

# A Pattern Language for Teaching in a Foreign Language - Part 2

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Integrating content and language in teaching is not trivial. Many problems need to be addressed like ensuring that the students do not experience difficulties grasping the content because of foreign language deficiencies.

This paper is part of ongoing work and discusses how to improve advanced students' language proficiency while teaching in a foreign language. It introduces three more patterns: CONTENT-COMPATIBLE LANGUAGE, COMMENTED ACTION, and LANGUAGE MONITOR.

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## 1. INTRODUCTION

The set of patterns introduced in this paper is aimed at instructors who occasionally want — or have — to teach a class in a foreign language instead of their mother tongue. The patterns are meant to support these instructors in preparing for these classes in such a way that a foreign language will not be a barrier to students' understanding of the course content. This set of patterns is part of a larger project for developing a pattern language for teaching in a foreign language. In an introductory paper an overview of patterns for teaching in a foreign language is given as well as three patterns [Köppe and Nijsten 2012b], Part 1 introduces integrated language learning (helping technical instructors develop courses in a foreign language, using integrated language learning) and 4 more patterns [Köppe and Nijsten 2012a]. This paper discusses how to improve advanced students' language proficiency while teaching in a foreign language and introduces three more patterns.

## 2. ENHANCING FOREIGN LANGUAGE PROFICIENCY THROUGH INTEGRATED LEARNING

In general, teachers are proficient in one domain, either in foreign language pedagogy or in the subject-specific contents of a course. It is difficult to be good in both and be pedagogically aware of both domains [Coonan 2003]. Quite often teaching content and teaching a foreign language are still seen as separate pedagogical issues [Leung 2005]. The teaching of language and content in a course could be done in a team where one teacher is responsible for the language part and the other for the content. Studies show that this splitting is not very effective and can be counter-productive [Coonan 2003].

Content Based Instruction (CBI) and Content and Language Integrated Learning (CLIL) are both used for improving second language proficiency through teaching specific subjects, providing the benefit of functional exposure to foreign

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languages [Graaff et al. 2007]. CBI is aimed at second language learners living in English speaking countries, who lack fluency due to extensive use of their mother tongue outside the class room; teachers are native speakers of students' second language. CLIL is aimed at classes in which both teachers and students are still developing their second language skills by giving or taking extended classes on specific subjects in a second language. Typical components of a CLIL or CBI approach are vocabulary and cooperative learning strategies, and practicing reading, writing, listening and discussion.

### 2.1 Beginners and advanced learners have different educational needs

Beginners in foreign language acquisition may have limited understanding of the course subject matter, which will keep them from enhancing their foreign language competency as well [Coonan 2003]. Just giving students the opportunity to use the other language in a programme is not enough for sufficient learning [Leung 2005].

According to Schleppegrell et al., visualisation and hands-on activities are useful means for beginners in learning foreign language to grasp the meaning of a teacher's instruction [Schleppegrell et al. 2004]. Yet advanced learners need a greater focus on language to improve their level of proficiency.

The focus of this work is therefore to identify ways of integrating the second language in a specific course or class in such a way that language fluency increases without losing the focus on the specific course content. This improvement can be accelerated by adjusting the content teaching in small ways that help with successful language acquisition.

## 3. THE PATTERNS

These patterns were mainly mined in existing literature on well-known approaches like CLIL and CBI, and also experience reports. Therefore we often can not provide sufficient known uses. However, we intend to include more known uses after these patterns have been applied and adjusted more broadly and make them available as a whole pattern language.

The patterns use a version of the Alexandrian pattern format, as described in [Alexander et al. 1977]. First, the name of the pattern is given, if applicable accompanied by a list of alternative names in an "Also known as"-section. The part after the name is a short description of the context, followed by three diamonds. In the second part, the problem (in bold) and the forces are described, followed by another three diamonds. The third part offers the solution (again in bold), the background, consequences of the pattern application — which are part of the resulting context — and a discussion of possible implementations. In the final part of each pattern, shown in *italics*, we present some known applications.

In the following sections we present the following patterns: CONTENT-COMPATIBLE LANGUAGE, COMMENTED ACTION, and LANGUAGE MONITOR. After that the short versions of the other patterns — the patlets containing only the context, problem, and solution — are presented, the complete patterns are published in [Köppe and Nijsten 2012b; 2012a]. We finally provide an overview of pedagogical patterns which are especially applicable in the context of teaching content in a foreign language.

## CONTENT-COMPATIBLE LANGUAGE

Also known as: Content-Complementary Language.

You identified the CONTENT-OBLIGATORY LANGUAGE and included it in the course design opportunities so that the students can master it. However, most domains contain more elements of a specific language: synonyms, proverbs, expressions, phrases, metaphors, etc..



**Only mastering the obligatory language of a course's content limits the students in their expressiveness and does not improve the overall quality of students' language skills, even though it might be sufficient to fulfill the course's requirements.**

*Content First.* As the content is often the more important part of a course, any way of showing that it has been mastered is sufficient. The quality and expressiveness of this "showing" seems of less priority.

*Language Variety.* Things in general are better understood if described in different ways. Using only one set of language constructs restricts the language variety. At the same time, many things can be described in different ways.

*Language Elements.* Most domains contain more elements of a specific language than only nouns and verbs: synonyms, proverbs or other expressions. But most often only the nouns and verbs are taught to the students.

*Unknown Synonymity.* Even though the synonymity of expressions might be obvious to the teacher, this is not always the case for the students.



**Therefore: Identify the language constructs and expressions of the course domain which are additional to the obligatory language. Create opportunities for learning these in your course design and course execution.**

Offering a broader variety of descriptive possibilities might help with the better understanding of the content. Documenting Synonyms (as a part of the CONTENT-COMPATIBLE LANGUAGE) in advance creates an awareness of these, which also can later be used in a COMMENTED ACTION.

Including too many — or even all — content-compatible elements could be overwhelming and is in most cases not necessary. The focus should be on either the most used ones in the domain of the course or the ones which match the current language level of the students best. For example, theoretical academic terms of the domain might be inappropriate for beginning undergraduate students while appropriate for graduate students. Terms which are used in the companies where students take an internship could also be important sources of CONTENT-COMPATIBLE LANGUAGE. This means that the corpus of the CONTENT-COMPATIBLE LANGUAGE is variable and dependent on the course level.

One starting point for this is the LANGUAGE STATUS QUO. But it is also necessary to look at the long-term language learning objectives. This way some vocabulary can already be included which enriches the current language, but is obligatory for follow-up courses [Met 1994].

Implementing this pattern might require a lot of time, as usually no collections of these CONTENT-COMPATIBLE LANGUAGE elements exist. It is a good idea to implement this pattern in an iterative way by incrementally adding newly identified language elements to the collection and integrating them in the course design.

*For a course on software design the curriculum designer included a section in the teachers guide, listing the most important constructs of the CONTENT-COMPATIBLE LANGUAGE. This constructs were then used during the lectures and especially COMMENTED ACTIONS. Examples of terms/constructs on this list are: Is-a relationship, liabilities, responsibilities, Sketch, Members, or sections in class representations.*

*A business teacher at the HAW University of Applied Sciences in Hamburg gave a list to his students with content-related words on it — the CONTENT-OBLIGATORY LANGUAGE and the CONTENT-COMPATIBLE LANGUAGE. The students had to identify the translation and meaning of the words by themselves and had to transform this list into a glossary. The teacher checked later in the course these glossaries to ensure that the students were working with correct meanings and translations.*

## COMMENTED ACTION

Also known as: Think Aloud Protocol, Show and Tell.

Often in courses or lectures you show or demonstrate some content-specific activities. You are aware that you are a LANGUAGE ROLE MODEL and have identified the CONTENT-OBLIGATORY LANGUAGE and the CONTENT-COMPATIBLE LANGUAGE of your course. Students do not yet know these language constructs or were just introduced to them.



**The vocabulary and expressiveness of the students will not increase if the students only see the activities done by the teacher. They might be able to execute them themselves, but will have difficulties describing in the foreign language what they are doing.**

*Limited Vocabulary.* Different people in the domain have different ways of expressing things, which increases the chance of miscommunication because of expressions unfamiliar to the students. If all people would only use the CONTENT-OBLIGATORY LANGUAGE of a domain, then communication would be fine.

*Language Misunderstandings.* Students might have wrong interpretations of some parts of the CONTENT-OBLIGATORY LANGUAGE and the CONTENT-COMPATIBLE LANGUAGE. If they do not recognize these misunderstandings they cannot correct them.

*Tell vs. Show.* If the meaning of language expressions is only told to students, then it is hard for them to really grasp the meaning completely.



**Therefore: Give a spoken description of the steps you are taking while showing or demonstrating complex abilities — comment your actions. Use the earlier identified content-obligatory and content-compatible language terms when you show their meaning.**

This solution provides an excellent opportunity for using CONTENT-OBLIGATORY LANGUAGE and CONTENT-COMPATIBLE LANGUAGE in the right context. Thus students can be exposed to relevant language parts and may use this input for language acquisition as well. The teacher should make conscious use of it, also exposing the students to language variations using e.g. synonyms or different language constructs for describing the same action. Most importantly is that actions and spoken descriptions are in sync, one should express exactly what one is doing at the moment.

Using spoken descriptions may benefit students who have difficulties grasping the content, as the additional explanations provided help them get a better understanding of the matter at hand.

Be aware that the actions and the used language constructs should match the language of the students. It does not make sense and would be counterproductive to use a language which is too complex for the students, which are in first place trying to understand the content of the activity. If the amount of language expressions you want to introduce in the course is numerous then make use of this pattern iteratively by using a small subset of the language expressions first and, when these are grasped by the students, move on with some more complex expressions.

It is not easy to apply this pattern for the CONTENT-COMPATIBLE LANGUAGE, as there is a chance that teachers fall back to standard terms when actually presenting the action live. Applying this pattern therefore requires experience with using different language constructs for the same actions and also good knowledge of the earlier identified CONTENT-COMPATIBLE LANGUAGE. It is therefore helpful to practice or rehearse the commented actions upfront, perhaps also in front of colleagues in order to get feedback.

One implementation of this pattern could be to EXPOSE THE PROCESS [Pedagogical Patterns Editorial Board 2012], which helps in general for a better understanding of the content but, if applied in a foreign language, also with the learning

of this language.

*This pattern was applied by the first author during the explanation of a possible implementation of a design pattern. He not just sketched the possible implementation diagram, but also talked aloud while doing it, stating e.g. "Let's first paint a rectangle, which is the style for drawing classes in UML, and then the two lines separating the different sections of the class representation", "Let's describe the attributes now, which are written in the second section, the one below the name. Which potential members can we include here?", "Let's first draw the visibility here. As it is not publicly visible, it can not be seen and used by another class, we cannot use the plus sign as this stand for private visibility", etc. These comments included many terms and synonyms (like e.g. members and attributes) of the CONTENT-COMPATIBLE LANGUAGE.*

## LANGUAGE MONITOR

Also known as: Formative Assessment.

You have designed a course with a focus on both content and language, identified the CONTENT-OBLIGATORY LANGUAGE and the CONTENT-COMPATIBLE LANGUAGE and used this for INPUT SELECTION. You have chosen specific learning activities to stimulate METATALK, support language learning with COMMENTED ACTIONS and are aware that you are a LANGUAGE ROLE MODEL. You now want to assess whether your learning activities have had the expected result: an improvement of the students' foreign language skills.



**Judging the progress students make with language acquisition is not possible during lecturing, but without judgement you don't know if the students make progress with language acquisition.**

*Student Visibility.* Even if you are a good educator, it will be nearly always the case that some of your students are more visible and some are less visible. Especially for the less visible ones it is hard to determine their learning outcome during the course execution.

*Memorized Phrases.* If students use parts of the CONTENT-OBLIGATORY LANGUAGE and the CONTENT-COMPATIBLE LANGUAGE during lectures or written assignments, one cannot be sure if they just repeated them as heard before or if they really have grasped the meaning.

*Content Focus.* Students might be too focused on the content part of the course and neglecting the opportunities to improve their foreign language skills too.

*Language Unawareness.* If only the understanding of the content is assessed, students do not become aware of their language shortcomings.



**Therefore: Implement regular assessments on the language skills of the students to determine whether they grasped the content and whether their language skills have improved, and use these outcomes to intermittently adapt your course.**

Continuously monitoring students' progress in both areas allows you to redesign your classes based on what students have demonstrated. Such monitors are also referred to as 'assessments of learning' or 'formative tests'. The means of assessment influences the way students study for their tests. If a test only covers the course content, students will put less effort in expressing themselves properly in the foreign language. This is not the teachers aim, as improvement of language skills will help students better understand the course content. Formative tests should assess both content and language in such a way that students will gain an insight in their current knowledge and will be motivated to close any gaps that have become apparent. Formative tests may include: class room observations, presentations, assessments of team products, posters, reports and the like. Met also suggests the form of small conferences as a good source for data [Met 1994]. The best assessments are based on 'rubrics', a matrix of a range of criteria and 3-4 categories describing different levels. Both the language and the course content are among the criteria.

Another way of applying this pattern is comparing the results of two different LANGUAGE STATUS QUO's, determined at the beginning and at the end of a course or the beginning of the next course. These are called summative tests. They cannot be used to motivate students during courses or to alter the course's learning activities during the course. They are however much less time-consuming to create than formative tests using rubrics, as they often consist of close ended questions, reports or presentations exam style, resulting in a single mark.

A LANGUAGE MONITOR can also be applied using self assessments of the students. Butler reported some positive effects of regular self assessments among young learners of English, including an increased confidence in learning English and a greater ability in assessing their actual level of English [Butler and Lee 2010].

One of the results of applying this pattern are insights into how to adapt the CONTENT-OBLIGATORY LANGUAGE and CONTENT-COMPATIBLE LANGUAGE objectives in future lessons and units [Met 1994].

*Mariëlle Nijsten and Christian Köppe used this pattern by taking the LANGUAGE STATUS QUO at two different moments and comparing the results of these. This way an increase in both the abilities of speaking and writing could be observed.*

The patlets of the other patterns

#### LANGUAGE STATUS QUO

You assume that students are at a sufficient level of general foreign language competences, i.e. they have knowledge of basic common vocabulary and grammar and can use the language. You now want to start teaching a course in this foreign language, with a foreign language as a medium of instruction so as to improve the use of this language in a professional setting.



**Without knowing the actual level of foreign language competences of the students it is likely that the language parts of the course design are either too difficult for the students which hinders them in grasping the content or are too simple for them which means that their language understanding probably does not improve.**



**Therefore: Get to know the language level of all students at the start of a course to obtain a realistic overview for your specific professional and educational goals. Use appropriate tests that include both general language competences and context specific linguistic competences, such as class room language, formal academic language, and core professional activities in your field. This is the basis for an adequate language integration in the course design.**

#### INPUT SELECTION

Most courses make use of material — literature, websites, tutorials etc. — which covers the content of the course. You have identified both the CONTENT-OBLIGATORY LANGUAGE and most parts of the CONTENT-COMPATIBLE LANGUAGE and you know the LANGUAGE STATUS QUO of the students' language levels. You now want to start to look for the material.



**Available material often differs in both language levels and comprehensibility, and can be too difficult or too easy for students. Both cases will lead to problems during the course.**



**Therefore: select comprehensible course input that explains the subject matter in a way that matches students' language levels and interests.**

#### CONTENT-OBLIGATORY LANGUAGE

The content of a course is mostly focused on one domain, which often has specific terminology used in this domain. If students have a low general language proficiency, the chances of them failing to understand the real meaning of this terminology increases [Met 1994].



**Some lexical items and terminology of the foreign language are so closely related to the content of a course that mastering them is crucial to students in order to achieve the course objectives.**



**Therefore: Define the content-obligatory language before and during course design. Expose the students to this language continuously in different ways with an emphasis at the beginning of the course. Let this language repeatedly come back during the whole course to improve assimilation and understanding of this language.**

## LUCKY LANGUAGE CLOVER

Also known as: The Four Skills.

You are thinking about the tasks you want to include in the course design and want to ensure that they also cover the CONTENT-OBLIGATORY LANGUAGE and the CONTENT-COMPATIBLE LANGUAGE aspects appropriately.



**Exposing the students to language comprehension only — reading and listening — is not sufficient for creating a lasting effect in learning the foreign language. They might be able to understand content input, but unable to produce content output in the foreign language.**



**Therefore: Promote reading and listening, and let students write and speak in the foreign language as well. Include all four types of linguistic competences in your course design.**

## METATALK

Students understand the content and are using the foreign language, making use of all four leaves of the LUCKY LANGUAGE CLOVER, but the language competences of the students still vary.



**Students are not aware of their foreign language shortcomings and keep using incorrect language constructs and terms.**



**Therefore: Stimulate foreign language learning by including exercises or other appropriate course parts which require a collaborative reflection on language usage.**

## LANGUAGE ROLE MODEL

You are asked to give a course in a foreign language.



**Learning is also imitating, but imitating incorrect language usage of a teacher will affect the students' learning of the language negatively.**



**Therefore: make careful language preparations to ensure that you can instruct students using a foreign language in a correct way for all related language parts. Use the language during the course always as correct as possible.**

## Related Educational Patterns

Some problems which can occur when teaching in a foreign language are already addressed by existing educational patterns. These related patterns are described in the Table I.

Pattern Name and origin	Patlet	Remarks
PREGNANT PAUSE [Larson et al. 2008]	<b>Problem:</b> Teachers and lecturers ask questions of their audience yet do not give them time to formulate a response. <b>Solution:</b> Silently wait an uncomfortable amount of time (like counting to sixty) before calling on a student for an answer. This allows silent time during which all students have an opportunity to formulate a response. This also causes some discomfort on the part of some students, which may be a good thing. It puts all students in a position of participating.	In a foreign language context this is especially important as students do not only have to think about an answer, but also need to formulate it in the foreign language.
UNINTERRUPTED LISTENING [Larson et al. 2008]	<b>Problem:</b> The teacher assumes what the student is going to say and interrupts, not allowing the student to complete his or her thought. <b>Solution:</b> When a student is speaking, allow that student to complete his or her response. Follow up with THREE STARS AND A WISH or LINE OF REASONING. Listen to all students with an equal amount of interest and solicit responses. Give your feedback to the student at appropriate times, not in the middle of the student's thought but rather when the student has completed his response.	
LANGUAGE SHOWER [Iba and Sakamoto 2011]	<b>Problem:</b> To master languages is tough. <b>Solution:</b> Set up your environment where you always listen and read in the target language.	Intended for students.
FOREIGN LANGUAGE EVERY DAY [Iba and Sakamoto 2011]	<b>Problem:</b> It's difficult to read, write, and speak in a foreign language without any practice. <b>Solution:</b> Involve yourself in the situation of reading, writing and speaking in a foreign language in your daily life.	Intended for students.

Table I. : Patterns relevant for teaching in a foreign language

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