argues that in order to succeed in CLIL classrooms students require a core competency in the subject matter as well as foreign language competence and interactional competence.

Box 2.1   Lessons from CLIL in VET schools in Austria

The flagships of CLIL in Austrian VET are technical colleges that focus on arts and crafts. Bilingual education can also be linked to international business entrepreneurship courses and internships. In addition, multilingual competences are a general pedagogic principle in colleges focusing on social services, including tourism.

Some lessons have already emerged from the use of CLIL in the Austrian VET system:

- CLIL should focus on and prioritise agreed parts of the content subject matter;

- CLIL should take at least 25% of the content in an annual teaching programme;

- There should be a clear division between who teaches and assesses the target language and who uses the language in teaching of other content but team working between these teachers is essential;

- Language support is provided;

- If the target language is used for assessment, tests should be kept simple; and

- Assessment of learners in the content subject should be based on their products and achievements rather than on their target language ability.

2.2.4   What other benefits are there

Cognitional development

CLIL students may also gain in cognitional development and other aptitudes. CLIL presents an opportunity to students for using knowledge learned in one context as a knowledge base in other contexts because it helps learners to apply, integrate and transfer knowledge while fostering critical thinking (Duverger, 1995 cited in Gravé-Rousseau, 2011).

Jäppinen (2005) found that Finnish CLIL environments in general education have usually succeeded in offering favourable conditions for cognitional development in mathematics and science. In some cases, cognitional development seemed to be even faster for CLIL learners. The study was carried out in 12 Finnish mainstream comprehensive schools. The age range of the 669 learners was 7–15 years. Researchers compared the experimental group of 335 CLIL learners with a control group of 334 learners taught through Finnish. The amount of CLIL in English was about 60 %, the amount of French 30 %, and the amount of Swedish about 10 %. Measurements for cognitional levels of learners were taken longitudinally over about 18 months.

Gajo and Serra (2002) (cited in Gravé-Rousseau, 2011) studied the impact on student performance of teaching maths in French to Italian students. The authors noted aptitude differences between monolingual and bilingual students. While monolingual speakers show greater competence in acquiring and memorising information, bilingual students tend to adopt a more analytical approach to learning and are more capable of applying the knowledge acquired to new learning situations.

Motivation and confidence

CLIL can boost learners' motivation towards learning languages. Learner motivation in most of the literature on CLIL programmes has been shown to increase (Corrales and Maloff, 2011). Motivation may increase when 'real issues' become the centre of study. The rationale

is that learners who are interested in a particular topic will be motivated to acquire language in order to communicate (Gravé-Rousseau, 2011).

Table 2.2 below provides evidence for the positive impact on motivation.

Table 2.2   Key evidence of increased learner motivation

Context	Study details	Results	Source
Evaluation of Interacting for teaching and learning in CLIL (ITALIC), UK	A study of the extent to which learners were motivated by CLIL. It involved 11 schools in England and Scotland, 23 teachers, and 650 pupils aged 11 to 14. There were a range of CLIL models used with French, German and Spanish.	Nearly two-thirds of students were positive about CLIL and felt motivated to continue learning the foreign language. A higher proportion (84 %) voted to carry on with CLIL lessons.	Coyle (2011)
Bilingual Education Programme (BEP), Spain	An evaluation of the BEP focused on identification of evidence on pupils' English language proficiency and their achievements in Spanish. The study involved 21 schools. There was no control group for this study.	Three-quarters of the respondents, regardless of their gender, felt confident in learning through English. Students felt the BEP had helped them broaden their understanding of other subjects, and a motivating factor was the sense of success in learning other subjects through the medium of their additional language.	Dobson et al. (2010)

CLIL can also improve children's confidence in learning the foreign language. A study of the effects of CLIL on the development of children's literacy skills during their first six school years in Finland found that after having used English in CLIL classes for four years their attitudes towards foreign language learning were more positive than of those in the other classes (Merisuo-Storm, 2011).

Dalton-Puffer (2007) cites evidence that CLIL students often display greater fluency and creativity and show the kind of higher risk-taking often associated with good language learners. This is associated with the way CLIL helps students to lose their inhibitions to use the foreign language spontaneously for face-to-face interaction.

Attitudes towards other languages may also be enhanced from experience of CLIL (Braquier, 2013; Coyle, 2010). CLIL allows learners to build intercultural knowledge and understanding which develops their intercultural communication skills (Vujovic, 2011).

2.2.5   Variations in outcomes

Gender

The evidence on gender differences in CLIL programmes is mixed. Some studies have suggested that CLIL classes can exert a positive influence on students' desire to learn and develop their language competence in the foreign language, especially among male students, perhaps because CLIL adds extrinsic motivation for males rather than simply intrinsic motivation (Lasagabaster, 2010).

This effect would help to reduce the well-known gender differences in foreign language competences between males and females. Research studies in different contexts show that females are more inclined to study foreign languages and that they usually outperform males.

However, Lasagabaster (2010) finds that CLIL does not eradicate gender differences. In a study of CLIL implementation in the Basque bilingual context where English represents the third language included in the curriculum, Lasagabaster (2008) compared 28 non-CLIL 15-16 year olds in the fourth year of secondary education with 170 CLIL students in the third and fourth year of secondary education each receiving four hours of CLIL a week. Female students outperformed their male counterparts in all the English tests – but speaking, the only skill where no significant differences between male and female students were observed – and in overall English competence.

Socio-cultural

Lasagabaster (2010) found that CLIL seems to diminish the effect of the sociocultural status of the participants on their foreign language competence, up to the point that there were no significant differences among students irrespective of their parents' sociocultural status.

Ability

CLIL classes have a higher average level of foreign language competence (Dalton-Puffer, 2007). There is ample evidence that CLIL significantly enhances the language skills of the broad group of students whose foreign language talents or interest are average. This has been shown, for example, where a higher percentage of students from the CLIL group reached the required B2 (CEFR) level than from the group who had followed only the conventional foreign language curriculum.

Age

Older learners are faster and better learners than younger ones in most aspects of acquisition, even in the case of pronunciation. Lasagabaster (2008) reports evidence that those starting a foreign language at 8 years old (with 2 hours of CLIL) caught up with starters at 4 years old (non-CLILL) in just a year and a half.

Lasagabaster (2008) suggests that the particular features of formal settings such as school appear to benefit older learners in the short term because they are at a more developed cognitive stage (which gives them an advantage when it comes to test-taking), whereas young learners cannot take advantage of the necessary exposure and contact with the foreign language. Achieving linguistic/communicative goals should be the focus for primary school pupils (Zydatis, 2000).

2.3   What needs to be in place to implement CLIL

The processes by which CLIL can improve foreign language competency point to some key factors in how CLIL should be implemented.

2.3.1   What are the costs of CLIL

CLIL generally brings about the learning of a foreign language without an additional burden on the curriculum and on the school (Ruiz de Zarobe). The implementation of a CLIL approach augments the presence of the foreign language in the curriculum without increasing students' or language teachers' time commitment.

Bonnet's review of the evidence of impacts on teachers (2012) reports that CLIL teachers have to spend relatively more time on lesson and material preparation than they did previously. However they demonstrate greater cultural sensitivity in return. Alonso (2008) finds that the lack of didactic materials in CLIL requires an extra effort in preparing the classes.

2.3.2   Teacher training and support

CLIL teachers need language competence and an understanding of 'language learning'. Teachers require specialised training in language pedagogy, and especially second language pedagogy, along with the pedagogy required of all teachers who teach academic subjects (Ruiz De Zarobe, 2008).

This can be developed in initial teacher training and through continuing professional development.

Initial teacher training

The ECML resource[6], Content and Language Integrated Learning through languages other than English - Getting started (CLIL-LOTE-START)[7], states that teachers need to have a number of special skills and competences and this requires specific initial teacher training. Skills and competences ought to include:

■ Knowledge of the psychological aspects of bi- and pluri-lingualism;

■ Subject-related second language skills;

■ Knowledge of a wide range of methodologies for the teaching of subject content and the second language;

■ The ability to find teaching materials in the second language and adapt them for use in the CLIL classroom;

■ Readiness to plan and undertake a training placement.

Because the integration of theory and practice is fundamental to the success of CLIL training, it should include observation in CLIL classes, training sessions at university, the teaching of CLIL classes and training placements in a school in the target-language country.

Box 2.2   Acquiring CLIL teacher competencies in Finland

In Finland, CLIL and other bilingual teachers are required to prove both their teaching skills (i.e. have a degree in education) and mastery of the language of instruction as stated in the Regulation 25/011/2005). This means that they need to have the following key competences:

Language skills
■ General language mastery; and
■ Subject-specific language mastery

Pedagogical skills
■ General pedagogical skills;
■ Pedagogical skills specific for teaching certain subjects ;
■ Pedagogical skills for teaching subject-specific language; and
■ Pedagogical skills for teaching second language learners.

These skills can be acquired through in- and pre-service training courses. Several Finnish universities offer such courses (for example, the University of Vaasa offers a specialised Master's degree for immersion teachers). Nevertheless, there is still a shortage of qualified immersion /CLIL teachers according to a recent national report and there is no course available for CLIL teaching in secondary education. As a consequence, CLIL teachers are generally supported by continuing professional development and there is a need for more pre-service initial teacher training in CLIL.

Continuing professional development (CPD)

For CPD, the main prerequisite is committed subject teachers who feel confident of their subject matter and are experts in their subject's specialist language, teaching methodologies and syllabus. Teachers must be able to communicate in the target language but also know how to enable their pupils to develop language awareness. The main aspects for successful in-service CLIL teacher education include: language work, in particular strategies for text comprehension and vocabulary acquisition; development of methods for the integration of content and language learning; and teaching and content-sensitive language learning.

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[6] ECML material is based on evidence and explored through active practitioner review and development.

[7] https://clil-lote-start.uta.fi/en/initial-teacher-education/

In an ECML framework for the professional development of CLIL teachers (Marsh et al. 2011) sets out professional competences that CLIL teachers should possess. These are:

■ Commitment to one's own cognitive, social and affective development;

■ An understanding of the core features of CLIL, and how these link with best practices in education;

■ Research-based knowledge of the interdependence of language and cognitive development;

■ Ability to offer enhanced and detailed pedagogical scaffolding, and possession of a wide range of knowledge and skills relating to methodology and assessment;

■ Demonstrating an active model of learning through a cultivation of a personal path of enquiry, reflection, and evaluation;

■ Providing CLIL-specific learning resources, and enriched learning environments that are highly integrative, multi-layered and cognitively demanding, yet are balanced by enhanced scaffolding and other support systems;

■ Classroom management that facilitates the integrated learning of content, language and learning skills, requiring specific knowledge about classroom dynamics and management techniques and about how these affect learning in CLIL and intrinsic motivations for learning;

■ Building common knowledge amongst stakeholders about programme management and an understanding of each other's role in supporting its development.

Acquiring a language competence

In many European countries, prospective CLIL teachers are recruited if they meet the following criteria (Eurydice, 2006):

■ They are native speakers of the target language;
■ They have been trained or received formal training in the target language;
■ They attend regular training courses around teaching methods such as CLIL; and
■ They can pass a language exam.

A proficiency of B2 on the CEFR is widely reported as necessary. In countries, such as Italy, where CLIL is being introduced extensively, improving prospective CLIL teachers' language competency is a prerequisite.

Institutional support

Alonso (2008) found that teachers consider that they have sufficient personal and institutional resources to deliver CLIL. Pellegrini (2010) found that the success of a bilingual education programme depends on the extent to which teaching teams in schools are mobilised and the level of collaboration between linguists and teachers (i.e. non-linguists). Pellegrini also found that establishments that have support from their head teacher are more likely to have successful bilingual educational programmes in place.

In Spain's BEP, teachers valued the published Guidelines for the integrated curriculum, and the courses/conferences provided (Dobson, 2010). Some indicated a wish to have more contact with BEP colleagues in other schools in order to share ideas and materials. Communities of practice among CLIL schools have been found to maintain schools' involvement in CLIL and their motivation. These are self-organised and have developed standards for good CLIL teaching in the Netherlands, for example.

Box 2.3   Implementation of CLIL in Belgium (Wallonia)

In Wallonia where there are more than 27,000 children being taught through CLIL in over 300 schools, surveys have shown that successful implementation of CLIL involves:

■ Team work between teachers of foreign languages and the subject teachers to develop authentic material;

- Development of the bilingual vocabulary for subject concepts and visualisation approaches which takes time;
- Favourable attitudes towards CLIL from all stakeholders involved (including parents and children); and
- Meeting quality expectations in subjects taught in the foreign language (i.e. the acquisition of a foreign language should not be at the expense of the subject taught).

2.3.3 Appropriate teaching approaches

Research indicates that teachers' choices of pedagogical and didactic approaches affect the success of CLIL.

Interesting, relevant, and meaningful material from authentic sources

The danger with CLIL is that students might feel overwhelmed. It is difficult to attribute this to CLIL alone and to factor out potential factors from the way the subject is taught which might be the actual reason for the students feeling overwhelmed (Lamsfuß-Schenk and Wolff, 1999). To alleviate this, teachers can develop student-centred working/learning techniques, where they can choose themselves which texts they would like to use for their projects or choose some of the topics (Lamsfuß-Schenk and Wolff 1999). In choosing themselves the texts they would like to use, they can determine reading style and reading speed which can make students feel less overwhelmed or pressured. This can have spin-off effects for future learning in that they can better control their learning processes themselves.

Box 2.4   Authentic content in VET language learning in Finland

All initial vocational qualifications for those aged 16-19 have a common structure with languages as part of the core element with some such as tourism related vocational qualifications requiring language competences in their vocational element. Languages can include mother tongue, either of the two national languages and two foreign languages. As a minimum, students are expected to achieve A1 or A2 levels with the testing of interaction, comprehension and acquiring information (and grading as satisfactory, good or excellent). It is recognised that about one in eight VET students participate in mobility at some point after they leave school.

Integrating language learning with acquiring vocational knowledge and skills has been found to be vital to motivate students. Authentic materials make language learning relevant. This has been taken forward into assessment so that *'foreign language learning is not seen as the object of study'*.

Speaking and interaction

Given that CLIL works by interaction in the classroom, a key consideration for the delivery of CLIL is the balance between listening and speaking for students.

In most contexts, CLIL students are listening to their teachers and peers most of the time (Dalton-Puffer, 2007). Mutual engagement in talk can be constrained by traditional teacher roles where it is the teacher in charge of speech (Nikula, 2013). This can limit the potential of CLIL to offer 'authentic' and varied opportunities for students to use the foreign language. It may be that students do not automatically produce comprehensible output and that this means learners do not speak at length or too simply (Dalton-Puffer, 2007). Decke-Cornill (in Lamsfuß-Schenk and Wolff 1999) points out that lack of resources or lack of teacher training might lead to more teacher-centred, instructivist teaching methods.

CLIL settings can provide more opportunities for hands-on, practical activities, which tend to produce more involved talk as students centre on the task as well as more shared meaning negotiations and collaborative forms of talk (Nikula, 2013). Small-group interaction has the potential to increase both the quantity and functional scope of students' language output. Without direct control from the teacher, students can feel less overwhelmed; in small groups they can work towards developing an understanding of the text/subject in question (Lamsfuß-Schenk and Wolff, 1999).

Box 2.5   An example of building interaction in CLIL classes

The ITALIC study (Coyle, 2011) in the UK demonstrates the importance of classroom interaction in CLIL settings. Students had opportunities to speak in genuine communicative situations, construct language, make longer utterances, speak out in discussions, and use comprehension strategies. Learners also emphasised fun in CLIL lessons, which was related to the cognitive challenge, engagement in the learning process, working in groups and pairs, carrying out research and engaging in dialogue.

Correction/repair work

Given that CLIL also works by bringing together concerns for accuracy and fluency in the use of foreign language by highlighting language problems during class activities, it is important that teachers consider how they correct and give feedback to students.

The way in which correction takes place is crucial for the learning process. In contrast to standard foreign language classes, repair is actively requested in CLIL classrooms. It is also often impossible to detect a boundary between repairing content and repairing the way it is linguistically expressed. Teachers often initiate content-oriented repair-work that students then complete. Repair-work often takes the form of recasts, which maintains the focus on content rather than deflecting it on linguistic form.

Students make significantly more language errors in CLIL than foreign language programmes (Nikula, 2013), which are predominantly lexical in nature. Lexical choice and pronunciation of technical terms together comprise approximately half of all errors. These are also the errors that tend to be treated most often, while grammatical errors are almost entirely ignored.

Negative feedback by teachers may not be a regular feature in CLIL classrooms (Dalton-Puffer, 2007). Lack of formal correction by teachers may help learners to feel more relaxed in using the foreign language. The CLIL setting is distinct because it encourages children to engage in foreign language interaction in situations where learner language skills are not under constant evaluation in the same way as in language lessons (Nikula, 2013).

Vocabulary

Teachers may also have to be very alert to the vocabulary and syntax they are using in the classroom. This generally needs to be simplified during CLIL. The underlying reason is that the thought process to understand the content takes longer (Zydatis 2000).

Box 2.6   Teaching in CLIL classrooms: good practice

An ECML resource, CLIL through languages other than English - Getting started (CLIL-LOTE-START), sets out how to create a successful CLIL learning environment.

Approaches for primary school children may include:

- Songs to develop interest and curiosity in words - this type of learning is child-centred, stress-free and puts the emphasis on the children's joy at their success;
- Performing plays;
- Creation of a garden, notice-board, list of classroom chores, birthday calendar, staying overnight in the school;
- Rituals, such as conversation circle, announcement of dates, celebration of birthdays, experiencing seasons;
- Learning of new words experienced through all senses, such as adjectives with nuts, verbs with leaves, nouns with dressing-up, articles with music;
- Learning to read and write, such as phonemic signs, writing on posters, writing of letters, the first book in a foreign language;
- Specialist language with music and movement, such as calculations using music and movement, creation of a 1000 bead chain.

For secondary school students, suggested approaches may include:

- Always start from the pupils' perspective;
- Create opportunities for the integrated use of content and language;
- The final product integrates language and content; it can be a talk, a film, a poster, an interview, a mind map, a dialogue, a quiz, an experiment etc;
- These products need to be seen, watched, listened to, perceived by others, by classmates, teachers, parents or other pupils;
- Use textbooks and texts written in the second language. These only become too challenging if pupils do not learn how to work efficiently with them;
- Specialist terms play a key role in subject texts. Usually, these are nouns which act like signposts guiding pupils towards understanding;
- Show pupils strategies for decoding texts, such as paraphrasing exercises, lexical derivation rules, the meaning of pre- and suffixes, etc;
- When grading subject tests, class work and oral exercises, make sure you also include the quality of the language in your assessment; award, for example, extra points for good language use;
- Create opportunities for communication about the subject in the second language in every lesson. Pupils can for example be asked to discuss in pairs which aspects of the lesson they felt were most important, providing arguments to support their views. This does not take up much time, but brings major benefits;
- The introduction of complicated specialist terms in a foreign language is easier when illustrations are used.

Other research provides a good overview of the key factors to consider in establishing good teaching approaches for successful CLIL (see box below).

Box 2.7   Principles for successful and sustainable CLIL teaching and learning (from Meyer 2010)

- Rich input: classroom materials should be meaningful, challenging, and authentic, so that new topics enhance motivation and link to prior knowledge. This may include Video clips, flash-animations, web-quests, pod-casts or other interactive materials on foreign language websites. Such materials can offer challenging tasks, creative thinking and create opportunities for meaningful language output. They can also offer opportunities for self-directed and differentiated learning.

- Scaffolding: this reduces the cognitive and linguistic load of the content/input; enables students to accomplish a given task through appropriate, supportive structuring; and supports language production ('pushed output'[8]) by providing phrases, subject-specific vocabulary and collocations needed to complete assignments.

- Rich interaction and pushed output: language acquisition is strongly facilitated by the use of the target language in interaction. Learners should also be pushed to make use of their resources. Student interaction and output is dependent upon task design in the CLIL lesson. Task-Based Language Teaching (TBLT) should be an integral part of CLIL teaching. TBLT focuses on bringing authentic communication into the classroom. Authentic communication in tasks promotes negotiation of meaning necessary and enables a greater depth and bandwidth of content learning.

- Intercultural communication: students need to become aware of the hidden cultural codes and the appropriate linguistic and non-linguistic means and strategies to address them.

- Thinking skills: instruction is needed for academic discourse functions, the intersection of content, cognition and language, the ability to express complex thought processes appropriately. Cognitive skills are crucial and systematic language work is of paramount importance when teaching thinking. Students need to be shown how to express their thoughts in an increasingly complex manner.
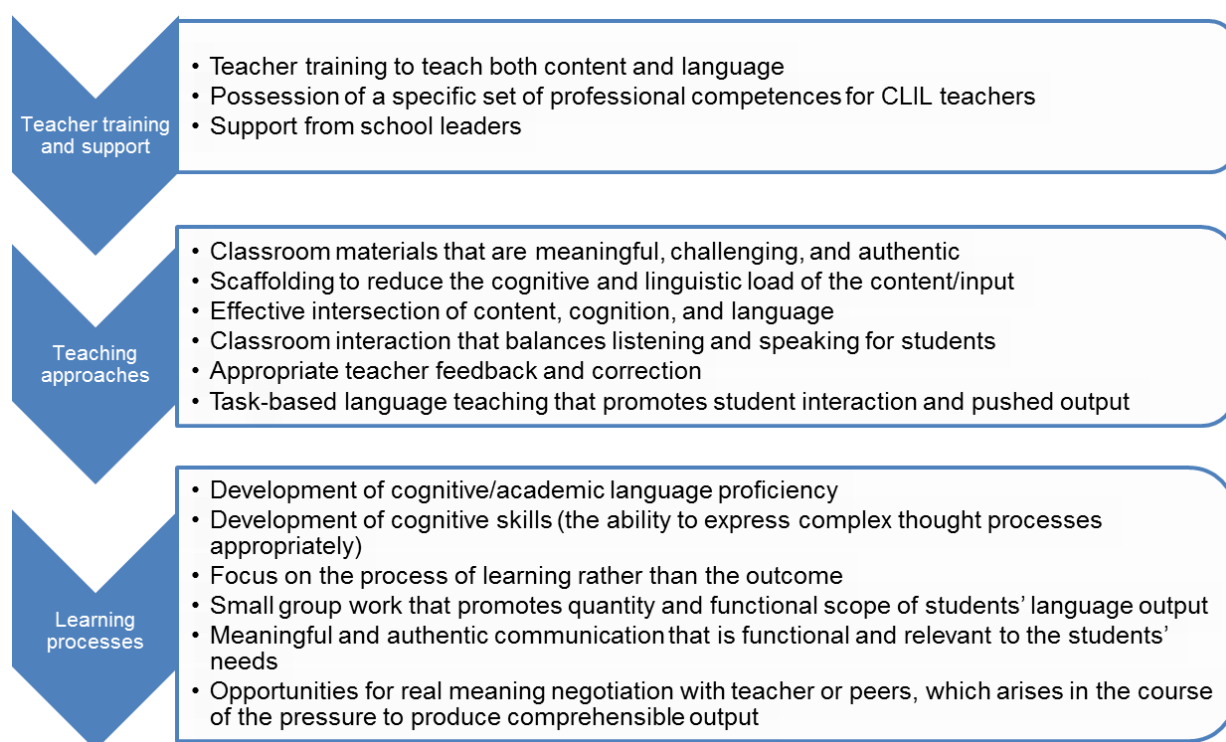
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[8] This is the theory that learners must be pushed to produce output in the foreign language in order to develop fluency, accuracy, and complexity.

2.4   Key summary points

The evidence and this analysis points to:

■ Strong evidence of the positive impact of CLIL on children's language competences compared to standard foreign language programmes in a range of different countries (e.g. DE, ES, FI, NL, NO) over a long period. Although a few commentators believe the scale of the effect may be due to the selection of participants, the results identify benefits for those involved. It does not generally have an adverse impact on content learning outcomes in the subjects where it is used;

■ Some language competences are more affected than others by CLIL, such as receptive skills (listening and reading), morphology (structure of language units), and creativity/fluency, while CLIL may also diminish the effect of sociocultural status and can boost the performance of lower ability learners and males;

■ There is strong evidence that CLIL students attain as well as or even better than non-CLIL students learning content in their first language; and

■ CLIL can boost learners' motivation towards learning languages and their confidence in language learning because they learn to take risks. Motivation may increase when 'real issues' become the centre of study.

The conditions for the successful introduction and use of CLIL are:

Teacher training and support
- Teacher training to teach both content and language
- Possession of a specific set of professional competences for CLIL teachers
- Support from school leaders

Teaching approaches
- Classroom materials that are meaningful, challenging, and authentic
- Scaffolding to reduce the cognitive and linguistic load of the content/input
- Effective intersection of content, cognition, and language
- Classroom interaction that balances listening and speaking for students
- Appropriate teacher feedback and correction
- Task-based language teaching that promotes student interaction and pushed output

Learning processes
- Development of cognitive/academic language proficiency
- Development of cognitive skills (the ability to express complex thought processes appropriately)
- Focus on the process of learning rather than the outcome
- Small group work that promotes quantity and functional scope of students' language output
- Meaningful and authentic communication that is functional and relevant to the students' needs
- Opportunities for real meaning negotiation with teacher or peers, which arises in the course of the pressure to produce comprehensible output

Discussion in the Group highlighted the following factors affecting the provision and effective use of CLIL:

Table 2.3   Factors influencing provision of CLIL

Factors encouraging CLIL	Factors hindering CLIL
Internationalisation and globalisation of current society; high levels of mobility among young people with vocational and HE qualifications and recognised needs for foreign language competency for	Lack of systematic guidelines to implementing CLIL and support for CLIL at the national level

Factors encouraging CLIL	Factors hindering CLIL
Schools in primary and lower secondary education offering CLIL with the opportunity to transfer and progress in a CLIL environment	Patchy provision of CLIL which impedes pupil transfer an d provides limited opportunities for CLIL practice in initial teacher training
Limited opportunities for language learning in the curriculum	Relatively good foreign language teaching outcomes without CLIL and opportunities for non-formal and informal learning of languages, especially English
Teachers with language competences and experience of submersion teaching	Language competences of subject teachers need to be raised; special courses and training outside the school Teacher training for CLIL/bilingual teaching not available
Communities of practice among CLIL teachers and schools	Limited continuing professional development to support CLIL schools and teachers

3 Computer assisted language learning (CALL)

This chapter establishes the different types of CALL and the impact of CALL on language learners' competences and their motivation to learn languages. It also considers the impacts on language teaching and what is required to implement CALL effectively in schools.

3.1 What is CALL

3.1.1 Defining CALL in language learning

Computer assisted language learning (CALL) refers to any process in which the learner uses a computer to improve foreign language competence. The technology includes not only computers but also smart phones, tablets, MP3 players, and consoles.

CALL therefore includes:

- Authentic foreign language material, such as video clips, flash-animations, web-quests, pod-casts, web-casts, and news etc.;

- Online environments where learners can communicate with foreign language speakers, through email, text-based computer-mediated communication (synchronous and asynchronous), social media, or voice/video conferencing;

- Language-learning tools (online apps or software), such as for phonetics, pronunciation, vocabulary, grammar and clause analysis, which may include a text-to-speech function or speech recognition, and often includes interactive and guided exercises;

- Online proprietary virtual learning environments, which offer teacher-student and peer-to-peer communication;

- Game-based learning.

There are a wide range of specific tools and teaching aids which offer CALL. Golonka et al. (2014), in a review of technologies for foreign language learning list the following: course management systems (CMS); interactive white boards; ePortfolio (a digital archive of student work created by a learner); corpus (a collection of authentic language in spoken form, written form, or both); electronic dictionaries; electronic gloss or annotations (reference to word- or sentence-level, context-specific translations or explanatory or background information); intelligent tutoring systems; grammar checkers; automatic speech recognition (ASR) and pronunciation programmes; virtual world or serious games; chat (synchronous computer-mediated communication, either text-based or including audio); social networking; blogs; internet forums or message boards; and Wiki.

3.1.2 How is CALL expected to improve language learning

The processes and outcomes of CALL depend upon the way it is employed in teaching. Two different types of CALL can be distinguished for learning foreign languages. In the first, CALL enhances traditional foreign language teaching and learning (including assessment), making it quicker, easier, and more efficient. In the second type, CALL offers innovative ways of teaching and learning which are expected to improve learners' competences more than traditional methods.

Kongrith and Maddux (2005) suggest that CALL used for innovative teaching tends to have the following characteristics:

- Incorporates a high degree of interactivity between computer and learner;
- Puts the user rather than the software developer in charge of what happens on the screen;
- Aims at accomplishing relatively more creative tasks;
- Makes possible the accomplishment of highly complex tasks.

The processes and outcomes of CALL also depend upon the form of interaction with the learner. There are three types of interaction (Seongchul Yun, 2008): interaction between the

learner and the content being learned; interaction between the learner and the instructor; and interaction between learners.

3.2 What does CALL achieve

3.2.1 How far does it improve language competences

There is less conclusive evidence of the positive impact of CALL on children's foreign language competences than with CLIL. But there is evidence that some of the CALL teaching aids can speed up or increase improvement in specific competences over short periods. In some cases there are no significant differences in learning outcomes (Knoerr, 2005).

In a meta-review (350 studies) of the effectiveness of CALL uses in foreign language learning and teaching (including classroom-based technologies, individual study tools, network-based social computing, and mobile and portable devices), Golonka et al. (2014) find that in spite of an abundance of publications available on the topic, evidence of their efficacy is limited. They say that CALL research suffers from poor descriptions of the research design; poor choice of variables to be investigated; lack of relevant data about participants; studies based on untrained users of the technology; a nearly exclusive focus on western European languages, especially English; and an overall lack of systematically investigating key factors that may enhance the effectiveness of learning.

Overall, they conclude that there is moderate evidence that through **intelligent tutor systems**, learners demonstrate pre-test and post-test gains in speaking, reading comprehension, vocabulary, grammar, and fluency.

They find that intelligent tutor feedback is more effective than traditional feedback. Intelligent tutor programmes simulate a tutor by providing direct, customised instruction and/or feedback to a learner. Such a system is generally comprised of four components: an interface (platform), an expert model (domain of knowledge the student is intended to acquire), a student model (current state of student's knowledge), and a tutor model (which provides appropriate feedback and instruction by using the identified gaps between the student and the expert models).

Computer-assisted pronunciation training (CAPT), in particular, automatic speech recognition (ASR) can facilitate the improvement of pronunciation and can provide feedback effectively, and even more effectively than a teacher. This can help students because they can practice individually and avoid the anxiety of pronouncing and practice in front of peers and teachers (Casado and García, 2000).

There is also some evidence that:

■ **Digital game-based learning** (DGBL) improves competences. Game-based learning has increased in the foreign language learning context by making language education entertaining and providing learning environments that contextualize knowledge (Dourda et al., 2013). Games-based learning develops problem solving and critical thinking skills through engagement and iterative feedback that are crucial to the learning process and are generally effective for achieving learning outcomes (Yi-hui et al. 2012). Yi-hui et al's meta-analysis of studies suggests that meaningful and engaging games allow for more learning to occur because learners have opportunities to interact and negotiate meaning. In drill and practice games, learners simply modify actions until their scores improve. Dourda et al. (2013) found benefits for enhanced reading skills, the retention of vocabulary, motivation and collaboration.

■ **Chat** (synchronous computer-mediated communication, either text-based or including audio) increases the amount of learners' language use and its complexity (Golonka et al., 2014). There is moderate evidence that chat enhances speaking proficiency, and can promote noticing (by attempting to produce output, learners are forced into noticing what they do not know or what they know only partially) and 'focus-on-form' (a language learning concept that refers to a concern for the structural/syntactic dimensions of

language to complement work on language comprehension and production through communicative interaction) (Skehan, 2003).

- **Text-based computer-mediated communication (CMC)** fosters attention to linguistic form in ways that may promote attention to language expression and encourage collaborative work on language errors during writing tasks (Alwi et al., 2012) and the retention of words (Baturay et al. 2009). It can also prepare students for subsequent oral communication in the classroom. Mendelson (2009) found that the successful use of forums to prepare students for oral communication shows that asynchronous as well as synchronous CMC can be beneficial for developing the ability to speak foreign languages.

- There is moderate evidence that with **electronic dictionaries**, learners complete tasks faster than without technology, and the frequency of dictionary look-ups increases (Golonka et al., 2014). However, increased frequency of look-ups may not make a significant difference in competences although it speeds up understanding. Duquette and St-Jacques (2005) describe the online French reading tutorial DIDALECT, an adaptive tutorial for reading acquisition. They argue that helping learners to have access to a variety of authentic materials for reading comprehension enables the development of language skills in the real world.

The advantage of online audio and visual multimedia resources is that they can be accessed by students outside the classroom which extends learning time and provides opportunities for practice (Green 2005). For example, individual online listening to podcasts at one's own pace and at a time convenient to the learner prompts and motivates learners to improve the skills of listening without being intimidated by possible failure (Kavaliauskienė, 2009).

A number of studies indicate beneficial impacts from different CALL tools. These are summarised in the table below.

Table 3.1   Key studies demonstrating improved competences

Source	Tool and context	Study details	Results
Baturay et al. (2009)	Web-based supplementary material for intermediate level English language learners' vocabulary retention	69 participants from Gazi University Preparatory School used WEBVOCLE as a supplementary material after class for one semester.	Presenting items through spaced repetitions, and the contextual presentation of words enriched with audio and visual multimedia resources is effective for retention of the words previously taught in the classroom. This is dependent on the number of revision practices using the tool.
Dourda et al. (2013)	Online game for English language learning	Study of 17 students (11 to 12-year-old) attending a Greek public primary school engaged in an eight-week collaborative game play. The game was a plot-driven, web-based detective game utilising tools such as Google Earth, QR Codes and websites. Students have to solve a number of problems, presented to them as open-ended questions. The learning material encompassed websites with texts and images, relevant to both	Post-test scores revealed a 30 % improvement in student's knowledge of geography. Qualitative data obtained through observation, journals, video-recording and evaluation tasks, also showed enhanced reading skills, vocabulary, motivation and collaboration. Certain learning strategies were more effective in acquiring new vocabulary and students have preferences in the strategies they use to learn words in the foreign language. All the students preferred and used memory strategies throughout the game (which relate to how students remember language). Students also tended to retrieve information and understand unknown vocabulary by creating mental linkages, associating unknown with known

Source	Tool and context	Study details	Results
		geography and a detective story.	words and using their imagination.
Mendelson (2009)	Forum-based text-based computer-mediated communication (CMC) as preparation for classroom oral discussion	An observation study related to set readings (11 assignments over 11 sessions).	The use of forums to prepare students for oral communication challenges the assumption that only synchronous as opposed to asynchronous CMC can be beneficial for developing the ability to speak FLs. Learning outcomes result from the way in which technologies are used more than the characteristics of technologies.
Saz et al. (2011)	Vocaliza, a Computer Assisted Pronunciation Training (CAPT) tool	A study of 12 students at an international school (11 years old) using the tool over five weekly (45 minute) sessions in which the students used the application in a separate room from the normal classes. The tool uses audio-visual prompting.	The CAPT tool measured improvements over time. The joint use of text and audio and the use of games boosted pronunciation performance and stimulated interest.

However, CALL may not always bring better results than other pedagogical approaches. Knoerr and Weinberg (cited in Raby (2008)) compared a group of 61 students, learning French as a second language with the participants randomly assigned to different groups. The first group learnt phonetic and pronunciation using a traditional audiocassette module that comes as a standard component of a textbook. The second group worked with the multimedia version of the same module. A third group did not receive any explicit instruction in phonetics and pronunciation. The authors found that the receptive skills of intermediate-level learners of French as a second language were influenced by the explicit teaching of phonetic and pronunciation. However, there was no difference related to the delivery mode; both audiocassettes and multimedia were equally effective.

3.2.2 What other benefits are there

Motivation and confidence

A large number of studies confirm that learners enjoy using technology in foreign language learning and that they prefer using technology over more traditional methods and materials (Golonka et al., 2014). Because of technology, learners tend to be more engaged in the process of learning, and have a more positive attitude towards learning. In particular, students perceive the use of computers as an innovative and attractive learning method (Casado and García, 2000). Their adaptation is often quicker than their teachers is.

CALL can reduce learner anxiety by providing a non-judgmental, independent learning environment (Kongrith and Maddux, 2005). Dat and Spanghero-Gaillard (2005) report on research on the integration of CALL into foreign language education in a vocational high school. They find that this form of teaching has a positive effect on student motivation, particularly as anonymity is preserved, students feel less pressured and they enjoy the learning experience.

Online audio and visual multimedia resources can promote interest and motivation in foreign languages. For example, video clips (YouTube is an inexhaustible source of video clips) that combine text, image, and music are a teaching material that can stimulate students' emotional and cognitive areas in the process of learning (Berkec, 2012). Learning with video

clips enables a different approach to the target language that is fun and spontaneous, because it provides the student with the ability and incentive to express his/her emotions, imagination, experience, and knowledge.

Box 3.1   Evidence from several studies

Zeilinger-Trier (2001) analysed the impact of using **multi-media resources** to teach a second language to children aged between 7 and 12 years. This study assessed the impact of 'Mobiclic', an interactive multimedia CD-ROM, where students can take part in different activities designed to help them acquire proficiency in the target language. The study found that students appreciated this method of teaching, were more motivated and improved their knowledge and skills.

Hamers et al. 2001 (cited in Knoerr, 2005) evaluated the use of CALL for teaching French and English in a Montreal secondary school. They found that during the first three years, students who received a CALL and project-based language course expressed higher motivation and attitudes towards learning both languages than students of other classes who were either taught via projects only; or ICT tools only or had none of these.

Increasing cultural awareness

Online learners may develop improved attitudes toward the second language and its culture (Kongrith and Maddux, 2005). In particular, CALL enables learners to connect to other cultures effectively when visiting and experiencing the culture of another country is not possible.

Box 3.2   Hello Little World: building cultural awareness and language competences

One of the challenges of CLIL teaching and learning is increasing all students' opportunities to write and speak in the foreign language they are learning beyond the time they do so in class. In a vocational secondary school in Austria, teachers have developed the Hello Little World (HLW) Skypers Platform. It originated from using Skype with a school in Texas to develop students' English speaking and writing skills which successfully led to collaborative learning by the teachers, e-pals among the students and discussions organised by the students not the teachers with an all-round improvement in students' confidence and competence in English as well as teachers' competence in CALL and letting students'' develop the conversations.

The teacher who led this decided to approach schools in other countries to extend the professional networking and collaborative cultural learning which was previously so difficult and costly to do face to face through school exchanges. This has attracted widespread interest and HLW has developed into a platform involving schools in many other countries because it was found to be effective. Both teachers and students have found they can learn from the wide variety of contacts that they could build with other schools through skyping. This has included:

■   For students: a greater cultural awareness through the conversations they have and the opportunities to practise their speaking and understand English in different accents. They have more formal conversations around events where the schools have a common interest in learning about each other;

■   For teachers: it has provided infotainment materials for learning, the opportunity to share practice and ICT learning aids and a ready network of language teachers to solve problems and build networks to participate in international projects. This has helped considerably in navigating the vast amount of material that can be used to aid language teaching both within and outside the classroom.

The great value of the platform they have helped to build is that it's free, it is not technology heavy, it keeps them up to date, and it provides benefits to teachers as well as the students.

Increasing the competences of learners with different styles of learning

Raby (2008) reports that providing CALL options in language learning helps those students who have strong technical or IT skills to succeed in their language courses, which may not have been possible if traditional teaching approaches were the only option available.

Reciprocal role peer tutoring where language students are paired with students overseas who speak the target language as a first language, and who, via technology, interact in ways that facilitate tutoring in the language has some impact on enhancing the language learning experiences of younger school-aged students. Research by East et al. (2012) involved beginners' level Year 7 students of Spanish in New Zealand who worked with reciprocal Spanish first language speaking partners of the same age in Colombia, who were studying English. The experimental group consisted of 28 students (12 male and 16 female), and the control group consisted of 29 (14 male and 15 female). In Colombia, two groups of fifteen Year 5 (11-year old) students participated in the project (no control group). They found that reciprocal role peer tutoring works well because it is not dependent solely on a teacher-led pedagogy.

CALL promotes student-centred learning, allowing for self-paced learning styles, and increased risk-taking (Casado and García, 2000). It can provide learners with autonomy and the choice of when, where, and how to study (Kongrith and Maddux, 2005). E-mail and other computer writing tasks encourage self-monitoring because of the ability to proofread before producing a final draft. Learners may feel more comfortable writing than they do speaking a second language (Kongrith and Maddux, 2005).

3.3 What needs to be in place to implement CALL

The effective use of CALL depends on teachers' ability to understand and integrate the use of the applications in their curricula. Many teachers lack the competence to use them in the classroom and the knowledge about CALL teaching aids.

The expansion of CALL on a large scale also depends on the availability of schools and homes with access to software and systems although this is not considered to be a barrier in some countries.

3.3.1 Teacher training and support

The use of CALL depends on the ways in which teachers adopt and integrate it into their teaching (Buabeng-Andoh, 2012). Factors that influence teachers' use of CALL include personal knowledge and attitudes, teacher training and professional development, and perceptions of its effectiveness. Instructors must possess online knowledge and skills as well as the ability to choose how, when, and to whom to apply CALL (Kongrith and Maddux, 2005).

Box 3.3   ECML project to develop online teaching skills (DOTS)

Developing online teaching skills (DOTS)[9]

The aim of the project was to assist language teachers in using up-to-date technology in their teaching. A training kit was developed, which includes bite-sized activities for ten online pedagogic tools. By completing the activities, teachers can learn to use these tools and integrate them into their language classes. They can also watch video clips of experts explaining their use of the tools and discuss their experiences and needs.

This means that teachers should be trained in CALL pedagogical design and effective adoption and integration of CALL into teaching. For many language teachers, there is low awareness of CALL and limited ability to use CALL even with the availability of the technology.

Box 3.4   Developing ICT skills in Latvia

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[9] http://dots.ecml.at/

Language teachers were generally not using CALL and many did not have the skills to consider introducing it to their teaching. The government ran three in-service training projects to build language teachers' skills in using CALL between 2010 and 2013 at a time when the challenge was to increase the language competence level to be achieved by pupils. The project in schools providing general education offered 48 hours of training for language teachers with a choice of programmes which included improving their confidence and competence in using ICT and using specific CALL applications. The wide range of training reflected what were perceived to be considerable differences in language teachers' ICT competences and experience.

The programme attracted 24,000 participants. It was successful in increasing the basic ICT skills of many teachers through the training in computing, the use of white boards which were available in schools and the use of commonly available web tools as well as requiring all registration and access to materials to be online. This meant all teachers had to go online and set up email addresses if they did not have one. As a consequence many teachers have not only increased their knowledge and understanding of material available but have also increased their confidence to use CALL in their lessons and for homework.

One of the training programmes for English teachers used British Council courses which included a moderator to work with teachers to implement CALL. This was useful for teachers with more advanced ICT skills but was challenging for teachers without a high competence level in English.

It was also successful in establishing a platform to access the training materials. This is continuing to be used to provide materials such as the sample tests of language skills which the Ministry is introducing.

3.3.2 Applying appropriate teaching approaches

Given the focus of many CALL teaching aids on specific language competences and learning approaches that may appeal to some learning styles more than others, it is critical for teachers to understand the learning processes engendered by different CALL teaching aids to make choices and provide guidance. Teachers with limited exposure to CALL are less likely to be aware of these.

The design of lessons should take advantage of the practical benefits of CALL teaching aids. As illustrated in section 3.2 above these include the development of student autonomy, promoting the acquisition of language knowledge, developing challenging task-based learning, avoiding reliance on the recognition of language at the expense of recall, and engendering prompting-answer strategies where learners are encouraged to notice and repair their own errors.

Box 3.5   Approaches to correcting errors

There are two feedback strategies to correcting errors: (1) Giving-Answer Strategies (GAS), where the teacher directly gives the desired target form or indicates the location of the error, and (2) Prompting-Answer Strategies (PAS), where the teacher pushes the student less directly to notice and repair their own error. Analysing 19 transcriptions of Spanish language classes provided by seven different teachers, totalling approximately 12 hours of teaching, Ferreira (2007) found that PAS was more effective in terms of eliciting explicit repairs by the students.

PAS strategies effectively support the learning process for grammar and vocabulary, suggesting that CALL systems should implement ways to prompt students to construct responses. This means that CALL teaching aids which provide for interaction with the student can do this effectively in place of a teacher.

Language teachers are not necessarily well informed enough to make these choices and apply CALL appropriately.

Box 3.6   The ECML's ICT-REV workshop programme

In the ECML's experience communities of practice are needed to develop tools for successful language teaching and also for their use in educational institutions. The ICT-REV programme is designed to build and sustain communities of practitioners who can disseminate and use the resources and tools created by the ECML to use CALL effectively and access CALL teaching aids. The programme has two strands. These are:

■ Country workshops, such as the one for Slovenia, have brought together teacher trainers, teachers and others with an interest in CALL to develop their understanding of the resources available and the means to increase take up and effective use. These are also designed to enable the participants to develop how they can disseminate and sustain the use of the tools within schools. An action plan is then developed. In Slovenia this is being used to develop whole school approaches to language learning in primary as well as secondary settings and to create bottom up approaches to sharing teaching practice and building teacher competences to use CALL.

■ An inventory of tools for CALL which have been tested by practitioners and found to be of value for teaching and learning which they intend to keep up to date.

3.3.3 Balancing CALL with traditional methods

There are other pedagogical decisions to make such as how to balance CALL with other more traditional methods in the classroom (Casado and García, 2000). Pérez Torres (2002) suggests that the use of CALL should be one hour a week in four hours a week courses and on a fortnightly basis for three hours a week courses. This may be important when online access means that students become distracted by irrelevant material.

CALL can be part of an approach to the blended learning of languages which encompasses guided learning and non-formal and informal learning.

Box 3.7 Blended learning in language learning: VET in Switzerland

A challenge in VET educational institutions is to enable teachers to develop blended learning for language learning for both full time and part time learners. The challenges are that there is only a limited amount of guided learning in languages that can be offered with no room to expand it and teachers need to increase their knowledge and skills to use Moodle and CALL to enable students to study in their own time.

At the Applied Sciences University in Ticino, the language department has assisted this process by:

■ Introducing game based narratives to learning languages which would appeal to both genders. These link language learning to solving a crime and require the acquisition of vocabulary and grammar to achieve this in a series of episodes. These are called Mystery Cove;

■ Providing online dictionaries (pools-M) linked to words in screen text so that the text can be read more quickly and understood. This overcomes the time delay and reluctance of students to check meanings of words they are not familiar with; and

■ Providing exercises to test the recall of vocabulary and practice grammar and training teachers in their use.

The material has been developed with peer reviewers and tested with groups of learners before being made more widely available. Initial feedback is that the online dictionaries help learners understand text more quickly. The use of authentic materials related to the specific course of study (e.g. Biology) reinforces listening skills and acquisition of vocabulary. The approach is valued by learners who are motivated by the variety of activities that can be offered.

3.4 Key summary points

The evidence and this analysis points to CALL generally having positive impacts on children's language competences where they are appropriately applied. The studies which

demonstrate this are though often small in scale and show short term outcomes which have not always been compared to students who have not used them.

Specific CALL tools can support traditional foreign language teaching in the classroom:

| Tool	Findings
Chat (computer-mediated communication)	■ Synchronous chat can increase amount of learners language production and its complexity ■ Online forums (asynchronous) can prepare students for classroom oral discussion
Online audio and visual multimedia resources	■ The contextual presentation of words enriched with online audio and visual multimedia resources improves retention of words
Electronic dictionaries	■ Learners complete tasks faster than without technology, and the frequency of dictionary look-ups increases

CALL offers innovative ways of teaching and learning (especially outside formal teaching):

Tool	Findings
Computer-assisted pronunciation training (CAPT)	■ There is strong evidence for CAPT. It promotes student-centred learning and reduces learner anxiety
Intelligent tutor systems	■ Learners demonstrate pre-test and post-test gains in speaking, reading comprehension, vocabulary, grammar, fluency
Game-based learning	■ Develops problem solving and critical thinking skills through engagement and iterative feedback; improves retention

CALL also reduces learner anxiety by providing non-judgmental, student-centred learning. Connecting learners to the cultural context of the foreign language, use of online audio and visual multimedia resources, and reciprocal role peer tutoring can all enhance motivation.

CALL offers supplementary teaching tools and material and provides different pedagogical approaches which may benefit some students.

The conditions for successful CALL are as follows:
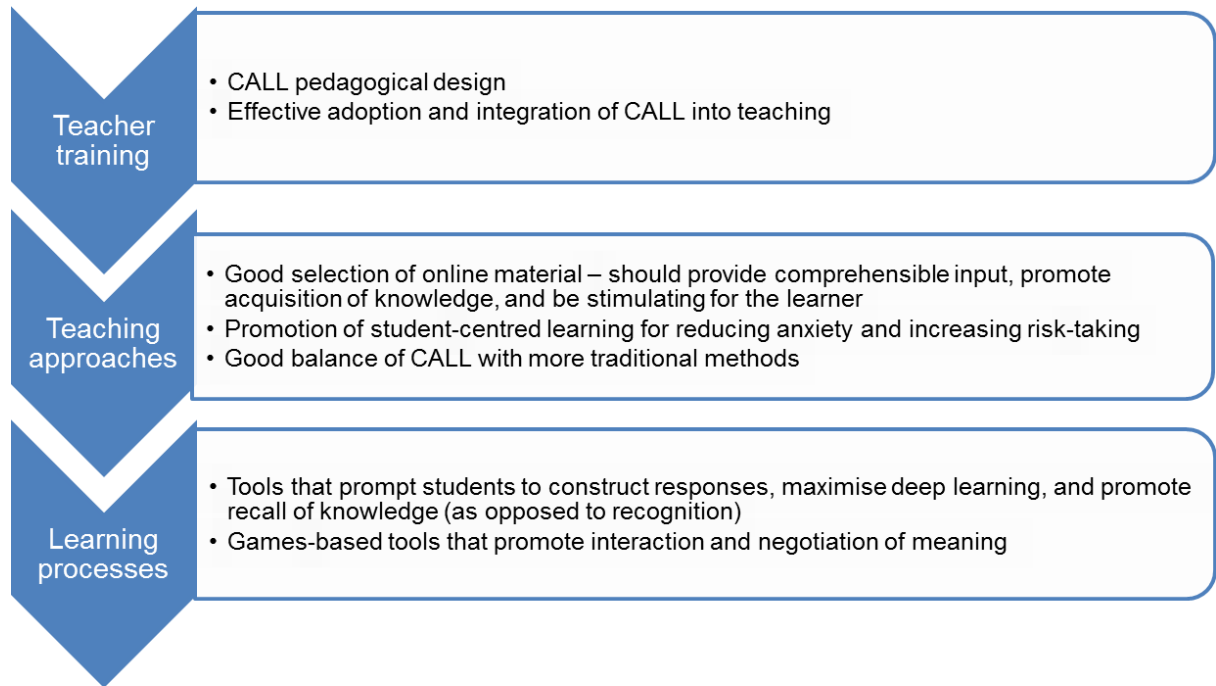
Discussion in the Group highlighted the following factors affecting the provision and effective use of CALL:

Table 3.2   Factors influencing the implementation of CALL

Factors encouraging CALL	Factors hindering CALL
Considerable amount of CALL teaching aids available on the market at low cost competency for	Lack of systematic guidelines to accessing most useful CALL teaching aids and support for CALL at the national level
Schools in many countries have ICT equipment	Patchy provision of ICT in some countries' schools
Restricted opportunities for language learning in the curriculum	Opportunities for learners to use CALL without guidance in non-formal and informal learning outside the classroom, especially English
Teachers with ICT competences and experience of applying them to language learning	Resistance to CALL of teachers using traditional approaches lacking ICT skills; lack of trust in ICT reliability Teacher training for CALL not available
Communities of practice among teachers and schools using CALL	Limited continuing professional development to support use and development of CALL in schools
Opportunities recognised to develop transversal skills in language learning (digital skills, cultural awareness)	

4 Policy lessons

Drawing together the findings from the literature review, the ECML resources, the Group's experiences and the case studies it is possible to see to what extent CLIL and CALL can make a difference to the effectiveness of language learning, what makes them effective when they are used, and what are the lessons for policy makers and the European Commission arising from this assessment.

4.1 CLIL

4.1.1 CLIL makes a difference

CLIL can raise the achievement of students in language competences compared to those who have not participated in CLIL, particularly for those in general education who have started learning a language. This is well demonstrated from studies in a variety of Member States.

CLIL also improves cognitional development, cultural awareness and motivation to learn languages without any significant detriment to content learning in the subjects where it is used. By increasing motivation and possibly attracting more motivated learners, CLIL may also generate better results for learners.

4.1.2 What is needed to make a difference

Continuing professional development which supports whole school approaches to all language teaching and learning is a building block of effective implementation of CLIL. Effective approaches to implementing CLIL are well established and can be developed through CPD. Schools and education authorities providing CPD could benefit from using a framework of competences for CLIL teachers.

It remains a challenge for schools and education authorities to find the resources for this and to motivate teachers to participate although many projects demonstrate teachers' enthusiasm and willingness to learn. This requires development costs, not recurring costs to put in place.

Expanding CLIL requires teachers with higher levels language competences in the language of instruction (at least B2); this might be a constraint for many countries where language competences are not found among sufficient non-language teachers (or general teachers in primary settings).

Schools need to be permitted to provide CLIL if they do not have such flexibility in their teaching arrangements to meet curricular requirements; they could be encouraged through understanding the benefits and providing support to introduce CLIL. Large schools should be able to introduce CLIL classes for specific teaching groups as an option.

Enabling schools in primary and lower secondary to provide CLIL should create pathways for students making the transition and build on the benefits of increased language competences.

As a consequence it is critical for the implementation of CLIL for policy makers to:

- Permit schools at all ages and of all types to organise and delivery CLIL tailored to their needs and in a flexible way;

- Promote the wider benefits of CLIL to school managers and leaders and to the authorities which fund them;

- Develop supportive national guidelines on CLIL implementation in the curriculum;

- Provide opportunities for initial teacher training in a content subject while developing language competences and teaching in CLIL environments (including immersion and submersion);

- Provide or support schools to provide suitable continuing professional development for CLIL teachers and developing whole school approaches to language learning; and

■ Provide or support teachers to develop communities of practice so that they share resources and methods for teaching CLIL effectively.

4.2 CALL

4.2.1 CALL makes a difference

CALL can be effective in developing specific language skills in class though the longer term effects of CALL on the achievement of language competences are not so well researched. CAPT, chat and intelligent tutor systems in particular are found to improve learners' competences because they enable communication; facilitate access to knowledge, dictionaries and other learning resources, and increase exposure to using a foreign language.

CALL can also improve motivation and confidence as well as supporting specific learning styles.

4.2.2 What is needed to make a difference

Continuing professional development is needed to develop language teachers' ability to understand and integrate the use of CALL applications in their guided learning.

Expanding CALL on a large scale requires the availability of schools and homes with access to software and systems which could be a constraint in some countries.

As a consequence it is critical for the implementation of CALL for policy makers to:

■ Enable schools to provide facilities and resources for CALL in both formal and non-formal learning;

■ Promote the benefits of specific CALL tools in language learning supported by the research evidence;

■ Provide training for teachers in initial teacher training about the application and use of CALL and the selection of appropriate CALL applications;

■ Provide or support schools to provide suitable continuing professional development for language teachers in CALL including the ability to use ICT effectively; and

■ Provide or support teachers to develop communities of practice so that they share resources and methods for using CALL effectively.

4.3 Support from the European Commission

The European Commission could support this through:

■ Promoting the findings of the research which evidence the positive benefits of CLIL and CALL through disseminating this report and facilitating exchanges of good practice to enable the efficient implementation of CLIL and CALL by policy makers and schools;

■ Using available funding instruments to support large scale projects which will increase the effective take up and implementation of CLIL and CALL in Member States;

■ Promoting sustainable cross national communities of practice among CLIL and CALL practitioners and teacher trainers;

■ Encouraging cross boundary partnerships and interchanges between CLIL schools and between schools using CALL teaching aids; and

■ Exploring with the ECML whether there are shared interests in further research, development and dissemination of resources for improving the implementation of CLIL and CALL to the benefit of all Member States.

ANNEXES

Annex 1   Literature review methodology

A1.1   Research questions for the literature review

Because of the need to identify how language learning can be improved, the review of the literature sought evidence about the extent as well as how CLIL and CALL interventions in the learning of languages improve the effectiveness and efficiency of foreign language teaching and learning to respond to the following questions:

- What is the effect on foreign language competency?
- What other kind of outcomes do these interventions lead to?
- How do outcomes differ by foreign language/context?
- How do outcomes differ by formal teaching and embedded language learning in non-formal and informal learning settings?
- How do outcomes differ by combination of CLIL and ICT?
- How do outcomes differ by specific levels of ability, age groups, and learning pathways?
- How does the intensity of the intervention relate to the scale of effect?
- What are the resource implications of interventions?
- What are the implementation barriers and facilitators?
- What are the adverse outcomes e.g. non-learning other knowledge and skills?
- What are the barriers and enablers affecting the scale of positive outcomes achieved?

To understand how, this also includes identifying:

- How are teachers prepared to implement CLIL and CALL?
- How are sufficient teachers trained?
- What other policy actions have assisted?
- What additional resources are provided? What are the costs in the short term and who met them?
- What ongoing costs arise? Are they outweighed by the value of benefits?

A1.2   Approach

To address the above research questions the research developed a 'review protocol' specifying the inclusion criteria, sources of material and initial search terms.

The table below shows the criteria for study inclusion.

Table A1.1   The criteria for study inclusion

Characteristics of the literature	Inclusions
Time period	■ No exclusions
Language and geography	■ No exclusions
Type of publication	■ Peer reviewed journal articles ■ Un-peer reviewed academic research outputs (reports; working papers; discussion papers; conference papers) ■ Government/EC and government/EC commissioned research outputs ■ Publications of other research organisations / think tanks / advocacy bodies ■ Evidence provided by delegates
Population groups	■ 5-19 years olds

Settings	■ First and second foreign language
	■ ISCED 1, 2 and 3
	■ Formal teaching in school setting (compulsory and non-compulsory)
	■ Language learning directed by teachers in non-class school setting
Type of policies/ interventions in scope	■ All CALL teaching tools and materials
	■ CLIL (not including 'immersion' and 'submersion')
Study designs	■ No exclusions on design, but findings must robustly attribute outcome to the intervention

The search strategy entailed the following types of sources: journal databases; research institutions and agencies; Government and government agencies; and generic website searches. Researchers conducted searches primarily in English, and also in French, Spanish and German.

The 'Ebsco' journal database was the key search tool. Search terms were systematically entered in order to retrieve journal articles on both CLIL and CALL.

During the search process, publications were included only when meeting the inclusion criteria. Also, some publications were excluded if they did were not based on empirical research. Overall, the first search retrieved 123 publications. Researchers then looked at the publications in more detail to ascertain whether they should be shortlisted for detailed review. Fifty-seven sources were subsequently read and data extracted.

The review aimed to find evidence relating to a set of short-term and medium-term outcomes which might be expected to arise directly from CLIL and CALL which would lead to medium-term outcomes, which would include improved competence in the first and second foreign language. These are set out in the table below.

Table 4.1   Outcomes in scope (anticipated)

Short-term outcomes	Medium term-outcomes
■ More motivation and interest in foreign language learning	■ Improved competences (reading, writing, listening, and speaking) – in first and second language
■ More confidence to speak	■ Faster learning
■ More opportunity to practise	■ Reduced cost of delivering teaching (i.e. cost effectiveness)
■ More vocabulary learnt	■ More young people continuing to learn languages after compulsory education (reduce attrition) through upper secondary, vocational pathways and tertiary education
■ More scope for different learning styles	
■ Better participation in class teaching	■ More young people learning a second foreign language in lower secondary education (where not mandatory)
	■ Increase in the range of first, second and third foreign languages being taught in general education and through to tertiary education
	■ Teachers have increased capability to teach effectively

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