BEST-EVIDENCE SYNTHESIS
Current approaches to Languages education

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INQUIRY LEARNING IN LANGUAGES EDUCATION
The big picture: Inquiry-based learning as an approach for improving Languages education

Models of inquiry-based learning are based upon the ideas that:

- Learning is stimulated by a question or issue
- Learning is based on a process of constructing knowledge and new understanding
- Learning by doing is involved
- A student-centred approach is used with teachers acting as facilitators
- There is a move to self-directed learning (e.g. Justice et al. 2009; Lee et al. 2004). (Spronken-Smith et al., 2007, p. 722)

The most well established inquiry-based models have been those developed in the areas of science education, and the National Science Education Standards (NSES) presents one of the most well defined and frequently cited inquiry-based models for pedagogy (National Research Council, 1996, 2000 see Lambert & Ariza, 2008, p. 63). Within this framework, students are encouraged to use process skills (e.g., measuring, predicting, observing, investigating, etc.) together with their knowledge from science to establish questions, develop investigations, collect and analyse data, make conclusions, and then communicate their results.

Central to the inquiry model is ‘the question’. Gillion and Stotter (2011), for example, argue that through inquiry-based learning, ‘students gain skills and expertise in the art of questioning a topic’: ‘They learn that questions are the key to unlocking new knowledge and that each key will open the door to a different type of knowledge. The classroom will buzz with inquiry into any topic’ (p. 14, emphasis in original).

For languages, this dialogic approach encourages a discursive engagement with the material being taught; that is, a deeper understanding and personalisation of topics and content (including language lexis and syntax) beyond a recall/comprehension model of engagement (Haneda & Wells, 2008, p. 120). However, this isn’t to suggest that lessons lack a strong sense of structure, but that successful inquiry-based learning in fact relies upon carefully scaffolded frameworks (Gillion & Stotter, 2011). Central to the approach is a core sequence of stages that many inquiry-based models share in common, with each stage underpinned by ongoing engagement in reflection:

- Immersion in the topic
- Questioning
- Finding information
- Analysing
- Presenting
- Evaluating. (Gilion & Stotter, 2011, p. 14)

The Inquiry Cycle

![The Inquiry Cycle Diagram](source)

**Figure 1.** The inquiry cycle. (Source: Hui-Chin & Shih-Hsien, 2012, p. 271)

The types of language learning outcomes identified in Hui Chin and Shih-Hsien’s research were what they deemed ‘transformative’, mirroring those of whole language approaches that support L1 literacy:

<table>
<thead>
<tr>
<th>What we used to believe</th>
<th>Transformative knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Being able to sound out vocabulary resulted in understanding meaning.</td>
<td>Sounding out words does not guarantee identifying their meanings.</td>
</tr>
<tr>
<td>Bottom-up skills acquisition was the only path to learning English.</td>
<td>Engaging learners in the targeted language, English, motivates learners to learn in meaningful contexts.</td>
</tr>
<tr>
<td>How do Whole Language teachers teach phonics in context?</td>
<td>Phonics teaching should be embedded and highlighted within rich and authentic literature, such as children’s literature. Authentic language could not be controlled in a systematic way. Learners could only learn the rules when they need them.</td>
</tr>
<tr>
<td>As long as learners acquire as many rules as possible concerning vocabulary, sentence patterns, or grammatical rules, language proficiency could be improved.</td>
<td>Learners should be encouraged to immerse themselves in English learning environments that support language learning rather than having many explicit rules imposed.</td>
</tr>
<tr>
<td>For EFL learners, teachers could only focus on the blocks of “learning language,” and “learning about language.”</td>
<td>Teachers could encourage our EFL learners to go beyond the first two blocks by allowing LI discussion on critical issues.</td>
</tr>
<tr>
<td>Teaching phonics was the basic practice for learners to acquire basics before learning a language.</td>
<td>We gradually recognized that isolated phonics teaching became out-of-context rule instruction. We examined the purpose of segmenting the sounds.</td>
</tr>
</tbody>
</table>

**Table 1.** Conceptualising whole language. (Source: Hui Chin & Shih-Hsien, 2012, p. 275)

In their view the inquiry approach, when applied to Languages, is driven by a recognition ‘that language learning should not only involve the acquisition of discrete facts and rules but, more importantly, involve the learning of how to use language to explore the world and express thoughts’ (Hui Chin & Shih-Hsien, 2012, p. 275).
What does it look like in practice?

Schwarzer and Luke (2001) outline in detail one example of their approach to inquiry-based learning in the context of foreign languages:

During the first steps of the inquiry cycles, the students in the Hebrew 101 class were immersed in a large amount of authentic written materials ranging from Hebrew children’s books to Hebrew basal readers, from restaurant menus in Hebrew to Hebrew magazines and newspapers. The teacher read some of these materials in front of the class. Additionally, some students brought materials they found at the local Jewish community library, at the Hillel Foundation, and other mementos they brought back with them from Israel. One of the authentic materials in the class was a bilingual Hebrew-English travel guide used in Israel by the Ministry of Tourism. Michelle and Rachel started to ask questions about the travel guide: What does an Israeli travel guide look like? Do the guides have only one format or several formats? Are all travel guides bilingual English/Hebrew? After looking very closely at their only travel guide, they decided to send a letter to the local Israeli consulate. They wrote a letter using both Hebrew and English asking for travel guides to the different cities in Israel. After two weeks, they received a few travel guides to different cities in the country and some travel guides designed for tourists interested in touring the whole country.

The next step was to decide what their travel guide of Israel would look like. They decided to create a monolingual Hebrew tourist guide to Israel based on the format provided by one of the travel guides received from the consulate. The basic format was a weekly vacation plan designed for a seven day vacation on a daily basis: Day 1-2: Jerusalem and its surroundings, Day 3: the Dead Sea. They decided to use their own photographs from their trip to Israel in order to illustrate the travel guide.

At this point in the inquiry cycle of the entire class, Rachel and Michelle presented their preliminary idea to other members of the class in a group discussion. At the same time, the other students in the group presented information on the inquiries they had been pursuing. Before this discussion took place, the teacher provided students with cue cards including several basic sentences and words used in discussions in Hebrew such as: ‘I liked it because...’, ‘I did not like it because...’, ‘I think that the best point in your inquiry is...’, ‘I think that you should change...’, ‘Did you consider...?’

After the discussion took place, Michelle and Rachel had time to reflect on which changes they were willing to implement based on the feedback that they received from their fellow students. They wrote a second draft of their work based on the feedback. It is important to note that not all the recommendations made by the other members of the group were included in the final draft. After writing the final draft with the help of various resources (the Hebrew travel guides received from the consulate, a Hebrew-English dictionary, the other students in the group, and the teacher), Rachel and Michelle wrote their final draft of their travel guide.

The final product was a poster-like travel guide that was presented to the whole class. During the presentation, students asked questions about the decisions that Michelle and Rachel had made throughout the entire inquiry cycle process. Why is the travel guide monolingual? Why is it so big? How do you know how many days you should stay at each location? Clearly, Rachel and Michelle were able to use different semiotic systems to communicate their findings (pictures, drawings, maps, etc.). This is one of the strengths of the inquiry cycle in a foreign language.

Rachel and Michelle also discussed with the teacher some of the new questions that had arisen from their initial inquiry about travel guides in Israel: Why do all the travel guides seem to be bilingual? Why is there no standard transliteration of Hebrew cities (Kfar Saba—Qfar Sabah)? What is the most common length of travel for most tourists going to Israel?

Finally, Michelle and Rachel decided to make a copy of their travel guide available to future Hebrew classes so others would be able to plan their Israeli experiences in advance. Throughout this experience, both Michelle and Rachel seemed to be very motivated since they were sharing with the class something that was personal and important to them, and they used Hebrew as a means toward an end (Schwarzer, 2001). (pp. 95-97)
Doehla (2011) describes a similar approach, but adapted to suit the needs of younger beginner learners of French:

**The Children’s Story Book**

In this project, students play the role of a restaurant owner who needs to develop and create a menu for his/her restaurant established in one of the target language countries of the world. Their menus must have at least five categories, and twenty-five items, all authentic dishes of the target culture of their choice within the Francophone world. They must decide on an appropriate name, create an address, phone number, website and twitter account name, consistent with examples they find on-line from authentic restaurants of the target culture. Their menu items must be priced in the local currency, converted in an appropriate manner for the target culture. The students then do a speech either in small groups or for the whole class in which they speak to the group as the restaurant owner, suggesting good dishes, specialty items, etc. They must say at least 15 sentences, and can either present live or on video. I have a rubric for the menu and one for the speech, and am looking for Stage 1 fluency, namely, formulaic language (memorized chunks of discourse combined with lists of works). I find that the kids learn a lot about a country of their choice, while having fun being creative! (Stage 1 Fluency Example: The Menu Project)

The final example, from a New Zealand study by Wang and Erlam (2011), describes an inquiry-based approach developed for Year 7 learners of Japanese, 17 weeks into their program of two 50 minute lessons per week:

Lessons were based on topics (e.g. food, animals, sport) and followed a typical pre-task/task/post-task sequence (Willis & Willis, 2007). In her pre-task, Jo [the teacher] typically taught new vocabulary/language or reviewed known language by having students play games. In the task, she had students use the language in a meaningful context where there was a communication gap and where, in so doing, they contributed to an outcome (Willis & Willis, 2007). For example, Jo gave each student one of two cards (see Figure 1).

**Figure 1:** Pet Shop Task (each student had one of the two cards only and could not see their partner’s card)

Images from Flickr, available under a CC-BY licence, L to R: Rabbit: Jean-Jacques Boujot; Bird: Abspires40; Clown Fish: diveofficer; Fox: peggycadigan; Monkey: Marissa Strniste; Turtle: Thomas Shahan; Horse: firelizard5; Snake: ozz13x.
Students with Card A were pet shop owners and had information about pets they had in stock and how much each cost. Students with Card B had ¥1500 birthday money to spend on a pet. They had to use their own linguistic resources to communicate with the pet shop owner to find out which pets were in stock and which of these they could afford, that is, they were not given the language to use for this task. Each student had incomplete information and each needed to work towards the outcome of a successful purchase.

In the post-task phase of a task-based lesson sequence Jo typically discussed with the students any difficulties they had had and made connections between what they had learnt and prior learning. (pp. 40-41)

In all three cases, common pedagogical principles from inquiry-based learning that support teaching and learning include an interrelated focus on:

<table>
<thead>
<tr>
<th>Connections to students’ experiences</th>
<th>Informed by constructivism (Brooks and Brooks 2001), teachers must draw out and build upon learners’ experiences, which include personal and cultural background, news and popular media, preliminary laboratory experiences, discrepant events, and more.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meaningful and memorable materials</td>
<td>Experiences in the classroom and laboratory involve visual and hands-on materials such as manipulatives, realia (real-life objects), pictures, models, graphs, and multimedia such as videos, interactive software, and internet resources.</td>
</tr>
<tr>
<td>Learning by doing</td>
<td>Active student involvement is necessary for language acquisition and science inquiry alike. Students need to practice and participate in the process, with contributions ranging from brainstorming investigative questions to presenting and defending conclusions.</td>
</tr>
<tr>
<td>Opportunities for application</td>
<td>Whether learning a second language, science content, or both, students must have opportunities to apply knowledge to new situations. Research projects, field trips, graphic organizers, reports, and writing are all avenues for application.</td>
</tr>
<tr>
<td>Student-student interactions</td>
<td>Planned social interactions—group projects, cooperative activities, role-play, debates, and discussions—provide more practice and enhance student learning through common experiences and language (Vygotsky 1978).</td>
</tr>
<tr>
<td>Teacher behaviors and interactions with students</td>
<td>Even with a student-focused classroom, the teacher plays a critical role and must model clear speech, welcoming body language, personalized interactions, openended questions, sufficient wait time, and reflective responding without excessive praise or criticism.</td>
</tr>
<tr>
<td>Classroom management</td>
<td>Management includes suitable communication, routines, procedures, and guidance of student behavior (Wong and Wong 2009), as well as pacing each lesson appropriately to meet individual and class needs.</td>
</tr>
</tbody>
</table>

Table 2. Pedagogical principles from inquiry-based learning. (Source: Bergman, 2013, p. 47)

Locally, the St Kilda Park Italian Schools’ Network, comprising St Kilda Park Primary, Bayswater West Primary, Daylesford Primary, and Coburg West Primary, have implemented a successful inquiry-based unit, About Taste, linked to a sister school network in Piemonte, Italy (Grigg, Petersen, Blick, de Amicis, & Masci, 2014). Teaching and learning activities have involved class groups in both countries working around a common theme—the 2015 Milan Expo, with a particular focus on food—with ICT based activities facilitating the sharing of work and information between students throughout the network. These include:

- Skype,
- iPad apps (Photocard, Storykit, and Puppet Pals),
- We Transfer,
- Photocard,
- PowerPoint,
- Clay animation films.
The units of work and sister school relationship will culminate with an in-country study tour to Italy for teachers and students.

Another key method of integrating ICT into inquiry-based learning are ‘WebQuests’. These are facilitated largely, if not entirely, through online interaction using internet resources. Ikpeze and Boyd (2007) suggest WebQuests offer one important way for teachers to scaffold students’ online investigations in what would otherwise be a ‘poorly structured Internet environment’ (p. 645). Key features of WebQuests include an opening title page, an introduction and explanation of the project, a list of relevant links and resources, and step-by-step instructions to complete a cumulative task (Sax & Rubinstein-Avila, 2009, p. 39). Sax and Rubinstein-Avila also suggest that assessment be included as part of the information provided to students from the outset, such as a rubric that describes what will be expected in the final outcome or product (see also Molebash & Dodge, 2003). Examples of WebQuests include ‘Becoming Japanese’ (web.archive.org/web/20070318182144/http://edtech.suhsd.k12.ca.us/inprogress/gjh/becomingjap/bejap), which scaffolds students to write their name in Japanese, and ‘¿A dónde vas a viajar?’ (zunal.com/webquest.php?w=188607), on seeking travel information about Spanish speaking countries. zunal.com and teach-nology.com offer authoring tools to assist teachers to construct their own WebQuests online.

### Key terms and definitions

#### Inquiry-based learning

‘An umbrella term covering a range of pedagogical approaches that are united by the central place they give to students’ investigative work (addressing questions and solving problems)’.

(Aditomo, Goodyear, Bliuc, & Ellis, 2011, p. 1239)

These approaches include problem-based learning, project-based learning, and case-based teaching:

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Problem-based learning</th>
<th>Project-based learning</th>
<th>Case-based teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td>What provides structure</td>
<td>Starts with a real world problem which is unstructured, open-ended, and thus needs to be refined before it can be addressed.</td>
<td>Starts with clear specification of an end-product that is usually tangible.</td>
<td>Starts with (usually) real case narratives that are written to exemplify how concepts/theories can be applied.</td>
</tr>
<tr>
<td>Typical process</td>
<td>Students are responsible for refining the problem, and also identifying what they need to know and how to bridge any knowledge-gaps.</td>
<td>In working to produce the desired product, students encounter ‘mini-problems’ which need to be solved.</td>
<td>Students usually discuss cases in groups. They analyse cases and answer questions already composed by the teachers.</td>
</tr>
<tr>
<td>Pedagogical emphasis and purpose</td>
<td>Emphasis is on the process of solving the problem; the main purpose is to acquire new knowledge.</td>
<td>Emphasis is on the product of the activity; the main purpose is to practice applying knowledge.</td>
<td>Emphasis on process of analysing cases; the main purpose is to acquire new knowledge.</td>
</tr>
</tbody>
</table>

*Table 3. Approaches to inquiry-based learning. (Source: Aditomo et al., 2011, p. 1241; based on Mills & Treagust, 2003; Helle, Tynjala, & Olinkuora, 2006; Savery, 2006; and Prince & Felder, 2007)*

#### WebQuests

‘Web-based interdisciplinary learning units that foster collaborative problem solving as students work on a task, resulting in a cumulative project’.

(Sox & Rubinstein-Ávila, 2009, p. 39)
Benefits of adopting the approach

Aditomo et al.’s (2011) review of inquiry-based learning has found that the approach contributes to a range of educational goals, ‘including the conceptual, procedural, metacognitive, affective, epistemic, and social’ (p. 1243). This resonates strongly with a summary of research into project-based learning by The University of Indianapolis’ Centre of Excellence in Leadership of Learning (2009), and positive learning outcomes with respect to:

- real-world content knowledge (e.g., Boaler, 1997; Penuel & Means, 2000; Stepien, et al., 1993);
- engagement (e.g., Belland et al., 2006; Brush & Saye, 2008);
- critical thinking and problem-solving skills (e.g., Mergendoller et al., 2006; Shepherd, 1998; and Tretten & Zachariou, 1995); including improvements amongst even low-ability students by as much as 446% (Horan et al., 1996);
- collaborative skills (e.g., ChanLin, 2008; Belland et al., 2006; Horan et al., 1996).

Gillon and Stotter (2011) also note, as one unexpected outcome, that learners in their own study tended to put considerable pressure on each other within their inquiry groups to ensure the work being produced was of high quality, and could be ‘very harsh if they felt it had not been delivered’ (p. 19).

Many of the benefits of conventional inquiry-based learning are also apparent in outcomes produced from WebQuests, with Ikpeze and Boyd (2007) suggesting they present ‘a natural way to teach literacy and technology skills simultaneously by immersing students in authentic problem-solving’ (p. 652). This confirms findings by Sox and Rubinstein-Ávila (2009) who similarly advocate the use of WebQuests given their ‘potential to integrate technology, content knowledge, and comprehensible input’ (p. 38).

Ikpeze and Boyd (2007) further contend that WebQuests ‘facilitate thoughtful literacy’ through the use of carefully chosen, structured, and delivered tasks which provide ‘opportunities for collaboration, thoughtful connections, and critical reading’ (p. 647). As an online-based multimedia text, they argue WebQuests increase levels of student engagement and provide contexts for building literacy skills around information search, retrieval, and hypertext.

With specific respect to second language learning, Varelas and Pappas’ (2006) study of ESL students in a Year 2 inquiry-based Science/Literacy program found that learners were able to develop their language skills while also demonstrating a greater capacity to engage in content-based discussions (see also Guccione, 2011). Similarly, Wang and Erlam’s (2011) study of Year 7s in New Zealand found ‘an overall greater willingness on the part of the whole class to use and particularly experiment with Japanese as a result of implementing a task-based approach’ (p. 43).

Haneda and Wells (2008) suggest that the type of interaction promoted through inquiry-based approaches has a beneficial impact on second language learning for three significant reasons:

First, as a means of encountering the additional language in use, dialogic interaction provides not only ‘comprehensible input’ (Krashen, 1985) but also opportunities to learn how to engage in the genres of the different academic disciplines so that they may become academically competent participants (Colombi & Schleppegrell, 2002; Scarcella, 2003; Schleppegrell, 2004). […]

Second, in using their language resources to contribute to the ongoing classroom talk, they simultaneously learn the social and communicative strategies needed to access the academic content (e.g. when to contribute, how to express their ideas clearly using appropriate discourse strategies). […]
Third, as they contribute to the ongoing construction of knowledge, [L2] students are likely to encounter alternative perspectives on the topic under discussion, expressed by students as well as the teacher. Such opportunities to listen to differing perspectives exposes them to diverse language models (e.g. different ways of expressing ideas and the language of negotiation, such as agreeing/disagreeing with someone) (Echevarria & Powers, 2006; Warren et al, 2001). That is to say, instead of being exposed mostly to teacher talk, in dialogic interaction [L2] students have opportunities to observe and/or engage in the interactive use of language and to experience what Bakhtin (1986) called the interanimation of voices—a more heteroglossic use of language. (pp. 118-119)

In short, Haneda and Wells (2008) conclude that ‘inquiry provides students with incentives for learning through the taking up of intellectual challenges and the resulting opportunities for meaningful interaction about the information and experience gained in the process. It also fosters the making of connections among action, talk and associated text’ (p. 131).

First steps: What do schools need to do?

Focus on Inquiry: A Teacher’s Guide to Implementing Inquiry-based Learning (Alberta Education, 2004), provides a comprehensive 122 page manual on how to introduce and implement an inquiry-based model. This includes making curriculum connections, designing inquiry activities, and planning for professional growth through teacher reflection on the inquiry approach. Although beyond the scope of the current review to explain the planning cycle in detail, it follows a ten step progress from thinking through sources for generating initial ideas (Step 1—Where do I begin to plan?) through to evaluating outcomes and effectiveness (Step 10—How will we determine what worked?):

1. Where do I begin to plan?
2. Who will work with me?
3. How can we engage our students?
4. What will be the scope of our inquiry?
5. Which resources will work best?
6. When should we introduce the inquiry?
7. Which inquiry and ICT skills will we use?
8. How will we monitor and assess inquiry activity?
9. How will we begin the inquiry?
10. How will we determine what worked?

Figure 2. Planning cycle for teachers. (Source: Alberta Education, 2004, p. 24)
Since inquiry-based learning is a pedagogical approach, it can be applied within any domain by the teacher responsible for that area (e.g., as an individual initiative by the Languages teacher during their allocated time in the weekly schedule), and need not depend on other teachers or areas of the curriculum. However, students’ familiarity with inquiry-based learning within other subjects can have an impact on the Languages teacher’s own approach, and the nature of tasks and activities they design. For the most part, given the widespread adoption of inquiry-based pedagogies within other areas of the curriculum, the use of inquiry models in Languages is likely to be well received as students see congruence and consistency between the types of teaching and learning experiences being valued across the wider school community. However, for students to whom an inquiry approach will be new, there is a need to introduce the model gradually given the emphasis it places on self-directed learning.

*Focus on Inquiry* (Alberta Education, 2004) provides practical guidance and advice on the types of inquiry activities best suited to different types of learners, based on their existing experience in inquiry-centered classrooms. On a continuum from those entirely new to inquiry through to those who are very familiar, examples of key differences in the types of activities suggested at either end of the spectrum include:

For students new to inquiry (usually Kindergarten to Grade 3):

- Students choose from teacher-selected, concrete topics.
- Students begin work on the project by relating it to their personal experiences.
- Teacher provides carefully selected resources, including Internet sites, for students.
- Students talk to others, using appropriate protocol, to gather information about their topic.
- Students are specifically taught skills for reading simple informational texts.
- Students are specifically taught note-taking skills to record their information, using a graphic organizer that is provided by the teacher. (p. 32)

For students who are advanced inquirers (usually Grade 10 to Grade 12):

- Students select specific topics (e.g., issues-based, cultural, comparative, informative, historical, current events, biographical) within parameters set by the teacher.
- Students build on their general background understandings of their topic to develop an in-depth understanding of the topic, based on their own information retrieval and processing plan.
- Students carefully select and evaluate a variety of resources.
- Students work with others to monitor understandings of the topic and sensitivities to the topic.
- Students are specifically taught, as needed, skills for reading and evaluating complex informational texts.
- Students share their final report/project with larger groups, with other classes, in the community and/or with family. (p. 35)
Issues and challenges in adopting the approach

One of the most significant challenges in moving towards inquiry-based learning is that ‘we don’t even realize how limited our knowledge base is until we engage in inquiry with our students’ (Ray, 2006, p. 244). This can then result in one of the biggest short-comings of the approach: that tasks can too easily lack authenticity, and thus fail to provide learners with genuine opportunities for ‘knowledge building’ (Aditomo et al., 2011, p. 1255).

In the senior years of schooling, the time required to adequately develop and explore topics through inquiry-driven approaches can also make the model difficult to adopt due to external assessment regimes that structure the curriculum and delivery of content (Gillon & Stotter, 2011, p. 14). Haneda and Wells (2008) have similarly recognised that in contexts where ‘there is an excessive focus on obtaining gains on standardised test scores’ (p. 132; e.g., NAPLAN), inquiry approaches are not easy to implement. However, they do nevertheless suggest that ‘key elements, such as promoting students’ intellectual curiosity, agentive participation and interactive use of language, can be introduced in small steps’ (p. 132).

In relation to WebQuests more specifically, Alstaedter and Jones (2009) find that drawbacks include a tendency for some students to prefer working individually rather than in groups (see Sen & Neufeld, 2006), mirroring a caveat similarly identified in Gillion and Stotter’s (2011) research on conventional inquiry-based approaches. To overcome this problem, they recommend that students self-select groups whenever possible which can have a more positive impact. Other concerns outlined by Alstaedter and Jones (2009) were that students with a preference for traditional teacher-directed instruction (e.g., grammar and vocabulary) had lower levels of motivation in inquiry-based contexts, with teachers needing to be mindful of the full range of needs and styles present within any one class group. Ikepze and Boyd (2007, drawing on Bradshaw et al., 2002) summarise the major problem with WebQuests being ‘navigational disorientation, information overload, and distraction’ (p. 645), again suggesting the need for a balance between teacher intervention and wholly online tasks depending on the needs of the student group to ensure learners remain focused through each stage of the investigation.

How can effectiveness be determined?

Formative assessment is pivotal within inquiry-based methods, as the focus of learning is on the process rather than the final product alone. The imperative is to ensure a focus on assessing learners’ progress and developing skills and knowledge as they work through the inquiry unit. As Harlen (2000) explains,

[The inquiry] view of teaching and learning acknowledges the role of the student in his or her learning. No one else can do the learning, but the teacher who wants to help the process will need to know where the student has reached. Gathering information about the learning as an ongoing part of teaching, and using it in deciding next steps, is thus a necessity. (p. 89)

In contrast to conventional orientations to assessment, the focus is not only on what is being learned, but also on how students are learning it; that is, an assessment of their own ‘learning to learn’ (inquiry) skills, which then enables related learning against the unit goals and objectives. Assessment within the inquiry-driven model thus depends on, first, identifying what the outcome needs to be, and then determining the progression required in relation to the full range of skills, understandings, and capabilities needed to reach that end-point (Harlen, 2000).
Most useful here, then, is a focus on ‘assessment as learning’ (Black & Wiliam, 1998). This puts the emphasis on not only the students’ final achievement (assessment of learning), or the decision-making required on the part of the teacher (assessment for learning), but a place for students to reflect on their own progress and their decisions that inform their ongoing investigation into the problem/project:

Assessment as learning occurs when students reflect on and monitor their progress to inform their future learning goals. It is regularly occurring, formal or informal (e.g. peer feedback buddies, formal self assessment) and helps students take responsibility for their own past and future learning. It builds metacognition as it involves students in understanding the standards expected of them, in setting and monitoring their own learning goals, and in developing strategies for working towards achieving them. (Victorian DEECD, 2013a, Module 4)

Macdonald (2005) provides a summary of assessment techniques that are often used with inquiry-based learning which shift the emphasis away from a focus on summative outcomes alone. Although written for higher education contexts, some strategies that are also applicable to F-12 settings include:

- group presentations,
- individual presentations,
- case-based essays,
- portfolios,
- self-assessment,
- peer assessment,
- viva voce examinations (i.e., an ‘exhibition’, where students are required to defend their project at certain stages of development),
- reflective journals,
- patchwork texts (cumulative texts that build up over the course of an inquiry unit/project that different group members each write, contributing to the final product).
GESTURE LEARNING IN LANGUAGES EDUCATION
The big picture: Gesture-based learning as an approach for improving Languages education

Interest in gesture began to expand within studies of language and, more specifically, language use, from the early 1980s, with aroused interest in the psychological dimension of language, the role of interaction in language acts, and the prominence of research methods around conversation analysis and interaction ethnography (Kendon, 2011). As Kendon goes on to argue further, also pivotal was a recognition that sign languages are ‘full languages’, that children come to express themselves through gesture when beginning the development of their first language, and that an increased awareness of how the gestural acts between nonhuman primates relate to those evident between humans. Indeed, the current state of the art speculates that gesture might well be the possible precursor to modern forms of language (Kendon, 2011, p. 13).

Summarising the academic field on gesture and language as whole, McNeill (2000, p. 9) identifies four main threads. The first seeks to investigate the function and role of gesture within social interaction; that is, the nature of gesture as an instrument for human communication. The second grows out of cognitive psychology, and an understanding of the genesis of gestures and their function in ‘real time mental processes’ for meaning-making with others through language. The third he refers to as ‘modelling’, with a focus on understanding the relationship of ‘gesture-speech performance’, and the processes involved in the application and production of gesture within communicative acts. The fourth area focuses on the relationship between ‘gesture’ and ‘sign’, and the transition of non-language forms of meaning, such as gesticulation, through to the linguistic constructs with which they relate.

This academic interest in the relationship between gesture, language, and acquisition in the last three decades has led to new lines of inquiry around pedagogical implications for languages teaching and learning. Orton (2007) states that the introduction of gesture into second language pedagogy is based on an understanding that the natural and spontaneous use of gesture helps facilitate competence and mastery of the language, that they signal clues to the cognitive processes underlying acquisition, and that they help recognise the influence of first language transference and interference (see also Gullberg, 1998; 2006; McCafferty, 2002; Stam, 2006; Yoshioko & Kellerman, 2006). Wendy Maxwell, in her 2001 thesis on the effectiveness of gesture based methods in French second language classrooms, argues that gesture has the capacity to provide a ‘simple, rapid, and effective way’ to represent lexis in ways that are visual, kinaesthetic, and auditory to help second language learners to ‘deeply embed meaning’ (p. 2). Maxwell went on to establish the Accelerative Integrated Method (AIM) of language teaching for French language teaching which is, to date, the most well developed and widely used mainstream gesture-based approach in F-12 Languages education.

As Arnott (2001) points out, however, the notion of method goes beyond a mere set of instructional directives, and comprises a complex set of assumptions, principles, and beliefs about what works and how that can be best implemented. Accordingly, ‘AIM teaching needs to be understood as representing more than the descriptions put forth in the accompanying resources, especially when the complexities of classroom-based teaching and teacher agency are taken into account’ (p. 158). Mady, Arnott, and Lapkin (2009, p. 704) elaborate upon this further to suggest that AIM falls under the broad umbrella of communicative language teaching, with many aspects of the approach already being familiar to teachers given it draws on a range of other well-known methods, including the direct method, audiolingual method, and total physical response (see Larsen-Freeman, 2000).

Consequently, although originally developed specifically for French, AIM training and materials now also exist for Spanish and Chinese, and teachers of other modern European Languages (e.g., German and Italian) have adapted the underlying principles to introduce similar techniques into their own programs. The Narrative Format Approach, created by Taeschner and her colleagues as part of the European Commission’s Socrates: Lingua initiative, is another alternative for English, French, German, Spanish, and Italian, and uses the source materials Hocus & Lotus (Taeschner & Simeoni, 2005). In the area of Asian Languages, ACTLAN (‘Action Language’) is a recent gesture-based innovation for Japanese. While the specifics of the methodology differ for each type of approach, the core principles, understandings, and assumptions remain common across gesture-based pedagogies. For ease of understanding, the common point of reference for the remainder of this document will be AIM as one example of the approach. It should also be noted that website updates, resources, and training events for ACTLAN and the Hocus & Lotus Narrative Approach are infrequent, and the long-term future of these methods in the Australian context is not clear.
What does it look like in practice?

As noted already, many discrete elements of AIM are similar to techniques found elsewhere in other approaches to languages teaching, including choral repetition (i.e., audiolingualism), a whole-language immersive environment (the natural approach), and the significance of kinaesthetic learning (total physical response). Beyond these similarities, however, distinctive to the AIM method are a well-defined and specific set of gestures linked to each lexical item, including grammatical markers, and the introduction of language right from the very start of learning (Arnott, 2011). As Arnott maintains, ‘the basic premise of AIM rests on the belief that the more students produce the language from the very beginning of L2 learning, either chorally with gestures or spontaneously with teacher support, the more likely they are to become fluent and accurate in their overall production of the target language’ (p. 158).

In terms of an overall program of work, AIM is based around a series of stories and plays staged across nine ‘year’ levels which correspond with a progressive and cumulative sequence of high frequency lexis and syntax (see Clark, 1985 and O’Connor DiVito, 1991 in Arnott, 2011). Exclusive use of the target language is expected from the very first lesson, with new items of language introduced and scaffolded in the context of the narrative provided by each new story and play. Each unit of vocabulary has a corresponding gesture. As Mady, Arnott, and Lapkin (2009) explain:

The majority of the gestures are straightforward; for example, the verb ‘manger’ (to eat) uses the motion of bringing food to one’s mouth, and opening and closing your hand beside your mouth quickly means ‘dire’ (to say). These gestures are initially taught in isolation, often during choral work activities, but are quickly integrated through the use of drama, music, literature, and dance. Although new vocabulary is always introduced with its corresponding gesture, the expectation is that students will need the gestures less and less as they progress through the AIM units. (p. 705)

Similarly, although all students will go through the same sequence of developmental levels, it is assumed that older learners will progress through the material faster than younger students due to their readiness to manage more complex tasks. (Arnott, 2011, p. 158)

It is important to recognise that although a presumption might be that gesture-based approaches privilege face-to-face communicative interaction, the methods rely on having students engage heavily with both oral and written modes of production. Initial stages focus on the introduction and development of functional oral language through plays and stories, including oral questioning to build students’ competence from comprehension of single words through to the production of full sentences. However, these foundation skills are then extended to more complex recounts and creative writing tasks (Mady et al., 2009). At the same time, opportunities to use and reuse the language away from the original context-embedded narratives are also provided to enable greater independent, abstract use, and retention of the language as students’ competence grows.

Maxwell (2009) provides a comprehensive outline of the practicalities of the approach in the Jeunesse en action! AIM Sampler Kit, including a sample running template for an AIM lesson:

Sample Daily Lesson Template
Template for 30-minute lesson:

<table>
<thead>
<tr>
<th>Entry routine</th>
<th>2 minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole-class work</td>
<td>18 minutes</td>
</tr>
<tr>
<td>START OF PARTNER/GROUP WORK ROUTINE</td>
<td></td>
</tr>
<tr>
<td>Partner/group work</td>
<td>8 minutes</td>
</tr>
<tr>
<td>END OF PARTNER/GROUP WORK ROUTINE</td>
<td></td>
</tr>
<tr>
<td>Leaving routine</td>
<td>2 minutes</td>
</tr>
</tbody>
</table>

*Figure 3. Sample 30-minute lesson template. (Source: Maxwell, 2009, p. 19)*
The sampler kit provides numerous examples of possible entry and leaving routines which focus on helping to build classroom routines—including expectations and reminders around the importance of maintaining the use of gestures and a ‘target-language only’ learning environment—as well as targeted opportunities to practice, rehearse, and revisit key language. Maxwell (2009, p. 19) suggests doing a new routine until students know it well, even if it means repeating that same routine for days or weeks at a time, and then integrating it into a rotation of routines cycled throughout the program. Examples of gesture-supported tasks for whole-class activities include:

- Play rehearsal
- Gesture/association teaching
- Scaffolded language-manipulation activities
- Questions based on the play
- Games
- Written/oral story retelling and extension
- Reading stories from the series of readers
- Sharing completed stories. (p. 26)

Partner/group work-based activities are modelled on similar techniques, but are typically structured around specific activities within the AIM course materials and textbooks for students to work on together.

For grammar, AIM takes an ‘inductive’ approach (Maxwell, 2009), comprising 3 key stages:

| Stage 1: | Build an awareness of ‘what sounds right’ (p. 22), with all grammatical refinements presented to students with both gesture and oral language. |
| Stage 2: | Move to explicit and targeted teaching of the gesture and use of the form in both oral and written work once students begin to recognise gestures associated with particular grammatical structures. |
| Stage 3: | Present the rule to students (which take the form of a ‘rap’ (p. 22)) to explain the point of grammar. They can then refer to this when asked to explain how language works, or to recall it to guide the production or revision of their own language when needed. |

**Key terms and definitions**

**Gesture**

‘The (mainly manual) movements speakers perform unwittingly while they speak (cf. Kendon, 1986, 2004; McNeill, 1992) [... they] are semantically coexpressive with speech, such that they often convey meaning also present in speech either iconically, or by way of spatial contiguity, or indexicality. Gesture and speech are also temporally coexpressive such that the gesture occurs at the same time as the speech unit with which it is semantically coexpressive. Gestures defined in this way have been shown to reflect both lexical and discursive linguistic structures (e.g., Duncan, 1994; Kita & Özyurek, 2003; McNeill, 1992)’. (Gullberg, 2006, p. 158)

**AIM (Accelerative Integrated Method)**

‘A language-teaching methodology that combines target language use with emblematic gestures, [sic] (Breckinridge-Church, Ayman-Nolley, & Mahootian, 2004), choral activity (McCauley & McCauley, 2002) and drama (Dodson, 2000), among others’. (Arnott, 2011, p. 157)

AIM began in Canada in the early 2000s as a method for French foreign language instruction. The underlying principles of the approach have been adapted and extended by practitioners to suit other languages; primarily European, but also Mandarin. It is structured across nine year levels and is most suitable for primary and junior secondary learners.
ACTLAN (Action Language)

A Japanese-focused approach for gesture-based language teaching developed in Queensland in the late-2000s (Gomura, n.d.). It differs from AIM in its programmatic structure and specific gestures used, but shares common principles such as being story-based, focused on a progressive sequence of frequently used words, and developing oral language first as the basis for extending those skills into reading and writing.

Another critical difference is whereas AIM is progressively sequenced across a series of nine levels from primary to secondary, ACTLAN comprises only two general stages: Stage One, with a focus on building oral competence and core words and sentence patterns, and Stage Two, focused on extending words and grammatical knowledge as they relate to other curriculum domains as well as reading and writing (Gomura, n.d.). In this way, the program aims to establish a functional basis from which to then extend students’ skills through other methods, rather than being a complete program in itself. Materials to introduce ACTLAN exist for both primary and secondary levels. Although teaching kits can still be purchased via the internet, the ‘recent blogs’ section of the website (www.actlan.com.au) has not been updated since 2011, and the Events page loads as ‘not found’.

The Narrative Format Approach

An approach with similar assumptions, principles, and strategies as AIM and ACTLAN, but developed specially for the primary years for a range of European Languages through the European Commission’s Socrates: Lingua initiative (www.hocus-lotus.edu). The stories, gestures, and tasks focus on two ‘dinocrocs’, Hocus and Lotus, aimed at building foundational competence that can then be extended through other approaches. There seems to be no training sessions or events on using this method in Australia, and the most recent website updates relate to training in Italy in 2012 (www.hocus-lotus.edu/B_training.asp).

Benefits of adopting the approach

Research into the effectiveness of gesture-based approaches has consistently demonstrated that they enhance student outcomes (Özcelik & Sengul, 2012, p. E86; Orton, 2007, p. 18). In particular, Chun-Yen et al.’s (2013) review of the evidence on the impact of gesture-based multimedia to support learning found positive results across a number of key studies. In their view, one key reason for the success of gesture-based methods may lie in the brain's mirror neuron system:

While observing/listening someone else performing/explaining a human movement, the neurons in the observer/listener’s brain responsible for executing that movement would be activated (Rizzolatti & Craighero, 2004; Tettamanti et al, 2005). This biological advantage could ease the consumption of cognitive resources while a learner is processing the instructional multimedia materials which contain human movements (Ayres et al, 2009; van Gog, Paas, Marcus, Ayres & Sweller, 2009; Wong et al, 2009), and thus enhance learning outcomes. (p. E5)

Krönke, Mueller, Friederici, and Obrig (2013, p. 2554) suggest a similar argument is also supported by evidence from behavioral research (e.g., Woodall & Folger, 1985), which has demonstrated that verbal memory improves with the production of gestures related to the semantic content being discussed, with positive impacts on both young (Thompson et al., 1998) and much older adult learners (Feyereisen, 2009). Indeed, Özcelik and Sengul’s (2012, p. E86) recent summary of studies on gesture-based interaction reports many of the same positive outcomes (e.g., Alibali & Goldin-Meadow, 1993), including the use of gesture for solving mathematic problems (Broaders, Cook, Mitchell, & Goldin-Meadow, 2007), improving comprehension and memory (Stevanoni & Salmon, 2005), and facilitating deep and long-lasting learning (Cutica & Bucciarelli, 2008).
More specifically, in the area of foreign language learning, Rowe, Silverman, and Mullan (2013, p.110) have found similar results, as well as Kelly, McDevitt, and Esch's (2009) study of English-speaking adults learning Japanese verbs through iconic gestures. Those words taught with gestures were learned more effectively in terms of reinforcing their meanings. Similarly, with reference to Brekinridge-Church et al.'s (2004) research on the teaching of scientific concepts (conservation) to Spanish-background speaking ESL students (7-year-olds), gestures helped to increase comprehension.

Mady et al. (2009) agree, arguing that empirical research finds that L2 learners benefit greatly from the use of gesturing, ‘especially at times when speech is not immediately accessible to them (Breckinridge-Church et al., 2004), or when they are dealing with communication breakdowns (McCafferty, 2002)’ (p. 705). Indeed, on the latter point, Gregersen, Olivares-Cuhat, and Storm (2009) further suggest that perhaps one of the greatest contributions of gesture-based approaches lies in the development of strategic competence:

When a language learner is able to effectively produce messages accompanied by appropriate gestures, the meaning of the message is reinforced. Furthermore, a learner who replaces an irretrievable word with a gesture is able to keep the conversation moving ahead. As strategic users of gestures when listening to interlocutors, language learners can tap all possible non-linguistic clues to decode and guess the meaning of unknown expressions heard in the target language. (Scarcella & Oxford, 1992) (pp. 195-196)

As they go on to assert further (Gregersen et al., 2009, p. 198), gesture-based methods have the potential to provide important strategic tools for beginner and less proficient learners by expanding the means by which to convey meaning and keep communication going. This, in turn, helps to sustain motivation, and provides learners with the chance to continue receiving further comprehensible input and opportunities for interaction and meaningful output to develop skills beyond the level where they began. Such conditions are crucial to long-term communicative development and growth (Lightbown & Spada, 2013).

First steps: What do schools need to do?

Gesture-based approaches such as AIM, ACTLAN, and the Narrative Format approach relate specifically to Languages pedagogy, so teachers need not rely on collaboration or coordination with other areas of the school. Although it is also possible to use the method individually, a team-based approach in schools where there are multiple language teachers is preferable since the gestures and words are specific to each method. A team-based approach provides both teachers and students with access to a common set of words and gestures that can be used across year levels to build coherence in a school-based Languages program. The costs of materials and training also mean that an investment can be made at the programmatic level, to enable more strategic use of funding given fees can be significant.

AIM materials, including student workbooks, multimedia activities, ‘big books’, and teacher guides can be purchased from the AIM website for approximately $540AUD per kit (each kit covers approximately 50 instructional hours) (aimanzshop.mybigcommerce.com). Kits include introductory training materials on how to use the method, although the AIM organisation also offers Australian-based professional learning via face-to-face workshops and conferences (www.aimanz.com/event-registration-2/) as well as further online certification opportunities via AIM’s international website (aimlanguagelearning.com/training-and-development/).

ACTLAN ‘complete’ kits, including student readers, multimedia resources, games, and teacher instructions, can be purchased directly from the ACTLAN website for $640AUD (www.actlan.com.au/products/). The website lists no current or upcoming events (www.actlan.com.au/events/reports reports a 404 ‘not found’ error as at May, 2014) and the last blog update was in 2011 (www.actlan.com.au/category/blog/). However, its founder, Chizuko Gomura, did present a workshop on the method at the JLTAV conference in March, 2014, and an online introductory training course on using the method was available as at May, 2014, via www.udemy.com/actlan-japanese-part1/ for $50USD.
Issues and challenges in adopting the approach

Overall, there is little research that would suggest AIM has any detrimental impact on language learning. Although Carroll (2011) did find that secondary level students had some difficulty with grammatical analysis on tasks about language and structure, they were nevertheless very competent with an actual capacity to produce and compose a piece of text. The most frequent errors that did appear seemed related to AIM’s emphasis on oral learning in the initial stages (e.g., orthographic differences between veux/veut and ils/ells), which is also common with mother tongue French acquisition and did little to obscure the intended meaning of the text. Issues noted by Maxell (2001, pp. 51-54) herself in her initial research into gesture based learning included:

- double verb constructions,
- pronunciation,
- gender distinction,
- j’ai vs. je,
- present progressive,
- plural forms of irregular verbs,
- possessive adjectives,
- ordering of object pronouns, and
- contractions with à and de.

However, as both Maxwell (2001) and Carroll (2011) point out, these types of errors can be addressed through more targeted types of instruction as students move from a functional level of language competence with fine-tuning of their increased knowledge of language and grammar.

Rather than problems of the approach itself, perhaps the most challenging aspect of a gesture-based method is recognising the limits of the approach. While studies such as those by Carroll (2011) and Maxwell (2001) testify to the effectiveness of AIM for establishing strong foundations that enable subsequent language development, there is a need for schools to plan beyond these foundations to ensure a program with continuity and long-term goals and vision. This is especially the case with ACTLAN, which only consists of materials for introducing initial key words, grammar, and language points as the basis for functional classroom competence, rather than full kits across F-10.

Likewise, Arnott (2011, p. 166) similarly notes that with AIM, teachers seek ways to supplement the approach based on their previous patterns of teaching to enable a better ‘fit’, a desire to break up the repetitiveness of using approach after many years, and a need to fill in ‘gaps’ for areas that the published resources don’t address to meet the specific needs of their own learning programs and students.
How can effectiveness be determined?

Since gesture-based approaches such as AIM, ACTLAN, and the Narrative Approach include a focus on both oral and written modes of comprehension and production, the principles of assessment are no different from other holistic approaches to language assessment; namely, attention to the communicative use of language across all four macroskills (reading, writing, speaking, and listening) (Brown, 2010). Indeed, with students engaged in activities that use the target language from the very first moment, these approaches provide frequent opportunities for formative assessment to monitor students’ ongoing progress. The highly routinised nature of the tasks mean that teachers can also regularly check students’ levels of achievement and engagement as the units of work progress over time.

In addition to oral language production being a focus in every AIM class that enables ongoing opportunities to monitor development, the partner/group work phase focuses on written language-manipulation tasks. This provides opportunities for teachers to assess aspects such as:

- What level of support students need to complete the activities once they have been modelled sufficiently with the whole class;
- What type of help the students need when help is requested;
- The accuracy of each response with respect to meaning;
- Correctness of syntax;
- Accuracy in spelling;
- Accuracy in the application of specific grammatical concepts;
- What quantity of structured work each student can accomplish. (Maxwell, 2009, p. 108)

Workbooks and assessment activities also include tasks on creative written expression to gauge students’ language beyond the word and sentence level, their ability to see other points of view and perspectives, and their application of language in new contexts and domains.

AIM kits also include summative assessment tasks and worksheets, including rubrics for evaluation and reporting purposes. Data can be used to track student and cohort progress over time as they move from one level to the next. Student kits at secondary level (Jeunesse en action) also include an Assessment Activities Book which helps students track their own skill development to foster an awareness of their progress, and thereby take a greater responsibility for their own learning (Maxwell, 2009).
The big picture: CLIL as an approach for improving Languages education

‘Content and Language Integrated Learning’ (CLIL) refers to a pedagogy with a dual focus on developing outcomes in both language (e.g., French) and content (e.g., Science) simultaneously (Coyle, Hood, & Marsh, 2010). A ‘descendent’ of the Canadian immersion approach (Perez-Canado, 2011, p. 316), a critical difference between immersion and CLIL—which was developed in the European Union in the mid-1990s—is the flexibility CLIL provides as a pedagogy applicable to a range of varied educational settings and conditions (e.g., individual or team-teaching approaches; timetabled as a single-class or as part of a whole-school curriculum; etc.). The emphasis lies less on the need to create systemic or structural conditions necessary to immerse students in the target language, than on using pedagogical techniques that capitalise on existing opportunities to enhance language learning retention and outcomes. As Mehisto, Marsh, and Frigols (2008) put it: ‘Although CLIL [...] does involve a new approach and a certain degree of change, it can easily fit into the parameters established by the national or regional curriculum. [It is an] approach that seeks to enrich the learning environment’ (p. 27).

In this way, Coyle (2013) argues that CLIL is increasingly being recognised as a ‘change agent’ (p. 244) for language education programs, with a capacity to reshape traditionally monolingual-centric approaches into genuine bilingual experiences for learners. This is significant for Languages education since ‘strong’ models of bilingual education (Baker, 2011)—such as CLIL, as well as immersion—provide the optimum conditions for second language development; namely, opportunities to encounter comprehensible and meaningful language with the expectation that students engage with, respond to, and use that language for themselves within purposeful, well-scaffolded communicative experiences (Lantolf & Thorne, 2006; Lightbown & Spada, 2013). De Graaff, Koopman, Anikina, and Westhoff (2007) expand upon this further by linking major developments in the last 30 years of language education research that support the move towards CLIL-based approaches:

1. Communicative language teaching: language is acquired most successfully when it is learned for communication purposes in meaningful and significant social situations (Brumfit & Johnson, 1979).
2. Content-based language teaching: the integration of content and second language instruction provides a substantive and functional basis and exposure for language teaching (Cummins & Swain, 1986; Echevarria et al., 2000; Genesee, 1987).
3. Task-based language teaching: exposure, use and motivation in functional and relevant activities are prerequisites for successful language learning (Bygate et al., 2001; Ellis, 2003; Willis, 1996). (pp. 606-607)

This effectively mirrors what Mehisto et al. (2008) have asserted is CLIL’s ‘winning game plan’ (p. 101): content-based learning outcomes integrated with language goals to facilitate understanding of that content, while also developing overall general learning skills as independent problem-solvers. When implemented properly, CLIL programs should be able to achieve:

- Grade-appropriate levels of academic achievement in subjects taught through the CLIL language;
- Grade-appropriate functional proficiency in listening, speaking, reading and writing in the CLIL language;
- Age-appropriate levels of first-language competence in listening, speaking, reading and writing;
- An understanding and appreciation of the cultures associated with the CLIL language and the student’s first language;
- The cognitive and social skills and habits required for success in an ever changing world. (Mehisto et al., 2008, pp. 11-12)

The emphasis on grade-appropriateness is crucial, since the success of the approach depends on purposeful interaction and engagement—provided by the content—as much as it does on simply understanding language for its own sake (Coyle et al., 2010). It is the attempts to make meaning—and be meaningful—when teachers and learners work together to construct and reconstruct content-based knowledge and understanding through the language that provides the catalyst for language and content growth (Cross, 2012).
What does it look like in practice?

The real potential of CLIL lies in the flexibility it offers as an approach to produce the optimum conditions for languages learning across a wide range of teaching contexts. Hood and Tobutt (2009) have identified at least four models of CLIL within the UK context which include:

- Surface cross-curricular linking.
- Integrating language while building on semi-familiar content.
- Integrating language and new content.
- Immersion [as understood in the CLIL UK context]. (p. 105)

Because of this flexibility, it is essential that practice is informed by a clear and robust theoretical basis. It is not so much ‘what’ teachers do that matters—as if to suggest that a prescriptive set of techniques could achieve the outcomes of CLIL—than understanding ‘how’ and ‘why’ language and content integration can be approached in a range of different ways, given a variety of different settings for that practice, to produce desired outcomes.

The core theory underpinning CLIL comprises four key ‘building blocks’ (Coyle, 2006, p. 9), known as the 4Cs Framework:

**Content:** The subject matter, theme, and topic forming the basis for the program, defined by domain or discipline according to knowledge, concepts, and skills (e.g. Science, IT, Arts).

**Communication:** The language to create and communicate meaning about the knowledge, concepts, and skills being learned (e.g. stating facts about the sun, giving instructions on using software, describing emotions in response to music).

**Cognition:** The ways that we think and make sense of knowledge, experience, and the world around us (e.g. remembering, understanding, evaluating, critiquing, reflecting, creating).

**Culture:** The ways that we interact and engage with knowledge, experience, and the world around us; socially (e.g. social conventions for expressing oneself in the target language), pedagogically (e.g. classroom conventions for learning and classroom interaction), and/or according to discipline (e.g. scientific conventions for preparing reports to disseminate knowledge).

![Figure 4. The CLIL 4Cs Framework. (Coyle, 2006 in Coyle, 2007, p. 551)](image_url)
Further, in contrast to conventional ‘methodologies’ of language teaching that rely heavily on specific conditions for successful implementation (e.g., see Baker, 2011, for a list of ‘core’ and ‘variable’ features of immersion), CLIL is informed by a set of relational (and therefore more contextually sensitive and flexible) principles for pedagogy designed to work across different educational contexts. With the aim of incorporating the four aspects of the 4Cs framework, these principles argue that learning is based on the construction of new knowledge/skills rather than mere acquisition; that there is a need for explicit attention to the role and development of cognitive skills to facilitate quality student-centered, participatory learning experiences; that interaction and context are central for reconstructing meaning and understanding; and that the relationship between language and culture is complex, inseparable, and central to the development of intercultural understanding (Coyle, 2008).

The excerpt below describes one teacher’s CLIL approach in a Year 2 Spanish/Science class. As already explained, this is only one way of approaching CLIL, but it does highlight the interrelated focus on content, culture, cognition, and communication, along with the pedagogical principles above that guided this teacher’s integrated approach to practice:

In the initial lesson for the topic, the teacher read an illustrated story which she had translated from English into Spanish. All of the Year 2 classes were using this story as the means of activating students’ knowledge about causes and their relationship to effects. However, as the teacher pointed out during the follow-up interview, this had not worked well in Spanish for two reasons. First, the students had limited exposure to the language, and she needed to focus on a small number of key vocabulary items rather than overall comprehension of the story. Second, the cause and effect sequences in the story were more social than physical, whereas the following lessons focussed on scientific concepts of cause and effect such as friction, weight with force of gravity, and air pressure. The social nature of the story did, however, enable the teacher to draw the students’ attention to some intercultural aspects of the behaviour of Spanish speakers in the situations compared to their expectations based on Australian cultural assumptions.

The three lessons involving student experiments followed a similar pattern, with the teacher preparing a lesson plan based on a model adapted from Coyle et al. (2010) and Dale and Tanner (2012). Each lesson began with a warm-up activity to activate students’ Spanish vocabulary with the teacher using games to revise previously learned words and new ones needed for the particular experiment. To guide students’ understanding of the particular cause and effect concept, the teacher demonstrated the experiment, and then asked a student to demonstrate it with her, each time explaining in Spanish what they had to do and asking questions of the class to ensure they had understood the process and were able to explain it in Spanish. To consolidate the cause and effect comparative structures, the teacher wrote examples on the whiteboard with gaps for students to complete using their own data and conclusions. The teacher also used prepared flash cards with words in Spanish to put examples from the students’ own findings about the results of each experiment, and placed these on the magnetic whiteboard so they could complete their individual charts. Students worked in pairs or small groups to support each other during each of the experiments, but wrote their own results in Spanish on pre-prepared charts. At the end of each lesson, the teacher summarized what had been done, focussing on the language of predicting and hypothesizing related to each cause and effect experiment and the materials used.

The language focus for this topic centred on lexis for the materials used in each experiment, and syntax for comparatives. The ‘hands on’ nature of the teacher’s approach meant that the macro skills focus was on listening and responding orally and in writing, by completing set sentences where the basic elements were provided and students wrote one or two words per gap to complete their own sentences.

As a final product, students worked in pairs to produce a poster illustrating each of the experiments and writing a short paragraph of three to four sentences to record what they had discovered during this topic.

Through the content of this inquiry unit, the teacher was able to develop the students’ thinking skills by asking them to predict what might happen with each experiment and to provide a possible explanation of this. During the experiments, she circulated around groups of students, talking to them in Spanish and helping them to formulate their conclusions in a mixture of English and Spanish. Scaffolding was provided both orally and in writing, with students encouraged to use the outline of the sentences on the whiteboard to describe the result of each experiment where they used different materials or processes. (Cross, 2013, pp. 66-67)
Key terms and definitions

Bilingual programs
A ‘program’ level descriptor (i.e., how instruction is organised, rather than how instruction is delivered (pedagogy)) for school-level approaches that offer extensive opportunities for students to become familiar with a second language and the culture of its native speakers. In the Victorian context, the current expectation is 7.5 hours (about 33%) of the curriculum be delivered through the medium of another language (Victorian DEECD, 2013b). Bilingual programs can be delivered by different types of pedagogies, including CLIL.

CLIL (Content and Language Integrated Learning)
CLIL is an ‘umbrella’ (Marsh, 2002, p. 56) term for a flexible pedagogical approach to dual focused (content/language) instruction. CLIL-based programs can take a variety of forms (e.g., units of work within standard LOTE programs, stand-alone subject options within larger school programs), or CLIL can be the pedagogical basis for regular bilingual programs (i.e., where the whole school curriculum is organised for full or partial instruction in the medium of another language, using CLIL pedagogy). A key point of distinction between CLIL and similar content-related pedagogies is the explicit dual focus in CLIL on developing both new content and language, rather than a focus on content while teaching through the medium of another language, or using content to simply frame language around particular themes or topics that might only be an incidental to the teaching of language.

Immersion programs
Immersion refers to a well-defined form of bilingual program in which a significant portion (or even all) of the mainstream curriculum is taught through the target language on a continuum from partial (at least 50%) to full immersion (100% of class time) (Baker, 2011). As a school level approach, immersion programs typically focus on the teaching of curriculum content via the medium target language, with separate curriculum elements devoted to specifically language/focus on form development (e.g., ‘Italian Language Arts’). However, alternative approaches adopt an integrated focus on both language and curriculum throughout the curriculum as a whole (i.e., immersion programs using CLIL pedagogy).

Benefits of adopting the approach
As with research on other models of additive bilingual education, the impact of CLIL includes beneficial linguistic, academic, and social outcomes (Baker, 2011).

The authenticity of content driving the CLIL learning experience has been shown to increase students’ levels of engagement (Coyle et al., 2010; Mehisto et al., 2008). Moreover, and consistent with studies on the interrelationship between first and second language development (Cummins, 1979), students learning languages through additive bilingual programs also often do as well, or better, in tests of their mother language skills (e.g., English language/literacy), than those learning their first language through monolingual (mother-tongue only) programs (Alberta Ministry of Education, 2010; Baker, 2011).

With respect to academic outcomes, CLIL students focus on age-correspondent/grade-equivalent content with those in a parallel monolingual curriculum, and a focus on the same knowledge, skills, and concepts rather than ‘dumbed-down’ units of work (Coyle et al., 2010). Despite studying curriculum content through a second language, CLIL students still typically do at least as well on tests of that content than those learning the same material in their first language (Dalton-Puffer, 2008).

Finally, CLIL also promotes higher levels of intercultural sensitivity and competence, including a more positive attitude towards the cultures of others (Lasagabaster & Sierra, 2009; Rodríguez & Puyal, 2012; Sudhoff, 2010).
Although it seems counter-intuitive that learning through a language other than one’s mother tongue could have such positive outcomes, Muñoz (2002) offers the following explanation:

- Learners benefit from higher quality teaching and from input that is meaningful and understandable.
- CLIL may strengthen learners’ ability to process input, which prepares them for higher-level thinking skills, and enhances cognitive development.
- In CLIL, literacy development takes place in the first language, which is cognitively beneficial for the child. Later, literacy skills will transfer to the additional languages.
- In CLIL the learners’ affective filter may be lower than in other situations, for learning takes place in a relatively anxiety-free environment.
- Learners’ motivation to learn content through the foreign language may foster and sustain motivation towards learning the foreign language itself. (p. 36)

First steps: What do schools need to do?

Although the focus is integration, CLIL is content driven (Coyle et al., 2010). The first step in planning any program, then, lies with identifying which curriculum areas offer the teaching team the greatest likelihood of establishing a program given the dynamics of their particular school. For example, if the Languages specialist is already experienced in another area (Mathematics), this offers a natural connection for advancing a CLIL strategy further. In other cases, it might make more sense for the Languages teacher to collaborate with others (e.g., primary generalist) to identify which units of work, or extensions to existing units of work, they might take responsibility for to establish a CLIL program. For Language teacher specialists without much experience of teaching into other curriculum areas, scheduling opportunities to plan, shadow, or team-team with those already teaching those units of work can be a useful way to build knowledge, skills, and confidence across new content areas. Indeed, the flexibility that CLIL offers means it is often taught by teachers who are both language and content teacher specialists (e.g., secondary Languages and content area specialists), but also allows for co-teacher configurations in which Languages specialists work in collaboration with other colleagues (e.g., primary generalists) (Cross, 2013).

CLIL can successfully be taught across a wide range of subject areas, including art, economics and business studies, geography, history, ICT, mathematics, music, drama, science, and physical education (Dale & Tanner, 2012). Furthermore, Genesee (1994) contends ‘the content of integrated second language instruction need not be academic; it can include any topic, theme, or non-language issue of interest or importance to the learners’ (p. 3). What matters most is choosing subject matter that offers the greatest flexibility for teachers to work with to develop a program specifically for their CLIL students (e.g., a good working partnership with a particular member of staff within the chosen content area; experience or confidence in teaching a particular domain; an existing well-established unit of work that would generate strong interest in the program; etc. (Cross, 2013)). The Irish Modern Languages in Primary Schools Initiative (2014) offers several suggestions for making choices of subject areas for CLIL, especially with beginners:

- A lot of seeing, watching, observing (documents, photographs, objects, film, teacher and others);
- A lot of experiencing, handling, doing (i.e. performing real tasks with objects, realia);
- A lot of listening (teacher and others, tape, film);
- A rich visual environment, including written language (including both new and known language);
- Aural language which is both rich and accessible to beginners in context (including both new and known language);
- The possibility of producing language in the modern language (both oral and simple writing).

(www.mlpsi.ie/index.php/teaching-languages15/classroom-resources/clil)
In terms of learners, many European CLIL programs do not commence until students have already developed literacy in their mother tongue (Dalton-Puffer & Smit, 2013). However, the immersion experience confirms that the early introduction of foreign languages as an alternate medium of instruction has no long-term detrimental effects on students’ first language development. Although they sometimes lag behind monolingual learners at first (Fortune & Tedick, 2003), research confirms students in early immersion programs from the start of schooling soon catch up with, and can even out-perform, monolinguals in tests of first language competence (Lapkin, Hart, & Turnbull, 2003; Fortune, 2012).

However, an advantage that older CLIL learners have over those in the primary years is their cognitive skills are often more further developed, and students can transfer those skills to the CLIL classroom to facilitate more effective learning (i.e., study skills, inferencing, memory, etc.) (Lightbown & Spada, 2013). Not surprisingly, the introduction of complex curriculum content can have a negative impact on learners but, as noted under Issues and Challenges, this is less to do with the approach itself, than instances where the pedagogy might not be being applied effectively. If done well, teachers can identify appropriate ways to select, introduce, and scaffold students’ understanding of the content to avoid these problems, while facilitating greater language and content skill development in the process.

Regardless of whether CLIL programs start at the primary or secondary level, evidence from the Victorian CLIL trials suggests the need to begin programs with ‘opt-in’ groups first (Cross, 2013), which is also common with many (although not all) models of CLIL in Europe (Maljers, Marsh, & Wolff, 2007). Working with students who also show some initial commitment to the approach enables a quality program to evolve gradually while the teaching team makes changes and adjustments during the early phases. This does mean, however, the need to provide information to the school community and stakeholders (including parents and feeder schools) about the CLIL program through newsletters, information nights, taster classes, etc. to generate interest and awareness.

Significantly, the Victorian CLIL trials identified a difference between ‘support’ and ‘commitment’ for establishing a successful CLIL program (Cross, 2013). CLIL doesn’t necessarily depend on having to secure whole school ‘buy in’—that is, a commitment in terms of restructuring timetables, impacting staff hiring decisions, etc.—but teachers do need executive level support, including trust and confidence from their senior leadership team to allow teachers to work with the approach. Other forms of external support available include professional teachers’ networks (MLTAV and single language subject associations), the CLIL teachers’ network, universities, other languages teachers (both within and across schools), and departmental initiatives (CECV, DEECD, and ISV are in a working partnership to provide support for innovations in Languages strategies, including CLIL (www.education.vic.gov.au/school/principals/curriculum/Pages/languageclil.aspx).

**Issues and challenges in adopting the approach**

CLIL can have the exact opposite effect of the recognised benefits discussed earlier, including disengaging learners due to the heavy focus on curriculum content, the lack of oral interaction due to the difficulty in understanding and using the target language, and a negative impact on learners’ self-concept/esteem (Seikkula-Leino, 2007; Bruton, 2011). Moreover, despite the large body of research that supports the outcomes of CLIL in terms of its positive linguistic, cognitive, and social/cultural benefits, there are concerns that most of this evidence has been based on student cohorts that have opted into CLIL programs, which already show a positive predisposition towards this way of learning languages (Dalton-Puffer & Smit, 2013, p. 549). In Bruton’s (2011) critique of the approach, ‘the truth is many of the potential pitfalls which CLIL might encounter are actually avoided by selecting for these programmes students who will be academically motivated to succeed in the FL, as in other subjects’ (p. 524).

What this suggests, however, is not that CLIL is necessarily problematic in itself—there is a great deal of solid evidence that the conditions promoted by content and language integration are highly conducive to learning both successfully—but that the stakes are very high in ensuring teachers properly understand and can effectively use the pedagogy, and in ways that engage with each student cohort’s specific needs.
More important, then, are issues related to implementing the approach properly. Cross (2013, pp. 9-10) documents a number of these issues in relation to implications within local Victorian contexts, including:

- Advocacy
- Collaborating with others
- Dealing with compulsory, multilevel classrooms
- Emotional work
- Ensuring a focus on output
- Ensuring language is understandable for students’ level
- Finding room for individuality
- Incorporating opportunities for higher-order engagement
- Isolation and impact of the wider school community
- Middle years
- Planning
- Planning well in advance: logically, sequentially, and holistically
- Sharing learning spaces
- The demands placed on colleagues

These are expanded upon in the full report (Cross, 2013), and are in some ways similar to wider challenges documented in the CLIL literature elsewhere (e.g., Ioannou Gerogiou, 2012). However, in many of the cases, the problems were also very specific to the context and demands of each particular setting. For implementation to be successful, it was less a matter of the CLIL framework itself not being suitable at all, than identifying where specific problems lie, and developing strategies to then address how they might be best managed. In all six case studies that were examined, the CLIL framework and pedagogic principles were able to be used, despite significant differences between each of the contexts.

To date, the majority of commercial resources for CLIL have been published in Europe, primarily for English language instruction (e.g., www.onestopclil.com). While this isn't ideal for local teachers of languages other than English, the materials are often high quality and well designed having been developed and tested for a mass market (e.g., www.onestopenglish.com/clil/secondary/science). As such, commercially available materials provide useful templates and guidelines for teachers to develop other language adaptations to suit local needs and contexts. Likewise, although curricular frameworks also differ, many core ideas, topic areas, and learning outcomes intersect at various points allowing for overseas materials to repurposed to fit local curriculum demands; especially with the flexibility that AusVELS provides on how to achieve the standards outlined in the framework.

As interest in CLIL grows in Australia, repositories for storing and sharing material are the focus of several recent projects, including MLTAV’s clillanguageteachers.weebly.com; a DEECD portal and repository to house teacher-produced CLIL material (fuse.education.vic.gov.au/?FW4LP9); and a national CLIL Languages Learning space being produced by Education Services Australia in collaboration with the Melbourne Graduate School of Education.
How can effectiveness be determined?

Like other pedagogical models of best practice, CLIL addresses all four macroskills (reading, speaking, listening, and writing), but with further explicit attention to the development of content knowledge and skills, as well as the cognitive processes and cultural competence that relate to these (Coyle et al., 2010). Since content has as much significance as language, the question is not whether to assess content or language, but whether they should be assessed simultaneously.

The decision should depend on the needs of the context and targeted goals at that point in the students’ developmental trajectory. There may be times when it is more appropriate to assess students’ content knowledge in their first language to enable them to demonstrate their full level of understanding which may proceed their level of production/expression. On other occasions, the focus might be on the language itself, and students’ competence in general/social situations, rather than within the curriculum domain. Ideally, however, the majority of assessment will consider both language and content together, reflecting a consistent integrated approach throughout the full teaching, learning, and assessment cycle (Llinares, Morton, & Whittaker, 2012).

CLIL also has a strong focus on formative assessment to ensure ongoing opportunities to check students’ understanding of both language and content as they move from not only one lesson to the next, but also within each stage of the lesson. One especially useful formative assessment strategy is ‘performance assessment’ (Cambridge English, 2010, p. 7), in which students demonstrate their understanding of the language and content (e.g., explaining the different types of sources from which they collected the information; drawing a flow chart of the process involved in solving a problem; etc.):

Teachers observe and assess learners’ performance using specific criteria. Performance assessment can involve individuals, pairs or groups of learners. As CLIL promotes task-based learning, it is appropriate that learners have opportunities to be assessed by showing what they know and what they can do. Performance assessment can also be used to evaluate development of communicative and cognitive skills as well as attitude towards learning. For example, teachers can look for evidence of justifying opinions (communication), reasoning (cognitive skills) and co-operative turn-taking (attitude). (p. 7)

Another commonly used strategy within CLIL is portfolio-based assessment (Mehisto et al., 2008). These are collections of students’ work that they value most which provides evidence of their developing understanding and competence over a period of time (e.g., a term or annual portfolio). Mehisto et al. advocate for the use of portfolios not only because they provide a summative collection of evidence at the end of a medium to long-term learning period, but that they also support ongoing learning over the course of the term/year by building students’ awareness of their own strengths and weaknesses, facilitating conversations with other peers and their teacher about the quality of the outcomes and work that is being produced, and by assisting to establish future learning targets as students progress towards the end of the unit.
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