

3 Translanguaging for Subject Knowledge Construction: Meso-Alternation in Swiss Plurilingual Education

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There is no such thing as a new idea. It is impossible. We simply take a lot of old ideas and put them into a sort of mental kaleidoscope. We give them a turn and they make new and curious combinations. We keep on turning and making new combinations indefinitely; but they are the same old pieces of colored glass that have been in use through all the ages.

Mark Twain

This chapter studies translanguaging as a pedagogical practice in a plurilingual programme in Switzerland, implementing what we will call *plurilingual showers* (*îlots bilingues* or *bilinguale Inseln*) in the form of instructional sequences of a content-subject in L2 (Freytag Lauer, 2022; Freytag Lauer *et al.*, 2015). Specifically, it focuses on plurilingual classroom practices in a history and a geography class in the seventh grade, where English and French are used as the L2 of instruction alongside German as the L1 of instruction, which is the official medium of instruction at this particular school. The filmed classroom observations show how teachers and pupils draw on plurilingual and plurisemiotic resources to accomplish the ongoing tasks in these two so-called non-linguistic subjects (NLS). Semi-directive interviews with the teachers reveal that they didacticise language alternation, in that they think the language alternation out beforehand so that both languages ideally contribute to subject knowledge construction (Steffen & Freytag Lauer, 2021).

Francophone studies refer to this type of alternating use of languages in instructional interactions as *meso-alternation* (Duverger, 2007; Gajo & Steffen, 2015), which we liken here to *pedagogical translanguaging*

(Cenoz & Gorter, 2021). These studies describe the copresence of several languages and their alternating use as operating at three levels: macro-alternation, relating to language choice and planning by the educational institution; meso-alternation, falling under didactically relevant and considered choices by the teachers to draw on bi-plurilingual resources; and micro-alternation or occurrences of code-switching in classroom interaction. Meso-alternation, therefore, stands for didactic language alternation and relates to a plurilingual and integrative approach to subject knowledge and language knowledge teaching/learning, drawing on plurilingual resources (Gajo & Steffen, 2015; Steffen, 2013, 2021). These studies are based on the analysis of classroom practices *in situ* and founded on a theoretical and analytical framework used in studies on plurilingual practices in relation to knowledge construction (see Berthoud & Gajo, 2020; Gajo *et al.*, 2013).

After starting with a discussion of how plurilingualism brings about a shift of perspective in education, we will then show the similarity of the francophone concept of meso-alternation to the anglophone one of pedagogical translanguaging. We will then explain what we understand to be plurilingual showers and how we analyse plurilingual classroom interaction, before presenting the plurilingual showers we observed in a Swiss public school. We closely analyse transcripts of classroom interaction (in combination with field notes and photographs of the projected materials used and annotated in class) for the plurilingual and plurisemiotic resources teachers use in subject knowledge teaching and learning. Finally, we conclude with some features that are instrumental to the alternating use of languages in subject knowledge teaching/learning. This provides a framework for pedagogical translanguaging in subject knowledge teaching/learning: contact of several languages, continuity of resources from different languages used to teach/learn subject knowledge, co-presence of several languages in classroom activities, complementarity of several languages used as a tool for subject knowledge teaching/learning, and coherence in the use of plurilingual and plurisemiotic resources to mediate subject knowledge construction.

Plurilingualism in Education

Introducing the term *plurilingualism* alongside *multilingualism* (Council of Europe, 2001) has the advantage of providing a clear distinction between the co-presence of languages at a societal and an individual level (Beacco & Byram, 2007). While multilingualism indicates the co-existence of several languages in a given geographical area (i.e. a bi-plurilingual country), plurilingualism refers to social actors with a plurilingual repertoire and the ability to use more than one language (i.e. a bi-plurilingual individual or a bi-plurilingual class). Similarly, we speak of bi-plurilingual teaching/learning when several languages are used as tools for teaching and

learning in class. The emerging term plurilingualism (vs. multilingualism), as well as *plurilinguisme* (vs. *multilinguisme*) and *Vielsprachigkeit* (vs. *Mehrsprachigkeit*), used for this distinction, brings about a conceptual shift towards a greater focus on the individual as the locus of language contact and on the social actor engaging in plurilingual practices.

In education, plurilingualism brings about a shift in perspective towards teaching and learning of language knowledge and NLS knowledge, shifting to a more holistic and integrative approach that can be pinpointed in several related trends in research on education and language learning. In particular, an *integrative perspective* (see Brohy & Rezgui, 2008) considers interrelations and articulations between different areas of knowledge teaching/learning, rather than an additive perspective that one learns a first language (L1) + a second language (L2) + one or more other languages (L3 + L...) + other (so-called non-linguistic) knowledge.

From this perspective, where learning new languages and other areas of knowledge is perceived as a cumulation of different elements, we move to a more comprehensive view of the whole. In particular, we refer to a *holistic view of plurilingual competence* (Castellotti & Moore, 2011; Coste et al., 2009; Grosjean, 1985; Lüdi & Py, 2003) or *multicompetence* (Cook, 2003), where learning a new language means developing one plurilingual repertoire, a set of language resources, a plurilingual and pluricultural competence, rather than the juxtaposition of several separate monolingual language competencies and skills.

Similarly, a *transversal approach* to language learning at school (Beacco & Coste, 2017) and of language(s) across the curriculum (Beacco et al., 2016; Vollmer, 2007) focuses on coordinated and cross-disciplinary approaches to all language learning in school.

- (1) The school languages, such as the languages of schooling (the dominant L1 in which pupils evolve at a particular school), the languages of instruction used in NLS classes (most often, the L1 of instruction is the same as the language of schooling; bi-plurilingual classes and school tracks will additionally have one or more L2 of instruction), as well as the languages taught as subjects in language classes;
- (2) The pupils' languages, for example their heritage languages and languages spoken at home or with the family or the community, which are not necessarily the same as the school languages.¹

The *language(s) across the curriculum* approach (Vollmer, 2007) puts particular emphasis on the fact that teaching and learning of all school subjects mobilises language resources and involves discursive activities (e.g. explaining, defining, summarizing, exemplifying, reformulating, etc.) to underline the importance of articulating and combining language learning and the learning of other subjects (NLS).

These considerations lead to a change in perspective, as one (re)considers learning from the point of view of diversity, taking diversity as a reference point, rather than monolingual and compartmentalised learning. We therefore also speak of a pluralistic view or plurilingual stance on learning (Moore, 2021; Steffen *et al.*, 2020).

This shift towards a more pluralistic view can also be seen in *translanguaging*. As Li Wei (2018: 22) expresses it, ‘translanguaging reconceptualizes language as a multilingual, multisemiotic, multisensory and multimodal resource for sense- and meaning-making’. While this relates to language (or rather languaging, seen as a process and a practice), in general, *pedagogical translanguaging* is more particularly described as an instructional strategy drawing on plurilingual language resources, integrating more than one language (Cenoz & Gorter, 2020, 2021). Others also speak of the ‘multilingual turn’ in language education (Conteh & Meier, 2014) and in teacher education (Putjata *et al.*, 2022) or of a ‘translanguaging turn’ and a ‘disciplinary perspective’ in NLS practices in bilingual education (Pierson & Grapin, 2021).

Recently, francophone scholars have used the term *plurilanguaging* to talk of situated plurilingual practices and of plurilingual language use (Lüdi, 2015; Moore *et al.*, 2020; Piccardo, 2016) to further emphasise the pluralising of resources. Although the theoretical framework of francophone research is somewhat different from the anglophone one (Moore, 2021; Moore & Gajo, 2009), both *translanguaging* and *plurilanguaging* refer to a plurilingual mode of instruction, a pluralistic point of view of language use and practices by teachers and learners deploying a full repertoire of plurilingual, pluricultural, multimodal and plurisemiotic resources. Most recently, Moore (2021) coined the term *trans-plurilinguaging* to bridge the two notions.

Translanguaging and language alternation as a pedagogical resource

Pedagogical translanguaging (Cenoz & Gorter, 2020, 2021; García, 2009; García & Lin, 2016; García & Li, 2014) was initially described as a pedagogical practice deliberately alternating languages for receptive and productive use to deepen understanding of the content (Williams, 1994 in García & Li, 2014). Hence, it ‘switches the language mode in the bilingual classroom’ (García, 2009: 45) and thereby applies a bilingual or plurilingual mode of instruction (Steffen, 2013). Since then, this definition has been extended to go beyond ‘the linguistic’ (García, 2009; García & Li, 2014) to include all the different modes of semiotic meaning-making in plurilingual practices and plurilingual pedagogical approaches (García & Lin, 2016). It is a planned pedagogical practice, since it ‘is part of the lesson plan and has a pedagogical purpose’ (Cenoz & Gorter, 2020: 3).

Meso-alternation, used particularly in recent francophone research, has been developed in relation to bi-plurilingual education and language alternation in an educational context (Duverger, 2007; Gajo & Steffen, 2015; Steffen & Freytag Lauer, 2021) and is in many ways similar to *pedagogical translanguaging*. In these studies, bi-plurilingual teaching refers to any so-called NLS teaching, like mathematics, geography, music and so on *in* (a) second language(s) (Gajo, 2007). This differentiates it from subject-matter instruction in an L1, as well as from language instruction or instruction of an L2 as a subject (e.g. L2 French, L2 German or L2 English). This is in contrast to the approach in *content-based instruction* (i.e. Cenoz *et al.*, 2013; Snow, 2014), which encompasses language instruction and bilingual or immersion education, placing them on a continuum ranging from language-driven to content-driven programmes (Met, 1998).²

Meso-alternation, which we are more particularly interested in here, is defined as language alternation that takes place at an intermediate level, a meso-level, if we consider that the co-presence of several languages and their alternating use comes into play at a macro-, meso- and micro-level in bi-plurilingual instruction.

Macro-alternation relates to language choice and planning by educational institutions, is tied to the constraints of the curriculum and refers to a programmed language alternation by the institution. Planning the use of several languages of instruction in the curriculum is related to:

- The choice of a particular bilingual education programme and a particular format, like early immersion in German L2, partial immersion in English L2, bilingual showers in two second languages, etc.
- The allocation of different languages of instruction to a portion of the curriculum, namely to particular subjects (e.g. mathematics and physical education in L2; the other NLS in L1), to particular teachers (one teacher in L2; another one in L1), or to different moments (i.e. half-day allocation, etc.).

These formats can vary from immersion education where the languages are separated (one course is allocated one language; one subject is taught in one language; one teacher uses one language) to bilingual education that plans for alternating use of languages in class and arranges for several languages to be co-present within one course.

Micro-alternation refers to the practice of *code-switching* in classroom interaction. *Code-switching* has been defined in conversation analysis in terms of spontaneous and locally-managed switches between languages in verbal interaction (Auer, 1988) that depend on their local and temporal contingencies. Once it occurs, micro-alternation can be avoided, tolerated or encouraged and used on-the-spot for didactic purposes in the course of the interaction, depending on – and sometimes caught in the tension

between – the given framework at the macro-level and the teachers' social representations and more or less monolingual or plurilingual mindset influencing their choices at a meso-level. These occurrences of micro-alternation have been studied in particular with regard to the functions they fulfil in classroom interaction (i.e. [Castellotti & Moore, 1997](#); [Coste, 1997](#); [Moore, 2001](#)).

At the interface, the meso-level is the moment of didacticisation, where teachers make deliberate didactic choices and considerations in preparation for their teaching. Meso-alternation, therefore, falls under didactically relevant and reflected choices by teachers to draw on bi-plurilingual resources. Also called sequential alternation (see [Duverger, 2007](#)), it refers to language alternation between consecutive sequences in instructional interactions (e.g. one sequence in German, another one in French). It is also related to didactic activities: a teacher introduces a new topic and defines new concepts in the L1 and then summarizes them in the L2, they recall themes or contents already covered in the L2 then develop them in the L1, or they choose to make a plenary introduction or explanation in the L2 and then lead pupils to engage in a group discussion in the L1. Meso-alternation thus refers to a didactic language alternation, thought out by teachers in relation to the complementarity of the languages of instruction, or the contrast between them, as well as in relation to the contribution of plurilingual resources to the situated subject knowledge construction. The main difference from pedagogical translanguaging is that meso-alternation has been developed in relation to subject knowledge construction and is described as a practice that deliberately orientates plurilingual resources towards subject knowledge teaching/learning, while the former is also seen as a cross-linguistic practice in language teaching/learning ([Cenoz & Gorter, 2020, 2021](#)).

Bilingual or plurilingual showers

We label instructional sequences of varying length in L2 that integrate L2 and NLS teaching/learning as bilingual or plurilingual showers ([Freytag Lauer, 2018, 2022](#); [Gajo *et al.*, 2020](#)). Situated between language showers and modules ([Mehisto *et al.*, 2008](#)), they fall within the scope of bilingual education. In comparison with other bilingual teaching formats, in plurilingual showers, the degree of exposure to the L2 is limited (a few sequences taught in L2), which is why they can be described as a minimum format of bi-plurilingual education ([Gajo *et al.*, 2020](#)). Moreover, bi-plurilingual showers are characterised by a flexible and modular curricular insertion. When they take place in NLS teaching, they are referred to as bilingual or plurilingual showers, but when they are part of the language curriculum, they are called immersive showers ([Freytag Lauer, 2022](#)). Hence, they are also a more flexible format of bi-plurilingual

education than other more extensive and institutionalized bi-plurilingual education programmes or classes. In Switzerland, for example, we find bilingual teaching formats such as the bilingual programme FiBi (Filière Bilingue) in the bilingual city of Biel/Bienne (Buser, 2020) and the recently implemented bilingual classes ClaBi (Classes bilingues de la Ville de Berne) in the capital city Bern. While these two apply a two-way immersion (50% German, 50% French), the PRIMA program (Programme d'enseignement de l'allemand par immersion) in the canton of Neuchâtel follows early partial immersion through compulsory school in German (50–10%) (cf. Borel *et al.*, 2022). Despite – or because of – their limited L2 exposure, bi-plurilingual showers tend to adopt a plurilingual and integrated approach to bilingual teaching, relying on the thorough planning of teaching sequences with respect to language use (Freytag Lauer, 2022; Freytag Lauer *et al.*, 2015; Gajo *et al.*, 2020; Steffen & Freytag Lauer, 2021).

Analysis of plurilingual classroom practices

Our analysis of plurilingual classroom practices *in situ* is rooted in a theoretical and analytical framework drawn from studies on plurilingual discourse practices in instructional and research settings embracing ‘a linguistic perspective on knowledge construction in multilingual interaction’ (Berthoud & Gajo, 2020: 11–22). This approach, also referred to as *plurilingualisms and cognition in discursive practices* (Gajo *et al.*, 2013), examines the constitutive role of discursive practices and verbal interactions in and for knowledge construction. It views language as a knowledge construction tool or a mediating tool, aligning with Vygotsky’s notion of mediation (Vygotsky, 1986).

Our studies mainly focus on filmed ethnographic observations (audio and video recordings, field notes and photographs) of classroom interaction and discourse in different cantons and language regions in Switzerland, as well as in classes with different languages of instruction (French or German L1 with German, French or English L2). We look at situated practices of knowledge construction, as well as the treatment of language and content and their articulation in classroom interaction. In addition, we examine the teaching materials used during the observed activities and conduct semi-directive interviews with the actors involved (teachers, directors, project managers, etc.) to get a better understanding of their social representations of language teaching/learning and of bi-plurilingualism, as well as of their didactic approaches and considerations. These interviews, with teachers in particular, give us information on how the observed sequences and teaching materials were constructed and give us access to didacticisation, i.e. to their considerations of language use, language alternation, bi-plurilingual teaching resources, etc. in relation to the subject content they plan to work on in class.

The data cited in the present chapter were collected in a recent research project on the demarcation and the interfaces between bilingual/immersion education and content-based language teaching (see [Gajo et al., 2020](#)).³

Designing plurilingual showers

Regarding the observed plurilingual showers, the project was designed by two teachers (here referred to as RAB and URD) and involved two seventh-grade classes in a monolingual German-speaking canton in Switzerland. These pupils are 12–13 years old and in their first year of secondary school. Prior to that, they studied French for a year and English for 3 years. Living in a rural setting, only a few of them also use a language other than the local variety of German at home. RAB teaches geography and L2 English, and URD teaches history and L2 French. These plurilingual showers fit into the planned school curriculum and study plan, encouraging the implementation of this type of project according to the school's resources and the teachers' skills:

Teaching in the foreign language can be supplemented by phases of bilingual teaching. These can take on different forms and characteristics and can be designed differently depending on the resources and potential of the teachers. ([Departement Bildung, Kultur und Sport Aargau, 2019: 13](#), our translation)

The interview with the director of the school (KUH) provides insight into the framework for these plurilingual showers and highlights its particularities.

Die beiden reden sicherlich in Geografie, beziehungsweise in Geschichte in der Fremdsprache so viel wie möglich, aber es ist vielleicht eine Mischung wenn man das mit dem sogenannten Immersionsunterricht am Gymnasium vergleicht [...]. Also ich finde wichtig der ungezwungene Zugang zur Sprache und ich bin davon überzeugt, dadurch dass sie die Sprache öfters als nur dreimal 45 Minuten hören, sich damit auseinandersetzen, bleibt mehr hängen, bin ich also wirklich davon überzeugt. Und ich glaub 's Erfolgserlebnis ist schon anders, dass man merkt 'uuh, man kann ja was' wenn man in Geschichte mal'n französischen Text kriegt, den man vielleicht schon lesen kann, das glaube ich ist ... spannend, aber von bilinguaalem Unterricht so, will ich noch nicht reden. (KUH)

They both certainly speak as much as possible in the foreign language in geography and in history, but maybe it's mixed compared with the so-called immersion education at high school [...]. Well, I think an informal approach to language is important and I'm sure that if you hear the language more than only for three 45-minute lessons and work with it, more of it will stick, I really think so. And I think the sense of achievement is quite different, that you realize 'ooh, I know something'

when you get a French text in history that you are perhaps already able to read, I think that's ... exciting, but I wouldn't yet speak of bilingual education or the like.

For the director, bi-plurilingual showers – which he never refers to as such in the interview – cannot quite be seen as bilingual education. He defines the project by comparing it with immersion at high school and bilingual education. He describes the project in quantitative terms as a complement to second language teaching (English and French), allowing for greater L2 exposure ('as much as possible', 'more than only for three 45-minute lessons'). He also uses qualitative terms, implicitly referring to language alternation when he speaks of NLS teaching (geography and history) that 'mixes' or 'combines' two languages in a less formal setting. More specifically, in his words, teachers and pupils use languages to speak, to read and to work with texts. German, French and English are therefore designed as languages of learning and teaching for developing skills and motivation ('achievement', 'exciting').

While the director also emphasises quantitative motives such as increased language exposure, both teachers mainly consider qualitative motives like the potential benefit for NLS learning (see [Steffen & Freytag Lauer, 2021](#)). They both see language alternation as a didactic tool that supports NLS teaching/learning and plays a role as such in the planning of activities and of teaching materials.

Eher Englisch, wenn ... das Thema schon die Grundzüge behandelt wurden und dann auch vielleicht ein Aufbau der jetzt heute eben mit Polartag, Polarnacht, wir hatten die Grundlage schon gelegt auf Deutsch mit Neigung der Erdachse und jetzt eigentlich das Thema weiterführen, sie kennen die Begriffe schon, sie kennen das Konzept von den Jahreszeiten, von der ... Tageslänge der unterschiedlichen, also eigentlich mehr dann die Vertiefung von einem Thema. (RAB)

Rather English, when ... basics of the topic have already been covered and then also maybe building up like today with polar day, polar night; we had already done the groundwork in German with the Earth's axial tilt, and now we actually carry on with the topic, they already know the notions, they know the concepts of the seasons, of the ... varying length of daytime, so actually more the deepening of a subject.

Comme il s'agit d'ilots, je réfléchis toujours en avance quels documents ou quelles parties du thème je veux traiter en français; même si en pratique l'allemand est toujours présent même lors de ces phases. Il peut arriver aussi que le document soit en français, mais que les activités soient en allemand. De manière générale c'est la difficulté cognitive, le type de documents et la place dans la leçon (plutôt au début ou en fin) qui influencent le choix de la langue. (URD)

Since these are showers, I always give prior thought to which documents or which parts of the theme I want to work on in French, even though

German is always present in practice even in these phases. Sometimes, the document may be in French and the activities may be in German. Usually, the cognitive difficulty, the type of documents and the place in the lesson (more towards the beginning or the end) will influence the language choice.

In other words, they set up meso-alternation in their NLS lessons. To this effect, the two teachers consider the cognitive demand of the concepts and NLS knowledge, the type of document and the ‘didactic time’. RAB uses the L2 to deepen a theme or a concept, while URD plans language alternation in relation to activities. Alongside linguistic resources, their considerations involve other semiotic resources in designing meso-alternation. They plan to teach subject knowledge by combining all these resources so that they become complementary and are used in coherence, leading to pedagogical translanguaging.

Alternating languages to regulate activities during history class

Meso-alternation can be observed as activities unfold during the course of classroom interaction and the use of teaching materials (plurisemiotic resources). In a lesson on Martin Luther’s theses during the Protestant Reformation, traces of the didactic project and the organization of language alternation can be found. First, the introduction to activity Number 2 explains the course of the activity (Figure 3.1).

158 URD: alors maintenant nous allons faire un travail de groupe ((walks towards the board)) . certains ont déjà regardé .. on va travailler sur TROIS textes ((points to the three columns on the board)) .. des thèses de luther .. hum j’ai pris trois textes euh . de luther ... et je vais vous donner donc le texte et il y a aussi des exercices euh sur la feuille .. donc dans votre groupe d’EXPERTS . de texte ... vous lisez le texte ((points to the instructions on the board)) . et . vous faites les . exercices . de la feuille\

((in French)) so now we are going to do some group work ((walks towards the board)) . some have already looked .. we are going to work on THREE texts ((points to the three columns on the board)) .. luther’s theses .. uhm I took three texts uh . by luther... and I’m going to give you the text and there are also exercises uh on the sheet... so in your EXPERT group . of the text ... you read the text ((points to the instructions on the board)) . and . you do the exercises . on the sheet\

The teacher (URD) gives the instructions for the next activity in French; besides presenting the type of document (three texts by Luther) and the type of activity (reading the text and doing the exercises on the activity sheet), Turn 158 is punctuated by gestures, pointing to the instructions projected onto the board (Figure 3.1). The written instructions on the board display a bilingual L2/L1 mode. While German (L1) is used to explain the social form and working mode of the activity (‘Einzelarbeit’,

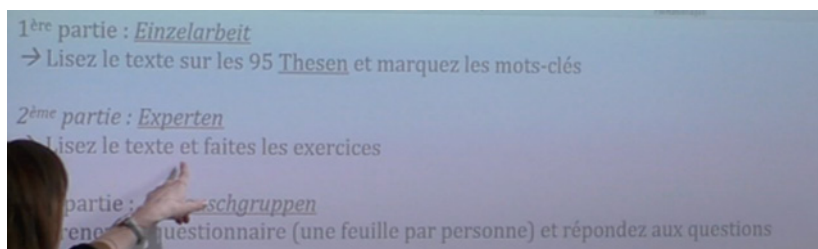


Figure 3.1 Written teaching support

‘Experten’), French (L2) is used to specify the instructions (‘Lisez le texte et faites les exercices’). Moreover, the oral instructions (given in French) echo the written ones (in French, with some elements in German). Note, for example, the emphasis on ‘Expert’ and pointing to the related instructions.

Secondly, after reading the text in German (L1), the students are asked to work in groups to identify the images that are not consistent with Luther’s faith. During this sequence, the teacher (URD) interacts with his pupils to regulate their work.

- | | |
|--------|--|
| 14 URD | was hast du hier geschrieben/ ... et fais attention quand tu écris . je n’arrive presque pas à lire
<i>((in Standard German)) what did you write here/ ... ((in French)) and pay attention when you write . I can hardly read</i> |
| 15 | oui ici il y a encore quelque chose qui ne va ((finger gesture meaning no))
<i>((in French)) yes there is still something wrong here ((finger gesture meaning no))</i> |
| 16 DAR | das do
<i>((in the local variety of German)) this here</i> |
| 17 URD | oui ça ne va pas
<i>((in French)) yes it’s not right</i> |
| 18 DAR | gsehsch ((addressing another student))
<i>((in the local variety of German, addressing another student)) you see</i> |
| 19 URD | pourquoi
<i>((in French)) why</i> |
| 20 LUC | es sind reliquien von heiligen und sie wollen keine heilige (mehr?)
<i>((in Standard German)) they are relics of saints and they don’t want saints (anymore?)</i> |

- 21 URD voilà c'est ça . c'est des reliques .. d'accord/ . et ils ne veulent pas de reliques ok/
 ((in French)) yes that's it . these are relics .. okay/ . and they don't want relics ok/

In this interaction, the students speak in Standard German or the local variety of German (L1),⁴ while the teacher sticks to French L2 (except in 14, where she starts in Standard German). These language alternations are fluid and dynamic. Moreover, they allow for an error related to the content (relics) to be pointed out (14–18) and then corrected (19–22). This process is also reinforced by using visual materials and other semiotic resources and gestures. Turns 20 and 21 echo each other when LUC's proposal in German and URD's ratification in French ('voilà c'est ça') are reflected in the reiteration of the key notion ('relics') in French. Both languages are complementary for progressing in the activity and in finding the right answer.

Finally, traces of meso-alternation of different forms become apparent during the interaction. The first meso-alternation occurs during the explanation of the activity (Turn 158) and the second one during the group activity. This type of meso-alternation can be described as horizontal (as opposed to vertical meso-alternation, based on the type of activity) because during the same interactional sequence, a continuity can be found between written teaching support in a planned bilingual mode or in the L1 and the oral explanation in the L2 or in a bilingual mode (Freytag Lauer, 2022). The written teaching supports are used during the interaction, i.e. the written supports here are meso-interactional traces (Gajo, 2014). However, these two modalities do not serve the same didactic purpose. While the first focuses on the development and comprehension of the pedagogical activity, the second is involved in the negotiation of the term 'relics'. This example shows the continuity of different resources used to build subject knowledge.

Translanguaging for subject knowledge learning in a geography class

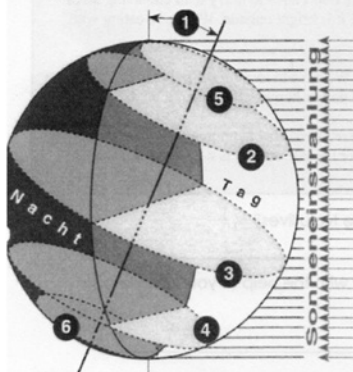
In RAB's geography class, languages are instrumental in knowledge construction. After an activity in German L1 done at home (Figure 3.2), she asks the students, in the following sequence on the axis of the Earth, to imagine the consequences for the seasons and the duration of daylight if the axis of the Earth were straight ('not tilted').

- 168 RAB NOW\ . what about the (dates/days)\
 (6.2)
 169 (a student's name) what happens to the days\

Polartag und Polarnacht

Wegen der Neigung der Erdachse kommt es entlang der unterschiedlichen Breitengraden zu einer unterschiedlichen Bestrahlungsdauer durch die Sonne.

Schau dir die Darstellung der Beleuchtung der Erde am 21. Juli an. Fülle die fehlenden Begriffe 1 – 6 ein.



- 1 Die Erdachse ist gegenüber der Erdbahnebene um _____° geneigt.
- 2 Auf der nördlichen Halbkugel ist der Tag _____ als die Nacht.
- 3 Am Äquator ist der Tag _____ wie die Nacht.
- 4 Auf der südlichen Halbkugel ist der Tag _____ als die Nacht.
- 5 Am nördlichen Polarkreis dauert der Tag _____.
- 6 Am südlichen Polarkreis dauert die Nacht _____.

Wie du bei den Punkten 5 und 6 sehen kannst, scheint auf diesen Breitengraden die Sonne 24h, resp. es ist 24h Nacht. Man nennt diese Breitengrade «Polarkreise» (engl. «Arctic Circle») und sie liegen bei 66.5° N und 66.5° S.

Figure 3.2 Excerpt of an activity sheet in German L1

- 170 EL? ehm the days have . all . the same . (xxx) .. the same . time
(1.4)
- 171 RAB hm::: the same time/
(1.7)
- 172 EL? the day ... ehm (are) long .. are
(2.3)
- 173 RAB ok\ . maybe let's try with an example . can you tell me how long or what (do you mean)
[...]
- 175 JOR also ... eh:m .. die tage sind gleich lang .. (irgendwie)
so ... eh:m ... the days are the same length ... (somehow)
(1.6)
- 176 RAB yes . what do you mean with gleich lang\ . kannst du ein beispiel geben (give me) an example\ how long/
same length\ . can you give me an example
(1.4)

- 177 der tag ist ja vierundzwanzig stunden\
 there are twenty-four hours in a day
- 178 JOR mja::
 myes::
- 179 RAB es ändert sich nicht (2.7) ich weiss sie meint es richtig\
 brauchen nur noch die richtige formulierung\
 (MIT's name)
 it doesn't change (2.7) I know she means it right\ we just need
 the right wording
- 180 MIT gleich lang hell
 light for the same length of time
 (1.3)
- 181 RAB gleich lang hell . wie lang hell/
 light for the same length of time . how long is it light/
 (2.0)
- 183 (EWI's name)
- 184 EWI maybe in the summer if it is eh:m . more .. mo:re ... (nä) oder
 im sommer ist es einfach viel länger hell .. und im winter halt
 sind die tage quasi kürzer weil es ehm . weniger hell also kürzer
 hell wär
 (no) or in summer it is just much longer light .. and in winter
 the days are actually shorter because it is . less light that is it
 would be light for a shorter time
- 185 RAB so ist es JETZT im moment\
 .. aber die frage ist (doch) was
 wenn wir die erdachse (ändern) wir haben ja wie gesagt wir
 haben KEIN sommer und kein winter mehr .. wie geht das
 denn dann auf . (FIN's name)
 that's how it is NOW at the moment\ ... but the question is
 what if we (change) the earth's axis we have said that we have
 NO more summer and no more winter .. how does that work
 out then
- 186 FIN (xxx) the days are forever twelve hours
- 187 RAB *. we have twelve hours of daytime/ (1.7) and twelve .. hours of
 nighttime\
 (4.1)*
- 188 *RAB writes 'twelve hours of daytime', 'twelve hours of
 nighttime'*

In line with her didactic considerations that were discussed in the interview, and after several activities in German L1 (see [Steffen & Freytag Lauer, 2021](#)), RAB starts this sequence off in English L2, since the activity aims at a deeper understanding of the consequences of the Earth's axial

tilt, which involves increased cognitive demand. This sequence is organised into two steps. RAB starts with a question in English L2 (169 ‘what happens to’) by introducing the new element (169 ‘the days’) and the students (EL?, JOR) make proposals that need to be clarified (168–179). This first step in English indicates hesitations by the learners (171, 172). RAB reacts by asking for an example (173). The second step begins with a reformulation in German (175): RAB ratifies in English by highlighting the precise wording in German ‘gleich lang’ and moves on to reformulate in English (176). From this point on, RAB and her students use their resources in German and English to formulate (179) and negotiate a valid answer from a disciplinary point of view. While RAB explains in German (179, 185), the students respond in English and German (184, 186). The act of writing on the board (188) indicates that the negotiation of this notion is closed and the knowledge construction has been stabilised (Vuksanović, 2018). The language alternation in this sequence can be described as code-meshing, as both languages are mobilised to negotiate and construct meaning and knowledge. Even if the meso-alternation planned the use of English for this activity, the previously acquired resources in German are remobilised to progress and to deepen the subject knowledge. A meso-perspective of the interaction sheds light on this language alternation, indicating the switch from German (L1) to English (L2) as a tool to support the negotiation of meaning, in addition to the activity sheet in German used in class (see Figure 3.2), which was worked on beforehand at home, the illustrations and diagrams in the document projected in class (see Figure 3.3; for more

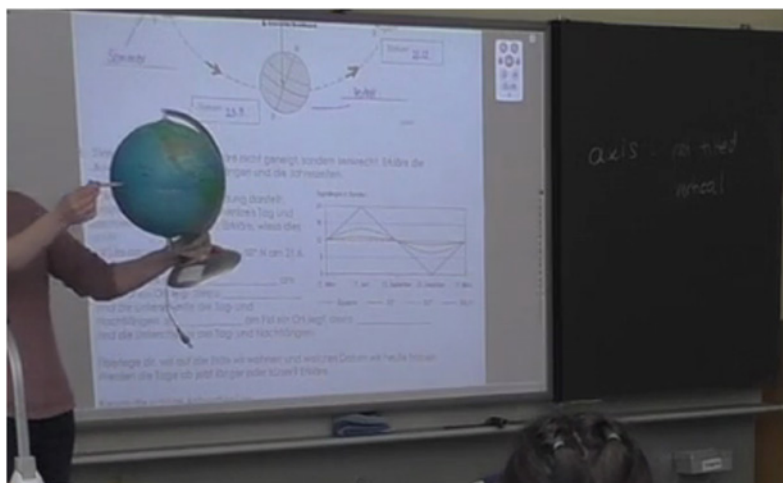


Figure 3.3 Picture of the teacher pointing to the globe to illustrate the Earth's axial tilt alongside the document projected in class

details, see Steffen & Freytag-Lauer (2021)). A new modality of meso-alternation distributed over two moments can be observed here: an activity done in German L1 at home (written) and its correction and discussion in class (oral), marked by micro-alternations to elaborate disciplinary knowledge in both languages, as mentioned by RAB in her interview. This meso-alternation makes use of the resources of English and German in continuity (the resources available in their plurilingual repertoire), of both languages in complementarity for the activity in geography, as well as of plurilingual and plurisemiotic resources (the illustration on the activity sheet, the gestures, pointing to and tilting the globe) in coherence for teaching/learning the concepts in geography (the Earth's axial tilt and its implications for the days and seasons etc.).

Translanguaging for Subject Knowledge Construction

Bi-plurilingual showers allow language alternation to create spaces or moments for integrating language knowledge and subject knowledge learning; in other words, to practise pedagogical translanguaging in a disciplinary and integrated perspective. In this chapter, we set out to better understand pedagogical translanguaging through a plurilingual lens via the similar concept of meso-alternation established in francophone literature in recent years. Meso-alternation is observed in classroom interaction and put into perspective by the teachers' didactic considerations and choices in preparation for their teaching which emerged from their interviews.

The examples presented provide insight for better defining and understanding meso-alternation. This type of alternating use of languages is intended and didacticised as a tool for NLS teaching/learning; that is, when teachers make didactic use of language alternation as instrumental to subject knowledge construction. Accordingly, it enables students to use both languages in a fluid manner, namely to translanguage in order to progress through the activities and in the building of subject knowledge. Meso-alternation comes close to pedagogical translanguaging in that it makes use of the available language resources in class. Furthermore, as the examples show, meso-alternation is planned in relation to the objectives of the NLS, making use of all the resources to better understand and construct NLS knowledge. Taking a disciplinary perspective, we identify features that are conducive to meso-alternation and to making pedagogical translanguaging instrumental in subject knowledge teaching/learning. These features, which are complementary, synergistically mobilise all available resources for knowledge construction (Steffen, 2021):

- Contact: several languages of instruction are in contact in an NLS.
- Continuity: the resources of several languages are used contiguously to teach/learn the subject knowledge.

- Co-presence: the class mobilises plurilingual resources in the ongoing activities, which creates a space to develop and activate a plurilingual competence in NLS knowledge building.
- Complementarity: language alternation is didacticised so as to be instrumental in subject knowledge construction.
- Coherence: the plurilingual and plurisemiotic teaching/learning resources are used so that they work together coherently to mediate subject knowledge construction.

These five Cs provide some benchmarks when addressing the didactic role of translanguaging in instructional interaction. They offer some guidelines for teacher training in the use of plurilingual resources in the plurilingual NLS classroom.

Notes

- (1) Research does not usually focus on the teachers' languages, although embracing them could further support a plurilingual perspective on teaching/learning.
- (2) For more details on the categorisation of content-based instruction, bilingual or immersion education and bi-plurilingual education, see [Steffen and Vuksanović \(2019\)](#).
- (3) Immersion and content-oriented language teaching: Didactic sequences and insertion into primary school's curriculum (2016–2019). Project management, L. Gajo (University of Geneva); staff, G. Steffen, A. Freytag and I. Vuksanović; funding, Research Centre on Multilingualism (Fribourg). See also <https://www.unige.ch/lettres/elcf/gridalp/en/immens/about>
- (4) In the observed lessons, pupils generally use the local variety of German when interacting with each other and when they are engaged in group work. They switch to Standard German in the plenary and to address the teacher. This practice is common to classes in German-speaking Switzerland and is in line with the practice of diglossia usually observed in German-speaking Switzerland: Standard German for formal conversation and the local variety of German for informal conversation (Freytag [Lauer, 2022](#)).

Transcription conventions

1 Turn number

OCE Identified participant

EL? Unidentified student

ELS Multiple students

/ Rising intonation

\ Falling intonation

. Short pause (max. 0.3 sec)

.. Medium pause (max 0.6 sec)

... Long pause (max 1.0 sec)

(2.5) pause expressed in seconds and tenths of a second

[] start and end of overlap

(xxx) unidentifiable segment

(va/n'a) uncertain transcription

ALORS emphasis, stress

alo:rs vowel or consonant prolongation

tab- truncation

((laughter)) transcriber's comment

= immediate transition between 2 turns/speakers

points indication of the beginning/end of a participant's gesture

+turns+ described in the following line

[...] part not transcribed

References

- Auer, P. (1988) A conversation analytic approach to code-switching and transfer. In M. Heller (ed.) *Codeswitching: Anthropological and Sociolinguistic Perspectives* (pp. 187–213). Mouton de Gruyter.
- Beacco, J.-C. and Byram, M. (2007) *From Linguistic Diversity to Plurilingual Education: Guide for the Development of Language Education Policies in Europe. Main Version*. Council of Europe.
- Beacco, J.-C. and Coste, D. (2017) *L'éducation plurilingue et interculturelle: La perspective du Conseil de l'Europe*. Editions Didier.
- Beacco, J.-C. Fleming, M., Goullier, F., Thürmann, E. and Vollmer, H. (2016) *Les dimensions linguistiques de toutes les matières scolaires. Guide pour l'élaboration des curriculums et pour la formation des enseignants*. Conseil de l'Europe.
- Berthoud, A.-C. and Gajo, L. (2020) *The Multilingual Challenge for the Construction and Transmission of Scientific Knowledge*. John Benjamins.
- Brohy, C. and Rezgui, S. (eds) (2008) *La didactique intégrée des langues: expériences et applications*. Babylonia (1).
- Borel, S., Gajo, L., Jenny, E., Steffen, G., Stübi, N. and Veillette, J. (2022) (unpublished): *PRIMA II. Expérience pilote d'enseignement de l'allemand par immersion précoce dans le canton de Neuchâtel: évaluation des expériences de la 10e année scolaire (2020–2021)*. Université de Genève.
- Buser, M. (2020) *Two-way Immersion in Biel/Bienne, Switzerland: Multilingual Education in the Public Primary School Filière Bilingue (FiBi)*. Peter Lang.
- Castellotti, V. and Moore, D. (1997) Alternner pour apprendre, alternner pour enseigner. *Études de linguistique appliquée* 108, 389–392.
- Castellotti, V. and Moore, D. (2011) La compétence plurilingue et pluriculturelle. Genèses et évolutions d'une notion-concept. In P. Blanchet and P. Chardenet (eds) *Guide pour la recherche en didactique des langues et des cultures. Approches contextualisées* (pp. 241–252). Éditions des Archives contemporaines.
- Cenoz, J. and Gorter, D. (2020) Pedagogical translanguaging: An introduction. *System* 92.
- Cenoz, J. and Gorter, D. (2021) *Pedagogical Translanguaging*. Cambridge University Press.
- Cenoz, J., Genesee, F. and Gorter, D. (2013) Critical analysis of CLIL: Taking stock and looking forward. *Applied Linguistics* 35 (3), 243–262.
- Conteh, J. and Meier, G. (eds) (2014) *The Multilingual Turn in Languages Education: Opportunities and Challenges*. Multilingual Matters.
- Cook, V. (2003) Introduction: The changing L1 in the L2 user's mind. In V. Cook (ed.) *Effects of the Second Language on the First* (pp. 1–18). Multilingual Matters.
- Coste, D. (1997) Alternances didactiques. *Études de linguistique appliquée* 108, 393–400.
- Coste, D., Moore, D. and Zarate, G. (2009) *Compétence plurilingue et pluriculturelle. Vers un Cadre Européen Commun de référence pour l'enseignement et l'apprentissage des langues vivantes: Études préparatoires*. Conseil de l'Europe.

- Council of Europe (2001) *Common European Framework of Reference for Languages: Learning, Teaching, Assessment*. Cambridge University Press.
- Departement Bildung, Kultur und Sport Aargau (2019) *Aargauer Lehrplan Volksschule*. See <https://ag.lehrplan.ch> (14.04.2025)
- Duverger, J. (2007) Didactiser l'alternance des langues en cours de DNL. *Tréma* 28, 81–88.
- Freytag Lauer, A. (2018) Les îlots immersifs au primaire: une pratique pédagogique transcurriculaire. In F. Caspani, V. Manna, V. Todisco and M. Trezzini (eds) *Mehrsprachiger Unterricht im Fokus. Atti del Convegno sui modelli d'insegnamento veicolare delle lingue straniere* (pp. 184–195). Collona Pädagogische Hochschule Graubünden.
- Freytag Lauer, A. (2022) Les documents dans l'enseignement bilingue. Sources et ressources pour un travail intégré. *Le cas des îlots immersifs au primaire*. Doctoral thesis, University of Geneva.
- Freytag Lauer, A., Meier, D. and Le Pape Racine, C. (2015) Le développement du plurilinguisme dans la formation initiale et continue – les îlots immersifs comme modèle d'enseignement interdisciplinaire. In M. Vanotti and M. Weil (eds.) *Weiterbildung und Mehrsprachigkeit. Didaktische und konzeptionelle Annäherungen* (pp. 80–96). HEP-Verlag.
- Gajo, L. (2007) Linguistic knowledge and subject knowledge: How does bilingualism contribute to subject development? *International Journal of Bilingual Education and Bilingualism* 10 (5), 563–581.
- Gajo, L. (2014) Quelques notions pour saisir le niveau méso-interactionnel dans l'interaction didactique plurilingue: liage, pointage, progression, séquence. In X. Gradoux and J. Jacquin (eds) *Le niveau méso-interactionnel lieu d'articulation entre langage et activité. Cahiers de l'ILSL* 41, 137–170.
- Gajo, L. and Steffen, G. (2015) Didactique du plurilinguisme et alternance de codes: Le cas de l'enseignement bilingue précoce. *Canadian Modern Language Review/La Revue canadienne des langues vivantes* 71 (4), 457–485.
- Gajo, L., Grobet, A., Serra, C., Steffen, G., Müller, G. and Berthoud, A.-C. (2013) Plurilingualisms and knowledge construction in higher education. In A.-C. Berthoud, F. Grin and G. Lüdi (eds) *Exploring the Dynamics of Multilingualism: The DYLAN Project* (pp. 287–308). John Benjamins.
- Gajo, L., Steffen, G., Vuksanović, I. and Freytag Lauer, A. (2020) Immersion et enseignement de la langue orienté vers le contenu: séquences didactiques et insertion curriculaire au primaire. *Rapport de recherche. Research Center on Multilingualism*. See <https://centre-plurilinguisme.ch/fr/recherche/immersion-et-enseignement-de-la-langue-orienté-vers-le-contenu> (14.04.2025).
- García, O. and Baetens Beardsmore, H. (2009) *Bilingual Education in the 21st Century: A Global Perspective*. Wiley-Blackwell.
- García, O. and Lin, A.M.Y. (2016) Translanguaging in bilingual education. In O. García, A.M.Y. Lin and S. May (eds) *Bilingual and Multilingual Education (Encyclopedia of Language and Education)* (pp. 117–130). Springer.
- García, O. and Li, W. (2014) *Translanguaging: Language Bilingualism and Education*. Palgrave Macmillan.
- Grosjean, F. (1985) The bilingual as a competent but specific speaker-hearer. *Journal of Multilingual and Multicultural Development* 6 (6), 467–477.
- Li, W. (2018) Translanguaging as a practical theory of language. *Applied Linguistics* 39 (1), 9–30.
- Lüdi, G. (2015) Monolingualism and multilingualism in the construction and dissemination of scientific knowledge. In U. Jessner-Schmid and C. Kramsch (eds) *The Multilingual Challenge: Cross-Disciplinary Perspectives* (pp. 213–238). Mouton de Gruyter.
- Lüdi, G. and Py, B. (2003) *Être bilingue*. Peter Lang.

- Mehisto, P., Marsh, D. and Frigols, M.J. (2008) *Uncovering CLIL: Content and Language Integrated Learning in Bilingual and Multilingual Education*. Macmillan Education.
- Met, M. (1998) Curriculum decision-making in content-based language teaching. In J. Cenoz and F. Genesee (eds) *Beyond Bilingualism: Multilingualism and Multilingual Education* (pp. 35–63). Multilingual Matters.
- Moore, D. (2001) *Une didactique de l'alternance pour mieux apprendre? Études de linguistique appliquée* 121, 71–78.
- Moore, D. (2021) Sur les traces de Louise Dabène et de quelques escargonithorynques, De la didactique et/du plurilinguisme. *Recherches en didactique des langues et des cultures – Les cahiers de l'Acedle* 18 (3).
- Moore, D. and Gajo, L. (2009) Introduction – French voices on plurilingualism and pluriculturalism: Theory, significance and perspectives. *International Journal of Multilingualism* 6 (2), 137–153.
- Moore, D., Oyama, M., Pearce, D.R. and Kitano, Y. (2020) Plurilingual education and pedagogical plurilinguaging in an elementary school in Japan: A perspectival origami for better learning. *Journal of Multilingual Theories and Practices* 1 (2), 243–265.
- Piccardo, E. (2016) Plurilingualism: Vision, conceptualization, and practices. In P.P. Trifonas and T. Aravossitas (eds) *Handbook of Research and Practice in Heritage Language Education* (pp. 207–266). Springer.
- Pierson, A.E. and S.E. Grapin (2021) A disciplinary perspective on translanguaging. *Bilingual Research Journal* 44 (3), 318–334.
- Putjataa, G., Brizič, K., Goltsev, E. and Olfert, H. (2022) Introduction: Towards a multilingual turn in teacher professionalization. *Language and Education* 36 (5), 399–403.
- Snow, M.A. (2014) Content-based and immersion models of second/foreign language teaching. In M. Celce-Murcia, D.M. Brinton and M.A. Snow (eds) *Teaching English as a Second or Foreign Language* (4th edn, pp. 438–454). National Geographic Learning.
- Steffen, G. (2013) *Les disciplines dans l'enseignement bilingue. Apprentissage intégré des savoirs disciplinaires et linguistiques. Avec une postface de Laurent Gajo. Collection Sprache, Mehrsprachigkeit und sozialer Wandel*. Peter Lang.
- Steffen, G. (2021) Une approche plurilingue et intégrée de l'enseignement/apprentissage des disciplines. *Recherches et applications. Le Français dans le Monde* 70, 35–48.
- Steffen, G. and Vuksanović, I. (2019) Le contenu dans l'enseignement de L2 et dans l'enseignement en L2. *Introduction. Bulletin VALS-ASLA* 110, 1–11.
- Steffen, G. and Freytag Lauer, A. (2021) Ilots bilingues et méso-alternance. *Une approche plurilingue des DNL. Recherches en didactique des langues et des cultures – Les cahiers de l'Acedle* 18 (3).
- Steffen, G., Chatelain, N. and Miserez-Caperos, C. (2020) Préface. In N. Chatelain *et al.* (eds) *Interagir dans la diversité à l'école. Regards pluriels* (pp. 8–14). Éditions de la HEP-BEJUNE.
- Vollmer, H. (2007) Language across the curriculum – A way towards plurilingualism. In W. Martinyuk (ed.) *Towards a Common European Framework of Reference for Languages of School Education* (pp. 177–192). Universitas.
- Vuksanović, I. (2018) Processus de construction et de saturation des savoirs dans l'enseignement bilingue. *Doctoral thesis*, University of Geneva.
- Vygotsky, L. (1986) *Thought and Language*. MIT Press.