How to observe the stages of explicit instruction? The "Mirror of Steps of Explicit Instruction" (MSEI) grid, a research and training tool

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Abstract

This document presents a research and training tool developed as part of a research aimed at a) observing whether teachers who have followed training and coaching increasingly implement a pedagogical approach (explicit instruction) over the course of a school year and b) studying whether these teachers wishing to implement explicit instruction in their classrooms implement the advice given by the coach and/or the intentions to act formulated by themselves from one coaching session to the next. The tool presented in this text is not intended to train teachers to apply a teaching approach mechanically and uncritically. It has been designed for the purposes of research and formative evaluation of lessons taught by teachers wishing to implement explicit instruction in their classrooms. Its aim is also to enable teachers to reflect on their practices and to select relevant teaching practices to be implemented by adapting them to the situations encountered in their classrooms.

This article is the English version of:

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1. Introduction

This document presents a research and training tool developed as part of research (Baco, 2022)[1] aimed at a) observing whether teachers who have followed training and coaching increasingly implement a pedagogical approach (explicit instruction) over the course of a school year and b) studying whether these teachers wishing to implement explicit instruction in their classrooms implement the advice given by the coach and/or the intentions to act formulated by themselves from one coaching session to the next.

Explicit instruction is a pedagogical approach whose effectiveness[2] on student learning has been demonstrated by empirical research conducted in classrooms (e.g. Bissonnette, Richard, Gauthier & Bouchard, 2010; Doabler et al., 2020; Guilmois & Popa-Roch, 2021; Good & Grouws, 1979; Hughes, Morris, Therrien & Benson, 2017; Rosenshine & Stevens, 1986). To read more about explicit instruction, the interested reader is invited to refer in particular to the following references: Archer & Hughes (2011); Baco (2019); Baco & Bocquillon (2019); Bocquillon (2020); Bocquillon, Gauthier, Bissonnette & Derobertmasure (2020); Gauthier, Bissonnette & Bocquillon (2019); Gauthier, Bissonnette & Richard (2013); Guilmois (2019); Rosenshine & Stevens (1986).

The tool presented in this text is not intended to train teachers to apply a pedagogical approach mechanically and uncritically. It has been designed for the purposes of research and formative evaluation of lessons taught by teachers wishing to implement explicit instruction in their classrooms. Its aim is also to enable teachers to reflect on their practices and to select relevant teaching practices to be implemented by adapting them to the situations encountered in their classrooms.

To determine whether teachers are increasingly implementing explicit instruction over the course of a school year, an observation grid entitled " Mirror of Steps of Explicit Instruction" (MSEI) was adapted from the "Mirror of Teaching Practices" (MTP) grid (Bocquillon, 2020). The reason why this adaptation of the MTP grid was necessary is developed in the following section, which is devoted to a critical analysis of grids for observing explicit instruction. The rest of the text then presents the MSEI grid and a table showing the correspondence between each category of the grid and the steps of explicit instruction. This table summarizes the characteristic teaching practices of each step of explicit instruction. Finally, the text presents the version of the MSEI grid used to observe coaching sessions in order to determine whether the coached teachers implement the advice formulated by the coach and/or the intentions to act formulated by themselves.

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[1] This document is made up of parts of Baco's dissertation (2022) entitled " Evolution of the implementation of explicit instruction by a primary school teacher supported by a training and coaching programme. A case study ". Its purpose is to provide interested parties with easy access to the research and training tool created.
[2] The term "effective" means that certain practices enable more students to achieve the expected learning outcomes and make this success less dependent on their initial characteristics (Bloom, 1979).

2. Critical analysis of grids for observing explicit instruction (or similar models)

Several researchers have observed the implementation of certain characteristics of explicit instruction (Baker, Gersten, Haager & Dingle, 2006; Bocquillon, 2020; De Jager, Reezigt & Creemers, 2002; Doabler et al, 2015; 2020; Gunn, Smolkowski, Strycker & Dennis, 2021; Hammond & Moore, 2018; Kohler, McCullough Crilley, Shearer & Good, 1997) or models belonging to the same family of 'instructional'[3] approaches (Kretlow, Wood & Cooke, 2011; Morgan, Menlove, Salzberg & Hudson, 1994). As the rest of the text shows, although interesting, the observation grids of these authors were not used in the research conducted by Baco (2022) from which the tool presented in this document is derived. In fact, they did not perfectly meet the needs of this research. Indeed, in order to be able to determine whether teachers are implementing actions associated with explicit instructions in their classrooms, it is necessary to be able to objectively observe a set of teaching practices characteristic of explicit instruction, but also to be able to take a position on the fact that these are implemented "at the right time" (during the right step of the lesson). Respecting the steps is particularly important for a lesson to be qualified as an explicit instruction lesson. For example, if modeling is carried out by the teacher after a phase of research/discovery by the students, and not at the beginning of the lesson, then the lesson cannot be described as explicit instruction ; rather, it can be described as a lesson based on a socioconstructivist teaching approach (Gravé, Bocquillon, Friant & Demeuse, 2020).

Broadly speaking, the observation grids mentioned above can be classified into two types: "moderate to high inference" grids (Doabler et al., 2020, p. 3) and "low inference" grids (Doabler et al., 2020, p. 4). The former include categories for which the observer must position himself in a relatively subjective manner on Likert-type scales. They "rely on observers' impressions to rate the quality of instructional interactions" (Doabler et al., 2020, p. 3). The latter make it possible to count certain behaviours and "are often better able to minimize observer inference and control for variance due to observer characteristics […] because they focus on clearly defined target behaviors that are less subjective to interpretation (Snyder et al., 2006)" (Doabler et al., 2020, p. 4). Consequently, several of the above-mentioned grids[4], which are moderate-to-high inference grids, cannot be retained for this research, as they are relatively "subjective".

The other grids mentioned above[5] are "low inference" instruments, which therefore make it possible to account for certain specific behaviors more objectively. Nevertheless, each of these grids alone cannot meet the objectives of this research, as they contain very general categories. For example, the observer must indicate whether the teacher is providing models (Kohler et al., 1997) / demonstrations (Gunn et al., 2021), but does not have a set of indicators enabling him or her to

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[3] Instructional approaches, despite certain differences, share the fact that "the teacher teaches students school content in a systematic, structured and explicit way" (Gauthier, Bissonnette & Richard, 2013, p. 33).

[4] The grids of Hammond and Moore (2018) , Kohler and colleagues (1997), Baker and colleagues (2006), the QCI grid (Quality of Classroom Instruction) of Doabler and colleagues (2015), the QEMI grid (Quality of Explicit Mathematics Instruction) of Doabler and colleagues (2020) or one of the two grids used by De Jager and colleagues (2002).

[5] The grids of Bocquillon (2020), Kohler and colleagues (1997), Morgan and colleagues (2004), Kretlow and colleagues (2011), Gunn and colleagues (2021) (an adapted version of which is also used by Doabler and colleagues (2015; 2020)) or the second grid used by De Jager and colleagues (2002).

determine whether the teacher is in fact carrying out a demonstration (e.g. does he show the students precisely how to carry out a task? does he use examples and counter-examples? etc.). This example makes it possible to understand the lack of discrimination permitted by the use of this type of tool, whereas the aim of this research is to enable the observer to take a position on the presence or absence of a set of objective indicators for each step of explicit instruction (e.g. modeling). The grids used by Kretlow and colleagues (2011) and Morgan and colleagues (2004), on the other hand, focus on very specific questioning and feedback teaching practices, which the teachers who took part in this research had not been trained to use.

"Mirror of Teaching Practices" (MTP) grid (Bocquillon, 2020), for its part, makes it possible to observe certain teaching practices characteristic of explicit instruction, but does not specify during which step(s) of explicit instruction these should be observed for the lesson to conform to the explicit instruction model. An adaptation of this grid was therefore made on the basis of several of the grids mentioned above (De Jager et al., 2002; Kretlow et al., 2011; Morgan et al., 1994) and on a review of the literature on the steps of explicit instruction (e.g. Archer & Hughes, 2011; Bissonnette, 2018; Bocquillon, 2020; Bocquillon, Gauthier, Bissonnette & Derobertmasure, 2020; Gauthier et al, 2013; Hollingsworth & Ybarra, 2013; Hughes, Riccomini & Morris, 2018; Rosenshine & Stevens, 1986). This review of the literature has been carried out until information saturation (Guillemette, 2006; Glaser & Strauss, 1967).

The MSEI grid (and therefore the adaptations made to the MTP grid) is presented in sections 3 and 4, which constitute a coding guide including, for each category, an operational definition, the reference authors, and examples of teaching practices coded in the category in question.

3. General presentation of the MSEI grid

Figure 1 gives an overview of the MSEI grid (the adaptations made to the MTP grid are followed by an asterisk). Like the MTP grid, this grid is made up of two groups of categories: the teacher's verbal interventions and the students' verbal interventions.

The teacher's verbal interventions are subdivided into 11 mutually exclusive and exhaustive categories[6] making it possible to code the functions of the teacher's verbal interventions, i.e. each entry in the grid "refers to the objective supposedly pursued by the teacher when he/she implements a verbal/non-verbal intervention" (Bocquillon, 2020, p. 239). The categories linked to the functions of teaching practices come from the MTP grid, with the exception of the category "Other classroom management", which groups together all classroom management interventions other than "Getting students' attention" and "Managing student's participation". Since this research concerns learning management[7] and not classroom management[8], this category is relatively

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[6] Categories are exclusive, because "all behaviors belonging to a unit or category must share certain properties that distinguish them very clearly from those belonging to other units" (Beaugrand, 1988, p. 287). They are also exhaustive: "all possible behaviors in a class of behaviors must be codable in a category of that class" (Bocquillon, Baco, Derobertmasure & Demeuse, 2022, p. 498).

[7] Learning management "refers to all the actions by which the teacher teaches the concepts of the curriculum and ensures that the students master them" (Bocquillon, 2020, p. 67).

[8] Classroom management "refers to all the actions by which the teacher manages the classroom, creates a certain climate, establishes the rules of life, and so on. These actions are a prerequisite for learning (Shulman, 1986; Marzano, Pickering & Pollock, 2005)" (Bocquillon, 2020, p. 67).

broad in order to a) allow the observer to concentrate on the categories related to learning management b) still allow him or her to know the number of interventions in a lesson devoted to the learning management on the one hand and classroom management on the other. Although they are part of the family of teaching practices related to classroom management, the teaching practices related to "Getting students' attention" and "Managing student's participation" are observed in this research because they are characteristic of certain steps of explicit teaching.

Certain categories ("Presentation", "Checking for understanding", "Instructions") are further subdivided into categories that specify the "sub-function" of the teaching practice. Some of these subdivisions were already present in the MTP grid, while others (followed by an asterisk in the figure) were developed as part of this research. For example, the "presentation"[9] category in the MTP grid has been further subdivided into two types of presentation defined in the rest of the text.

Certain categories ("Presentation", "Checking for understanding", "Feedback", "Scaffolding" and "Instructions") are also subdivided into categories enabling the observer to specify the type of content ("prior knowledge", "content of the current lesson" or "content of a future lesson") covered by the teaching practice (e.g. "Presentation"), which is another adaptation of the MTP grid. Finally, most of the categories are specified by a last level of category developed as part of this research to enable the observer to mention the recipient of the teacher's verbal intervention (noted R. in the figure): the whole class, a group of more than two students / a pair, or an individual student (for these last two categories, the observer also specifies whether the teacher addresses the group / pair / student in a "public" way (i.e. the other pupils can hear what is said) or in private).

It should be noted that the "presentation of what/how" category includes an additional level (already present in the MTP grid) which makes it possible to specify whether the teacher is presenting an objective, an example/counter-example, an important aspect or "general content" (these different categories are defined below).

The students' verbal interventions are coded using 3 mutually exclusive pointing categories[10] (from the MTP grid) to specify the types of student responses linked to the content. In addition, the "individual student responses" category is subdivided into sub-categories (from the MTP grid) to determine which "types of students" provide these responses (e.g. non-designated students or students designated via an explicit random designation system). In addition, as part of this research, this classification is also used to precisely code the types of responses per group/pair, which was not the case in Bocquillon's thesis (2020). An additional subdivision was also added to determine whether collective responses were provided by designated students or by students not designated by the teacher.

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[9] The "Presentation" category is coded "when the teacher presents an element related to the content" (Bocquillon, 2020, p. 588).

[10] Pointing categories "are the categories by which the observer points to behaviors without being interested in their duration (Grieco et al., 2016)" (Bocquillon, 2020, p. 243).

Figure 1

Overview of the MSEI grid (adaptations made to the MTP grid are marked with an asterisk)
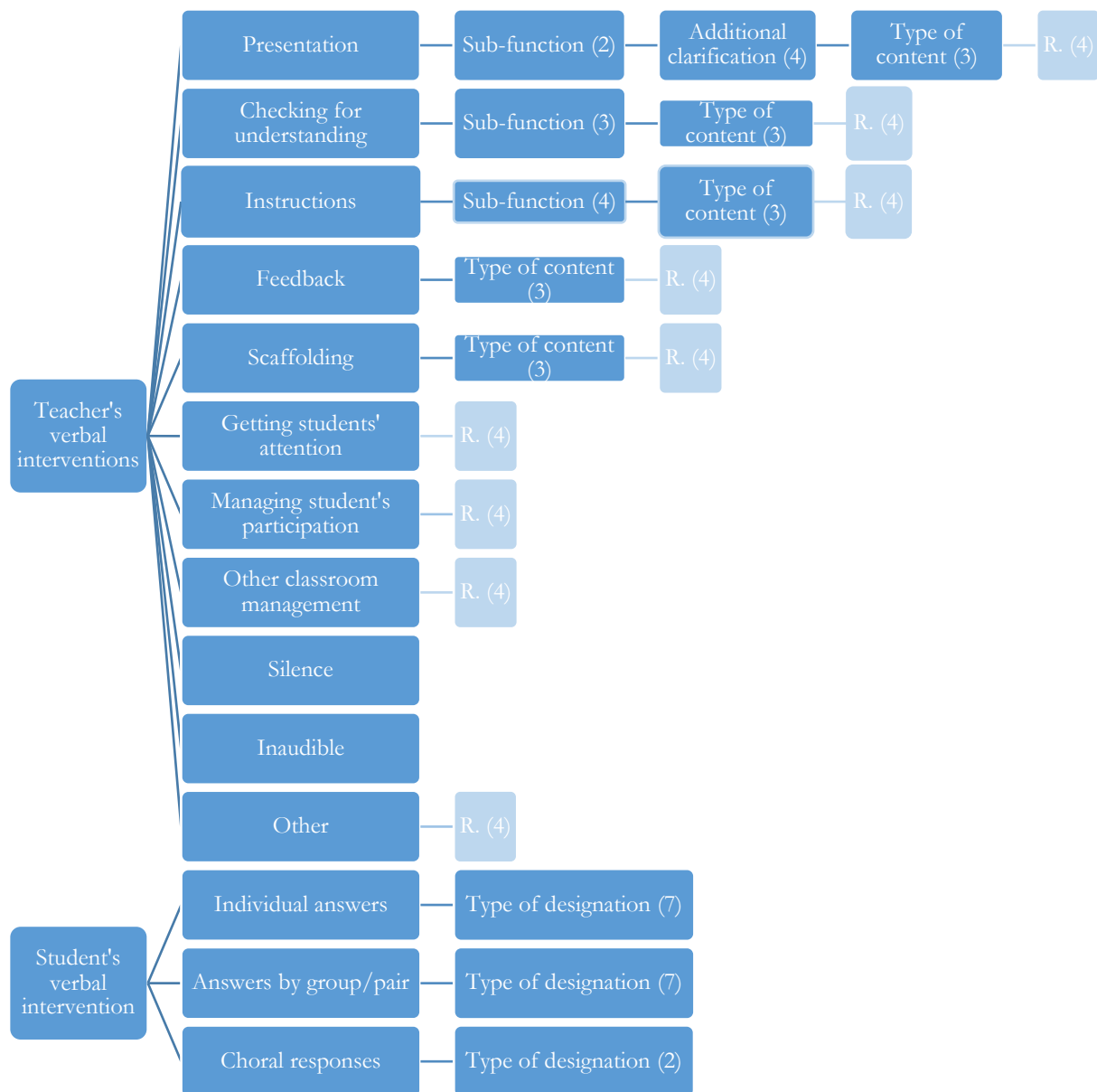
Finally, the major adaptation of the MTP grid consists in the development of a correspondence table, presented in sections 5 and 6, indicating, for each category of the MSEI[11] grid, whether it should / could / should not be observed during each step of an explicit instruction lesson. Before presenting this table, the rest of the text gives an operational presentation of each of the categories in the MSEI grid.

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[11] With the exception of certain categories added to the grid to ensure that the categories are mutually exclusive and exhaustive (e.g. "silence").

4. Detailed presentation of the MSEI grid (operational definitions)

4.1 The teacher's verbal interventions

This section gives a detailed presentation of the categories related to the teacher's verbal interventions.

4.1.1 The functions and sub-functions of teaching practices

This section gives a detailed presentation of the different functions of teaching practices and, when applicable, the sub-functions.

4.1.1.1 Presentation of content-related elements

This category is coded "when the teacher presents an element related to the content" (Bocquillon, 2020, p. 588). As shown in Figure 2, this category is subdivided into 2 more specific categories. Thus, the teacher may present the "what"/"how" or the "why/when/where" (Bissonnette, 2018; Hughes et al., 2018).

Figure 2

Categories specifying the "presentation" category
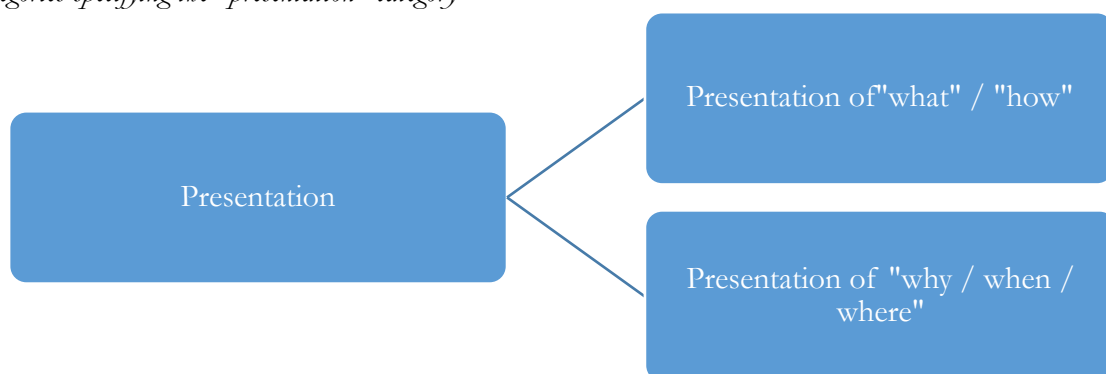
Table 1 shows how the 'Presentation' category (Bocquillon, 2020) has been broken down into different types of presentation in this research, as well as the reference authors and illustrations of these new categories.

Table 1

Reference authors, operational definitions and illustrations of the different types of presentation

Categories and reference authors	Definitions	Illustrations
Presentation of "what" / "when" (Bissonnette, 2018)	This category is coded when the teacher presents knowledge to the students or shows them how to carry out a task (the different steps to go through, the questions to ask, etc.).	"*I'm going to decide that my starting point is here.*" (8 min 34 s, O3[12])
Presentation of "why" (Bissonnette, 2018) / "when" / (Bissonnette, 2018 ; Hughes et al., 2018) / "where" (Bissonnette, 2018)	This category is coded when the teacher presents to the students the reason for carrying out a task / using a piece of knowledge (in particular when he or she justifies the aim of the lesson). It is also coded when the teacher tells them when and/or where to perform a task/use a piece of knowledge.	"*The great thing is that afterwards you can also create figures, any figure you like, let your imagination run wild and then reproduce it on a grid [...].*" (7 min 31 s, O3)

Figure 3 shows how the "Presentation of what/how" category is subdivided into lower-level categories. Thus, when presenting the 'what' or the 'how', the teacher may do so by presenting the objective of the lesson, using examples/counter-examples, highlighting important aspects or presenting 'general content' (these categories, from Bocquillon's (2020) thesis, are defined in Table 2). In addition, each of these presentations may relate to the content of a previous lesson (prior knowledge), the content of the current lesson or the content of the next lesson. Finally, for each presentation, the recipient is coded.

Section 4.1.2 provides detailed operational definitions of categories related to the content and recipient, reference authors and illustrations.

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[12] The extract comes from the third observation (O3) of the research conducted by Baco (2022).

Figure 3

Presentation of how the category "Presentation of what / how" is subdivided into lower-level categories (additional details, type of content, recipient)
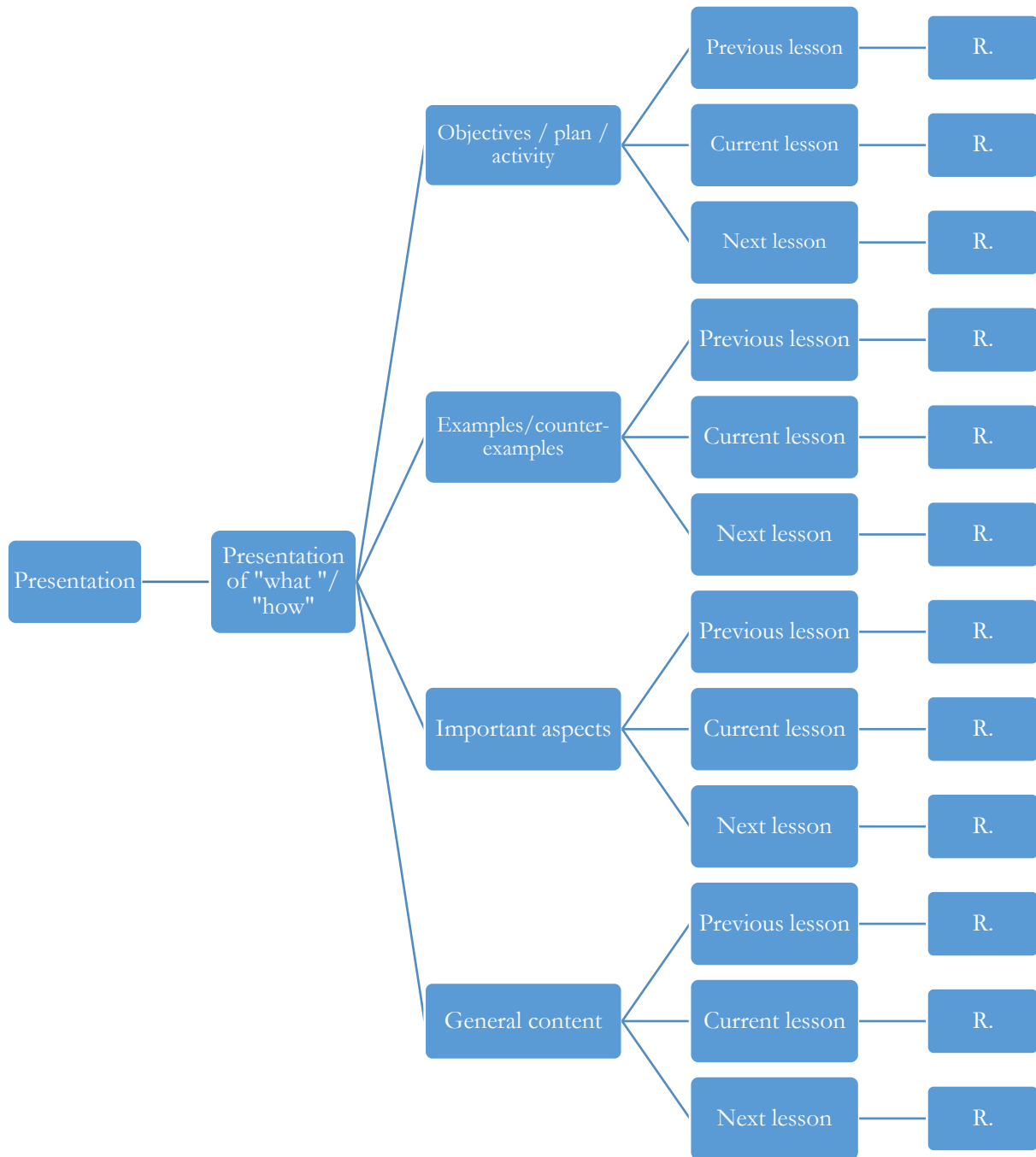
Table 2

Reference authors, operational definitions and illustrations of categories providing further clarification of the category "Presentation of what / how"

Categories and reference authors	Definitions	Illustrations
Objectives / plan / activity (Archer & Hughes, 2011 ; Bocquillon, 2020 ; Gauthier et al., 2013 ; Hammond & Moore, 2018 ; Hollingsworth & Ybarra, 2013 ; Rosenshine & Stevens, 1986 ; Slavin, 2009)	This category is coded when the "presentation of what / how" consists of presenting the lesson objective / plan / activity.	*"Today we're going to learn how to draw a figure on a squared page"* (3 min 28 s, O3)
Examples / counter-examples (Archer & Hughes, 2011 ; Bocquillon, 2020; Gauthier et al., 2013 ; Goeke, 2009 ; Hughes et al., 2018 ; Rosenshine & Stevens, 1986 ; Slavin, 2009)	This category is coded when the "presentation of what / how" is carried out using an example / counter-example.	*"For example, you do this and place the ruler on the bench, but you can see there's a little problem, it's not precise"* (27 min 57 s, O3)
Important aspects (Bocquillon, 2020 ; Bressoux, 1994 ; Gauthier et al., 2013 ; Rosenshine & Stevens, 1986)	This category is coded when the "presentation of what / how" is presented, highlighting important aspects.	*"It's very important [...] the sign that tells me that I'm removing them, that I'm deleting them, that I'm removing them."* (7 min 04 s, O2)
General content (Bocquillon, 2020)	This category is coded when the "presentation of what / how" is carried out by presenting "general content", i.e. without presenting the objective, using an example / counter-example, or highlighting an important aspect.	*"We've seen that there are several kinds of periods that can be indicated at the end of a sentence"* (5 min 9 s, O4)

4.1.1.2 Instructions

This category is coded "when the teacher gives oral instructions related to the content/task". (Bocquillon, 2020, p. 588).

As shown in Figure 4, the "Instructions" category, from Bocquillon's (2020) thesis, has been broken down into 4 categories, which specify the type of instruction.

Figure 4

Categories specifying the "Instructions" category
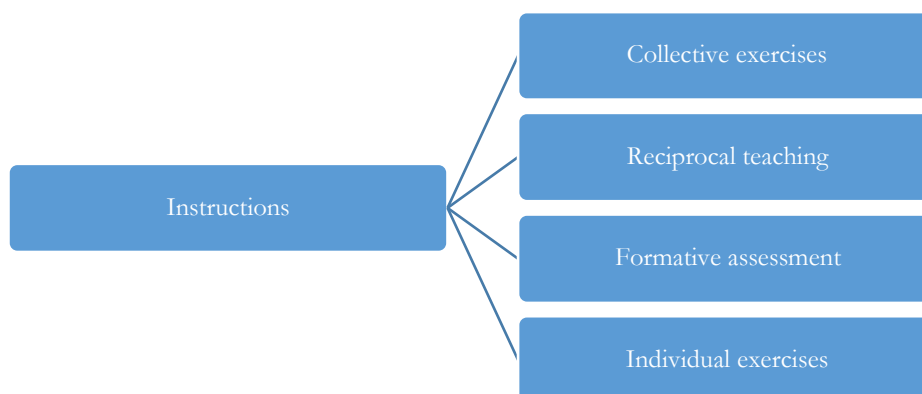
Table 3 shows how the "Instructions" category (Bocquillon, 2020) has been refined into different types of instructions, along with the reference authors and teachers' interventions illustrating each of these new categories.

Table 3

Reference authors, operational definitions and illustrations of different types of instructions

Categories and reference authors	Definitions	Illustrations
Collective exercises (Clarke et al., 2017 ; Rosenshine & Stevens, 1986)	This category is coded when the teacher asks one or more students to perform an exercise in front of the other students.	*"I'm going to designate two students who will come and draw a figure on the blackboard"* (19 min 31 s, O3)
Reciprocal teaching (Bissonnette et al., 2010)	This category is coded when the teacher asks students (or certain students) to pair up for reciprocal teaching.	*"You'll be working in pairs. So, for example, if I take Zoé's group, it's Zoé who does the first calculation, then it's Alizée who does the 2nd calculation, then it's Zoé who does the 3rd, then it's Alizée who does the 4th."* (39 min 14 s, O2)

Categories and reference authors	Definitions	Illustrations
Formative assessment (Bocquillon, 2020 ; Rosenshine & Stevens, 1986)	This category is coded when the teacher provides instructions to one or more students concerning a formative assessment to be carried out.	*"Do this little test individually. When It's done, raise your hand and I'll come over and correct you." (fictitious example, as this category was not coded in this research).*
Individual exercises (Bocquillon, 2020 ; Rosenshine & Stevens, 1986)	This category is coded when the teacher gives instructions to one or more students to carry out exercises individually.	*"You're going to do it all by yourself... This time you don't have to work with the material with your neighbor. You'll have your 5 tokens and she'll have her 5 tokens. And you're going to find me all the calculations you can do with the quantity 5."* (67 min 5 s, O2)

Figure 5 shows, using an example, how each of the instruction types is subdivided into lower-level categories. For example, each of the four types of instruction may relate to the content of a previous lesson (prior knowledge), the content of the current lesson or the content of the next lesson. Finally, for each teacher's intervention, the recipient is coded.

Section 4.1.2 provides detailed operational definitions of these different categories (content type and recipient), reference authors and illustrations.

Figure 5

Presentation of how the "Instructions, collective exercises" category is subdivided into lower-level categories (type of content, recipient)
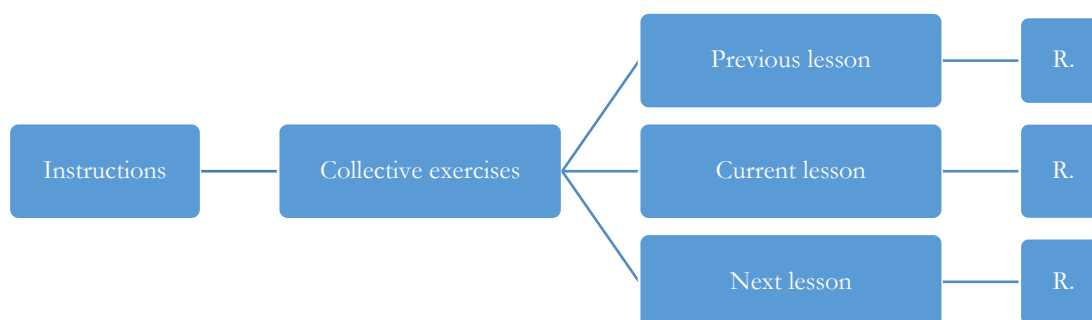
4.1.1.3 Checking for understanding

This category "concerns interventions through which the teacher seeks to make observable the way in which students construct the learning or the students' understanding/experience/thinking process (Bocquillon et al., 2017)" (Bocquillon, 2020, p. 597).

As shown in Figure 6, this category is subdivided into 3 categories that specify the type of checking for understanding (Bocquillon, 2020)[13].

Figure 6

Categories specifying the "Checking for understanding" category
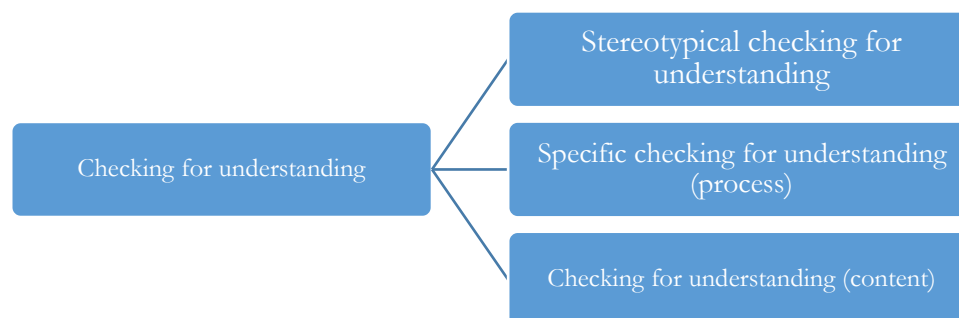
Table 4 presents the reference authors, operational definitions and teachers' interventions illustrating each of these three categories.

Table 4

Reference authors, operational definitions and illustrations of the different types of checking for understanding

Categories and reference authors	Definitions	Illustrations
Stereotypical checking for understanding (Bocquillon, 2020)	*"Checking for understanding are the interventions by which the teacher seeks to check students' understanding. They are of two types: stereotypical or specific (process). A stereotypical checking for understanding does not enable the student to develop his or her response, whereas a specific checking for understanding (process) enables the student to develop his or her response. Stereotypical*	*« Ok ? »* (1 h 52 min 21 s, O4) *« All right »* (7 min 38 s, O2)

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[13] Of the five types of checking for understanding defined by Bocquillon (2020), the MSEI grid focuses on the three categories shown in Figure 6. The other types of checking for understanding defined by Bocquillon (checking for understanding, metacognition and checking for understanding, opinion) have not been retained in the MSEI grid 1) to limit the number of categories in the grid (cf. coding feasibility and software limitations) and 2) because the scientific literature does not specify at which steps of explicit instruction these teaching practices should be observed.

Categories and reference authors	Definitions	Illustrations
	checking for understanding is composed of interventions that aim to check understanding, but which do not really encourage students to express themselves about what they have understood / what they have not understood, and to which they can respond in the affirmative (and sometimes vaguely) even if they have not understood" (Bocquillon, 2020, p. 589).	
Specific checking for understanding (process) (Bocquillon, 2020)	*"Specific checking for understanding (process) aims to check understanding and is more elaborate (e.g., asking a student to rephrase what has been seen, asking a student what he or she has understood...) than stereotypical checking for understanding. It enables students to develop their responses and the teacher to obtain real information on what students have understood / have not understood."* (Bocquillon, 2020, p. 590).	*"And I'd like during this little break for you to finally tell me today what we have learned?"* (1 h 9 min 5 s, O2)
Checking for understanding (content) (Bocquillon, 2020)	*"Checking for understanding (content) […] essentially takes the form of content-related questions. The teacher's aim here is to obtain the "expected answers" linked to the lesson content"* (Bocquillon, 2020, p. 590).	*"I advised you earlier to always start from … ?"* (21 min 41 s, O3)

Figure 7 shows, using an example, how each type of checking for understanding is subdivided into lower-level categories. For example, each of the three types of checking for understanding may relate to the content of a previous lesson (prior knowledge), the content of the current lesson or the content of the next lesson. Finally, for each intervention, the recipient is coded.

Section 4.1.2 provides detailed operational definitions of these different categories (content type and recipient), reference authors and illustrations.

Figure 7

Presentation of how the "stereotypical checking for understanding" category is subdivided into lower-level categories (content type and recipient)
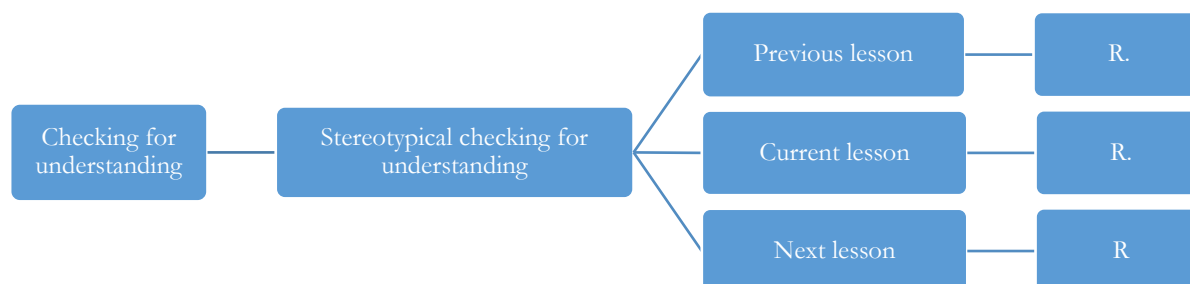
4.1.1.4 Feedback

This category is coded "when the teacher's verbal intervention has a feedback function (Bocquillon, 2020, p. 593). Feedback can be defined as "information provided by an agent (e.g., teacher, peer, book, parent, self, experience) regarding aspects of one's performance or understanding" (Hattie & Timperley, 2007, p. 81). For example, the intervention "Effectively there's a problem with the words" (1 h 52 min 9 s, O4) was coded in the "Feedback" category.

Figure 8 shows, using an example, how the "Feedback" category is subdivided into lower-level categories. Feedback may relate to the content of a previous lesson (prior knowledge), to the content of the current lesson, or to the content of the next lesson. Finally, for each intervention, the recipient is coded.

Section 4.1.2 provides detailed operational definitions of these different categories (content type and recipient), reference authors and illustrations.

Figure 8

Presentation of how the "Feedback" category is subdivided into lower-level categories (content type and recipient)
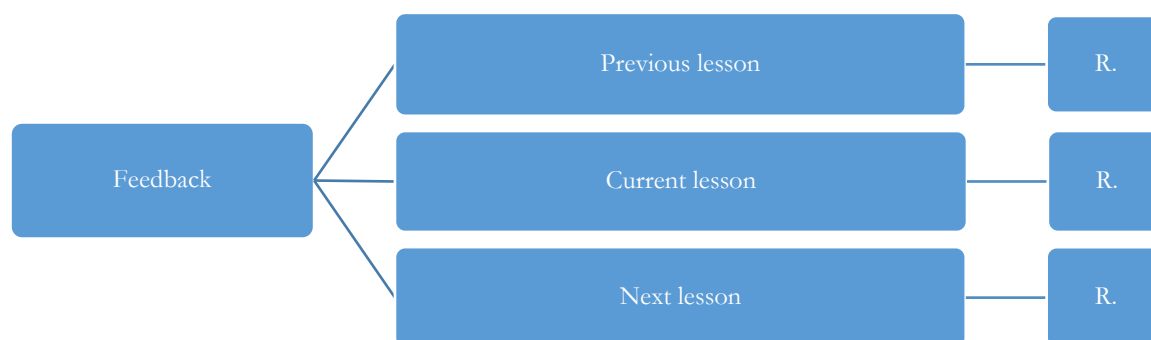
4.1.1.5 Scaffolding

The "Scaffolding" category (Archer & Hughes, 2011; Gauthier et al., 2013; Rosenshine & Stevens, 1986) "is coded when the teacher's verbal intervention consists of providing assistance to the student during learning" (Bocquillon, 2020, p. 595). For example, the following intervention was

coded in the "scaffolding" category: "I can also check by putting my ruler on both points at the same time and say to myself "I'm at the right level"" (19 min 7 s, O3).

As shown in Figure 9, this category is subdivided into lower-level categories (allowing content and recipient to be specified).

Section 4.1.2 provides detailed operational definitions of these different categories (content type and recipient), reference authors and illustrations.

Figure 9

Presentation of how the "Scaffolding" category is subdivided into lower-level categories (content type and recipient).
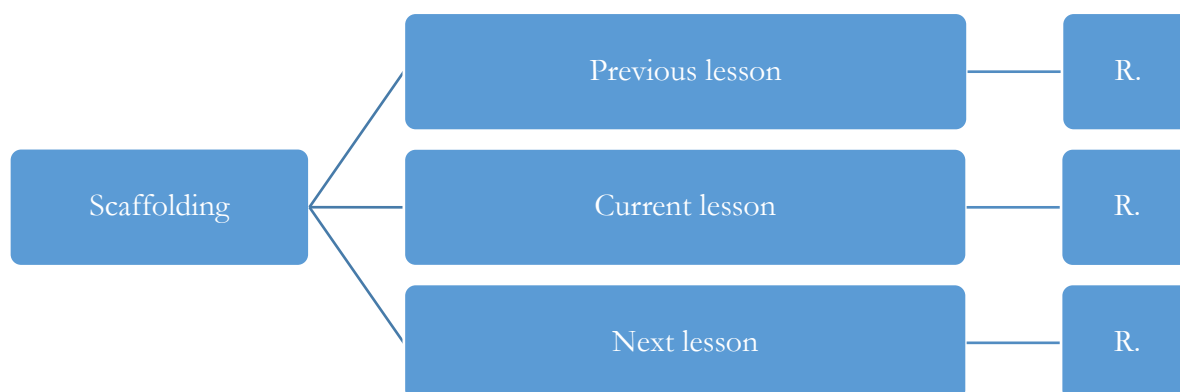
4.1.1.6 Getting students' attention

The category related to "Getting students' attention" (Archer & Hughes, 2011; Bocquillon, Derobertmasure & Demeuse, 2020; Gauthier et al., 2013; Hollingsworth & Ybarra, 2013; Rosenshine & Stevens, 1986) "is coded when the teacher's intervention is aimed at getting students' attention" (Bocquillon, Derobertmasure & Demeuse, 2020, p. 16). For example, the intervention "I rang the bell you know that means that something important is about to happen so you have to listen" (49 s, O2) was coded in the "getting students attention" category.

The "getting students' attention" category is specified by lower-level categories that code the recipient of the teacher's intervention (see section 4.1.2.2).

4.1.1.7 Managing students' participation

The category related to "managing students' participation" (Gauthier et al., 2013; Hollingsworth & Ybarra, 2013; Rosenshine & Stevens, 1986) "is coded when the teacher designates which student(s) must carry out a task (e.g., write on the board, read aloud, respond to a teacher prompt...)" (Bocquillon, 2020, p. 586). For example, the "Lucas" intervention (21 min, O3) (implemented by the teacher to tell Lucas that he should answer the question) was coded in the "managing students' participation" category.

For each "managing students' participation" intervention, the recipient of the intervention is coded (see section 4.1.2.2).

4.1.1.8 Other classroom management interventions

This category is coded when the teacher's intervention has a classroom management function (different from "getting students' attention" and "managing students' participation"). For example, the intervention "Zoé, stop playing with your equipment" (15 s, O3) was coded in the "other classroom management interventions" category.

As this research concerns learning management and not classroom management, this category is intended to be relatively broad, to a) enable the observer to focus on categories related to learning management b) still allow him/her to know the number of interventions in a lesson devoted to learning management on the one hand, and classroom management on the other.

Although they are part of the family of teaching practices linked to classroom management, the teaching practices "getting students' attention" and "managing students' participation" are coded using specific categories in this research, as they are characteristic of certain steps of explicit instruction.

4.1.1.9 Silence

This category is coded when the teacher does not speak[14].

4.1.1.10 The "inaudible" category

This category is coded "when the teacher's verbal intervention is inaudible" (Bocquillon, 2020, p. 594).

4.1.1.11 The "other" category

This category is coded when the teacher's verbal intervention fulfills none of the above functions, and therefore cannot be coded in any of the above categories.

4.1.2 Groups of categories used for further clarification

4.1.2.1 The group of categories used to specify the type of content (prior knowledge, current lesson, next lesson)

As presented in the previous sections, the various types of presentation, checking for understanding, instructions, feedback and scaffolding interventions are subdivided into lower-level categories developed as part of this research, making it possible to specify the type of content to which the teacher's intervention relates: the content of a previous lesson (prior knowledge), the content of the current lesson or the content of the next lesson. This distinction is important, because each lesson observed is part of a sequence of lessons, and during an explicit instruction lesson, the teacher reviews prior knowledge at the start of a lesson and announces the next lesson at the end. Table 5 presents the reference authors, operational definitions and illustrations of these categories.

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[14] Although silences can have a function (Bocquillon, Derobertmasure & Demeuse, 2020) (e.g., to signal to a student that he or she needs to get back to work), the functions of silences are not observed in this research, as this is a research topic itself (few studies have been carried out on the subject) and does not meet the objectives of this research (the literature review carried out does not allow us to take a position on the "types of silences" that should be used during the different steps of explicit instruction).

Table 5

Reference authors, operational definitions and illustrations of the categories used to specify the type of content covered by the teacher's verbal intervention

Categories and reference authors	Definitions	Illustrations
Prior knowledge / previous lesson (Archer & Hughes, 2011 ; De Jager et al., 2002 ; Gauthier et al., 2013 ; Hammond & Moore, 2018 ; Hollingsworth & Ybarra, 2013 ; Rosenshine & Stevens, 1986)	This category is coded when the intervention of presentation/ checking for understanding/ feedback/ scaffolding / instructions relates to the content of a previous lesson (prior knowledge).	Example of a presentation focusing on prior knowledge: "How to draw with a ruler, we've already learned." (3 min 26 s, O3) Example of checking for understanding, prior knowledge: "Do you remember when we worked in a grid?" (8 min 8, O3)
Current lesson	This category is coded when the intervention of presentation/ checking for understanding/ feedback/ scaffolding / instructions relates to the content of the current lesson.	Example of feedback on the content of the lesson in progress: "Looks like it's going well, girls." (43 min 11 s, O3) Example of instructions relating to the lesson in progress: "You're now going to work in pairs. How are we going to work in pairs? [...] You're going to have a sheet like this with a figure, a configuration, a figure on the first side and one on the second side. So there are 2 to do. You'll be given one sheet per group. That means we'll have to work in pairs [...]." (34 min 16, O3)
Next lesson (Gauthier et al., 2013)	This category is coded when the intervention of presentation/ checking for understanding/ feedback/ scaffolding / instructions relates to the content of the next lesson.	Example of a presentation on the content of the next lesson: "Unfortunately this we won't have time to do, it will be for Friday, as we already have a lot planned." (1 h 52 min 34 s, O4)

4.1.2.2 The group of categories used to specify the recipient of the teacher's verbal intervention

As mentioned in the previous sections, for most categories, the last level of the observation grid allows to code the recipient of the teacher's verbal intervention. Table 6 presents the reference authors, operational definitions, and illustrations for these categories.

Table 6

Reference authors, operational definitions and illustrations of the categories used to specify the recipient of the teacher's verbal intervention

Categories and reference authors	Definitions	Illustrations
Whole class (De Jager et al., 2002)	This category is coded when the teacher's verbal intervention is addressed to the whole class.	"Are we ready? To listen?" (addressing the whole class) (10 s, O3)
Group of students (De Jager et al., 2002) / binôme	This category is coded when the teacher's verbal intervention is addressed to a group of more than two students or to a pair of students (group of two students).	*"Looks like you're doing well, girls" (addressing a pair) (43 min 11 s, O3)*
Particular student (De Jager et al., 2002) (public)	This category is coded when the teacher's verbal intervention is addressed to a specific student and is delivered in a "public manner" (audible to the whole class).	"Zoé, stop playing with the equipment" (addressing a specific student in public) (15 s, O3)
Private student (De Jager et al., 2002) (in private)	This category is coded when the teacher's verbal intervention is addressed to a specific student and is delivered in private.	"So, what did you do?" (addressing a particular student in private) (46 min 2 s, O2)

4.2 Content-related student answers

As shown in Figure 10, students' content-related answers[15] are coded using three categories from Bocquillon's (2020) thesis. Bocquillon's (2020) "collective answer" category was also refined using Kretlow and colleagues' (2011) observation grid.

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[15] In this research, only student interventions related to lesson content are coded. Student interventions relating to other aspects (e.g. classroom management) are not coded, as this is not necessary to answer the research questions.

Figure 10

Categories for coding content-related student responses
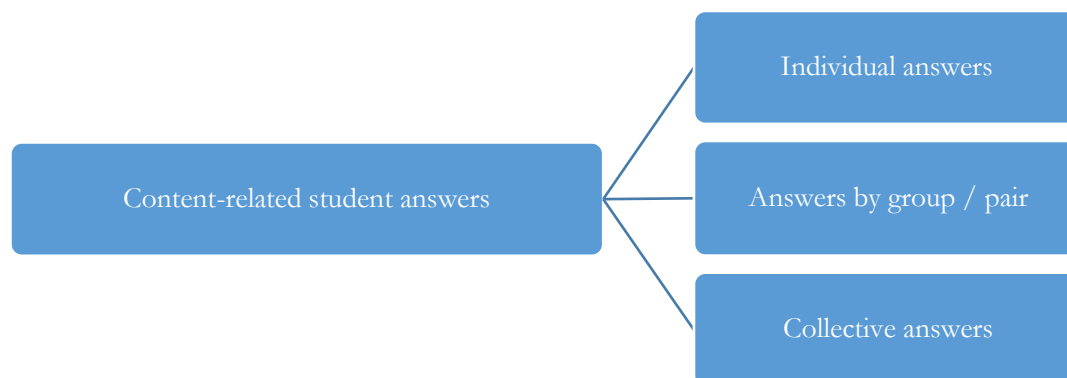
Table 7 presents the reference authors, operational definitions, and illustrations of these categories.

Tableau 7

Reference authors and operational definitions of the categories used to code students' content-related answers

Categories and reference authors	Definitions
Individual answers (Bocquillon, 2020 ; Gauthier et al., 2013 ; Hollingsworth & Ybarra, 2013 ; Rosenshine & Stevens, 1986)	"Individual answers are coded when a student provides an individual answer following a teacher prompt (a question or other form of intervention designed to check for understanding)" (Bocquillon, 2020, p. 597)
Answer by group / pair (Archer & Hughes, 2011 ; Bocquillon, 2020; Rosenshine & Stevens, 1986)	Group/pair answers are coded when students provide an answer in groups of more than two students (groups) or in pairs (pairs). To do this, they must first share their answers and then provide a common answer.
Collective answers (Bocquillon, 2020; Kretlow et al., 2011; Rosenshine & Stevens, 1986)	"Collective answers are coded when students provide an answer "in chorus"" (Bocquillon, 2020, p. 597). A variation on collective responses is to ask students to write their answer on a slate and show the slates all together at the teacher's signal. Preprinted cards can also be used (Kretlow et al., 2011).

As shown in Figure 11, the "individual answer" category is subdivided into seven lower-level categories. The first six are taken from Bocquillon's (2020) thesis. The seventh was added as part of this research.

In addition, in this research, this classification is also used to more accurately code response types by group/pair, which was not the case in Bocquillon's (2020) thesis.

Figure 11

Categories for coding individual and group/pair responses

Table 8 presents the operational definitions and reference authors for each of the categories, enabling us to specify the types of individual response and the types of response by group/pair.

Table 8

Reference authors and operational definitions of the categories used to code individual response types and group/pair response types

Categories and reference authors	Definitions
Individual answer / group / pair answer provided by a student / group / pair not designated	This category is coded when the student/group/pair responding "has not been designated, because the teacher has solicited the students without designating who should respond" (Bocquillon, 2020, p. 599).
Individual answer / answer by group / pair provided by a student / group / pair chosen among the volunteers	This category is coded when the student/group/pair responding "has been designated among the volunteers" (Bocquillon, 2020, p. 599).
Individual answer / group / pair answer provided by a student / group / pair designated among the non-volunteers (Gauthier et al., 2013 ; Hollingsworth & Ybarra, 2013 ; Rosenshine & Stevens, 1986)	This category is coded when the student/group/pair responding "has been designated as a non-volunteer" (Bocquillon, 2020, p. 599).
Individual answer / group / pair answer provided by a student / group / pair designated with an explicit random designation system (Gauthier et al., 2013; Hollingsworth & Ybarra, 2013 ; Rosenshine& Stevens, 1986)	This category is coded when the student/group/pair responding "has been designated with a random designation system explained to the students (e.g.: drawing the student's first name at random from cards on which first names are written)")" (Bocquillon, 2020, p. 599).
Individual answer / group / pair answer provided by a student / group / pair who has been designated by another mean to designate students	This category is coded when the student/group/pair responding "has been designated by another mean to designate students (e.g. turn-taking responses)" (Bocquillon, 2020, p. 599).

Categories and reference authors	Definitions
Continuing the exchange (Bocquillon, 2020)	This category is coded when the student/group/pair who answers "is the one who answered just before" (Bocquillon, 2020, p. 599).
Undetermined	This category is coded when it is impossible to determine whether the student/group/pair responding was designated as a volunteer or non-volunteer, because the student/group/pair is not visible on the video.

As shown in Figure 12, in this research, the "collective response" category is subdivided into two lower-level categories.

Figure 12
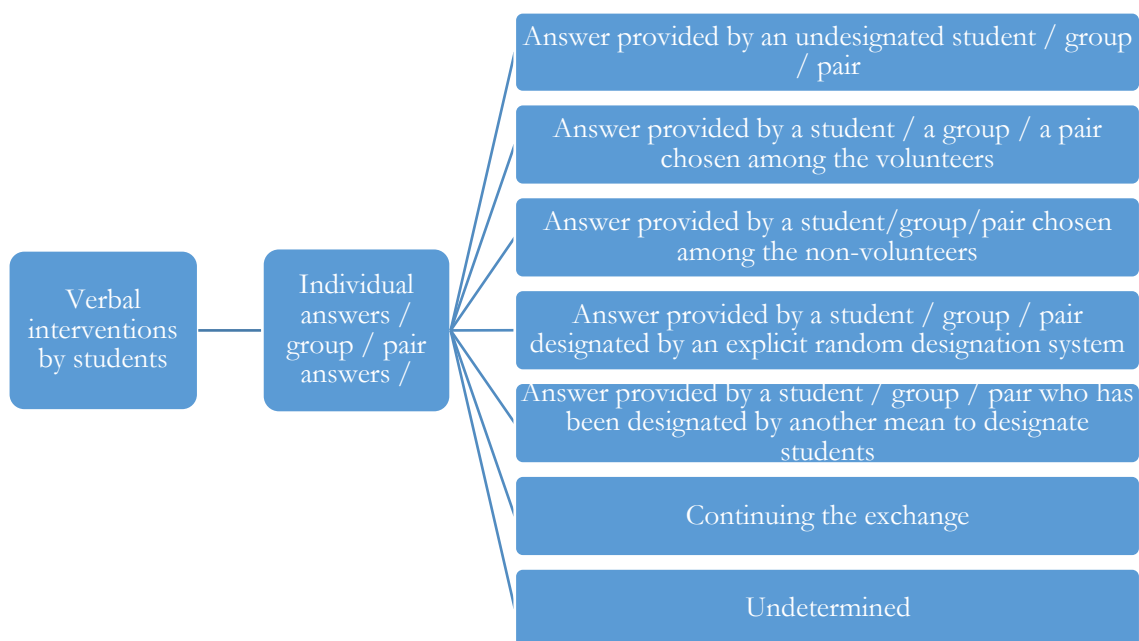
Categories used to code the type of collective response
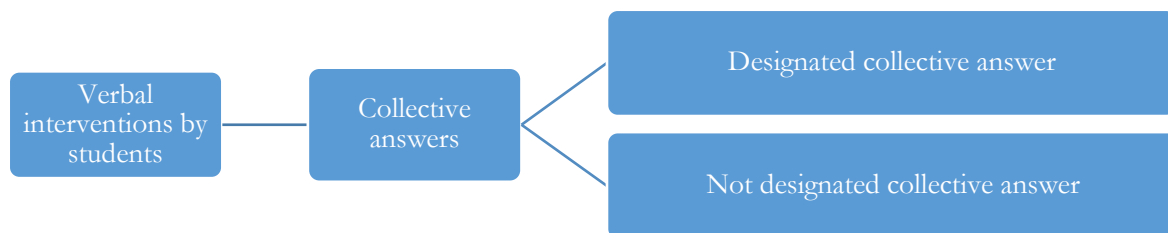
Table 9 presents the operational definitions and reference authors for each of the categories used to specify the types of collective response.

Table 9

Reference authors and operational definitions of the categories used to code collective response types

Categories and reference authors	Definitions
Designated collective answer (Bocquillon, 2020; Rosenshine & Stevens, 1986)	Designated collective answers are coded "when students provide a response 'in chorus'" (Bocquillon, 2020, p. 597) after the teacher has given them the signal to all respond at the same time.
Not designated collective answer	Collective answers that have not been designated are coded "when the students provide an answer 'in chorus'" (Bocquillon, 2020, p. 597), whereas the teacher has not solicited such an answer (and has therefore asked his or her question without designating who should respond)

5. Overview of the correspondence table between the MSEI grid categories and the steps of explicit instruction

As mentioned in section 2, in order to determine whether teachers are implementing explicit instruction (or not), it is necessary not only to observe whether they are implementing teaching practices, but also to determine whether these teaching practices are implemented "at the right time" (during the right step) of the lesson. For this reason, a table has been created showing how the categories of the MSEI grid correspond to each of the steps of explicit instruction. Metaphorically speaking, the categories of the MSEI grid can be seen as the "bricks" that build the "walls" that are the steps of explicit instruction.

The correspondence table contains 59 entries. For each of the 59 teaching practices, an explanatory text, supported by the scientific literature, justifies the correspondence table and presents, at the same time, when a teaching practice should / could / should not be observed during each step of an explicit instruction lesson. The correspondence table and accompanying text thus model explicit instruction and its iterative[16] nature (Bocquillon, Derobertmasure, & Demeuse, 2021), and in

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[16] The iterative nature of the model means that we can return to an earlier step (e.g., from guided practice to modeling) depending on the difficulties experienced by one or more students. To find out more about the iterative nature of explicit instruction, interested readers can consult the writings of Bocquillon (2020) or Bocquillon, Derobertmasure & Demeuse (2021).

particular enable us to observe whether teaching practices are implemented at the right time by the teacher (during the right step).

This correspondence table indicates, for each category (teaching practice) of the MSEI grid, whether it :

- should, according to the scientific literature, be observed during the step in question, for the lesson to conform to the explicit instruction model (+ sign in the table) ;

- could, according to the scientific literature, be observed during the step in question, if it's appropriate in the situation (= sign in the table). As the following text shows, most of these = signs in the table are justified by the iterative nature of the explicit instruction model (Bocquillon, Derobertmasure & Demeuse, 2021; Kohler et al., 1997);

- should not, according to the scientific literature, be observed at the step in question, for the lesson to conform to the explicit instruction model (sign 0 in the table).

This table can therefore be read "in rows", allowing us to know, for each teaching practice, during which step of explicit instruction it should / could / should not be observed for the lesson to conform to the explicit instruction model. It can also be read "in columns", allowing us to know, for each step, all the teaching practices that should / could / should not be observed for the lesson to be qualified as an explicit instruction lesson. This makes it possible to identify in the sequence of coded teaching practices whether explicit instruction steps have been implemented, and which teaching practices may be missing or used at a time that does not correspond to the step identified.

Thus, with regard to Table 10 (extract from the full table), a piece of knowledge (the "what") or know-how (the "how") and more specifically the objective of the lesson in progress (reference 2 in the table) should be presented to the whole class at the opening of the lesson (Archer & Hughes, 2011; Gauthier et al., 2013; Hollingsworth & Ybarra, 2013; Rosenshine & Stevens, 1986). This presentation of the objective could be mobilized by the teacher, if necessary, at any point in the lesson due to the iterative nature of the explicit instruction model (Bocquillon, 2020; Bocquillon et al., 2021; Kohler et al., 1997; Rosenshine & Stevens, 1986). For example, during the modeling, guided practice, independent practice and closing steps (during which the teacher checks the understanding of the students about what has been learned), students / some students may experience difficulties indicating to the teacher that they have not fully understood the objective of the lesson, requiring the teacher to teach them again.

The presentation of knowledge (the "what") / know-how (the "how") and, more specifically, an example / counter-example (5) / an important aspect (8) / general content (11) relating to the lesson in progress should not be carried out during the opening of the lesson, which is devoted in particular to the presentation of objectives and a reminder of prior knowledge (Archer & Hughes, 2011; Gauthier et al., 2013; Hollingsworth & Ybarra, 2013; Rosenshine & Stevens, 1986). It should be mobilized during modeling, when the teacher is expected to present the general content of the lesson in progress (Gauthier et al., 2013), as well as examples and counter-examples (Archer & Hughes, 2011; Gauthier et al., 2013; Hughes et al., 2018) and highlight important aspects (Bocquillon, 2020; Gauthier et al., 2013; Rosenshine & Stevens, 1986). Because of the iterative nature of the explicit instruction model (Bocquillon, 2020; Bocquillon et al., 2021; Kohler et al., 1997; Rosenshine & Stevens, 1986), it could be mobilized in subsequent steps if necessary. For

example, during the guided practice, independent practice or closing stages, students / some students may experience difficulties indicating to the teacher that they have not fully understood certain parts of the lesson, requiring the teacher to teach them again.

Table 10

Extract from the table showing the correspondence between the categories of the MSEI grid and each of the steps of explicit instruction

Ref	Function	Sub-function	Further clarification	Type of content	O	M	GP	IP	C
2	Presentation	of"what" / "how"	Objective	Current lesson	+	=	=	=	=
5	Presentation	of"what" / "how"	Examples / counter-examples	Current lesson	0	+	=	=	=
8	Presentation	of"what" / "how"	Important aspects	Current lesson	0	+	=	=	=
11	Presentation	of"what" / "how"	General content	Current lesson	0	+	=	=	=
Caption : O = Opening / M = Modeling/ GP = Guided practice / IP = Independent practice / C = Closing the lesson									

6. Detailed presentation of the correspondence table between the MSEI grid categories and the steps of explicit instruction

This section presents in detail the complete correspondence table between the MSEI grid categories and the steps of explicit instruction.

The complete table, available in section 6.10, is presented in several parts in the following sections. These different parts are structured according to teaching practices and the different types of content mobilized (previous lesson (prior knowledge), current lesson and next lesson). This distinction is important, as each lesson observed is part of a sequence of lessons, and explicit instruction recommends that prior knowledge be reviewed at the start of a lesson, and that the next lesson be announced at the end.

6.1 Presentation

6.1.1 Presentation of what" / "how"

6.1.1.1 Presentation of "what » / "how" about the previous lesson

As shown in Table 11, the presentation of knowledge ("what") or know-how ("how") from a previous lesson ("prior knowledge"), and in particular the objective (1)/an example/counter-

example (4)/an important aspect (7)/general content (10), could be mobilized by the teacher, if necessary (e.g., if the students/some students find it difficult to respond to the teacher's interventions of checking for understanding, and therefore need a reminder from the teacher), at any time during the lesson, due to the iterative nature of the explicit instruction model (Bocquillon, 2020; Bocquillon et al., 2021; Kohler et al., 1997; Rosenshine & Stevens, 1986).

Table 11

Correspondence table between the presentation of the "what" / "how" categories about the previous lesson ("prior knowledge") and each step of explicit instruction

Ref	Function	Sub-function	Further clarification	Type of content	O	M	GP	IP	C
1	Presentation	of"what" / "how"	Objective	Prior knowledge	=	=	=	=	=
4	Presentation	of"what" / "how"	Examples / counter-examples	Prior knowledge	=	=	=	=	=
7	Presentation	of"what" / "how"	Important aspects	Prior knowledge	=	=	=	=	=
10	Presentation	of"what" / "how"	General content	Prior knowledge	=	=	=	=	=
Caption : O = Opening / M = Modeling/ GP = Guided practice / IP = Independent practice / C = Closing the lesson									

6.1.1.2 Presentation of "what » / "how" about the current lesson

As shown in Table 12, a piece of knowledge (the "what") or know-how (the "how"), and more specifically the objective of the lesson (2) in progress, should be presented to the whole class at the opening of the lesson (Archer & Hughes, 2011; Gauthier et al., 2013; Hollingsworth & Ybarra, 2013; Rosenshine & Stevens, 1986). This presentation of the objective could be mobilized by the teacher, if necessary, at any point in the lesson due to the iterative nature of the explicit instruction model (Bocquillon, 2020; Bocquillon et al., 2021; Kohler et al., 1997; Rosenshine & Stevens, 1986). For example, during the modeling, guided practice, independent practice or closing steps, students / some students may experience difficulties indicating to the teacher that they have not fully understood the objective of the lesson, requiring the teacher to teach them again.

The presentation of knowledge (the "what") / know-how (the "how") and, more specifically, an example / counter-example (5) / an important aspect (8) / general content (11) relating to the lesson in progress should not be carried out at the opening of the lesson, which is devoted in particular to presenting objectives and recalling prior knowledge (Archer & Hughes, 2011; Gauthier et al., 2013; Hollingsworth & Ybarra, 2013; Rosenshine & Stevens, 1986). It should be mobilized during modeling, when the teacher is expected to present the general content of the lesson in

progress (Gauthier et al., 2013), as well as examples and counter-examples (Archer & Hughes, 2011; Gauthier et al., 2013; Hughes et al., 2018) and highlight important aspects (Bocquillon, 2020; Gauthier et al., 2013; Rosenshine & Stevens, 1986) to the whole class. It could be mobilized in subsequent steps if necessary, due to the iterative nature of the explicit instruction model (Bocquillon, 2020; Bocquillon et al., 2021; Kohler et al., 1997; Rosenshine & Stevens, 1986). For example, during the guided practice, independent practice or closing steps, students / certain students may experience difficulties indicating to the teacher that they have not fully understood certain parts of the lesson, requiring the teacher to teach them again.

Table 12

Correspondence table between the presentation of the "what" / "how" categories about the current lesson and each step of explicit instruction

Ref	Function	Sub-function	Further clarification	Type of content	O	M	GP	IP	C
2	Presentation	of"what" / "how"	Objective	Current lesson	+	=	=	=	=
5	Presentation	of"what" / "how"	Examples / counter-examples	Current lesson	0	+	=	=	=
8	Presentation	of"what" / "how"	Important aspects	Current lesson	0	+	=	=	=
11	Presentation	of"what" / "how"	General content	Current lesson	0	+	=	=	=
Caption : O = Opening / M = Modeling/ GP = Guided practice / IP = Independent practice / C = Closing the lesson									

6.1.1.3 Presentation of "what » / "how" about the next lesson

As shown in Table 13, a piece of knowledge (the "what") or know-how (the "how"), and more specifically the objective of the next lesson (3), should be presented to the whole class during the closing of the lesson, to announce the next lesson (Archer & Hughes, 2011; Gauthier et al., 2013). This presentation could be mobilized during the previous steps, if necessary (for example, if a student asks a question to be answered in the next lesson).

The presentation of knowledge (of the "what") or know-how (of the "how") and more specifically of an example / counter-example (6) / important aspect (9) / general content (12) relating to the next lesson could be mobilized during the closing of the lesson when the teacher announces the next lesson (Archer & Hughes, 2011; Gauthier et al., 2013) (e.g., the teacher does not just announce the objective of the next lesson, but presents the next lesson in a little more detail, already mobilizing an example/counter-example/important aspect/general content). It should not be used in the preceding steps, which focus on the content of previous lessons (opening) and the current lesson (modeling, guided practice and independent practice).

Table 13

Correspondence table between the presentation of the "what" / "how" categories about the next lesson and each step of explicit instruction

Ref	Function	Sub-function	Further clarification	Type of content	O	M	GP	IP	C
3	Presentation	of"what" / "how"	Objective	Next lesson	=	=	=	=	+
6	Presentation	of"what" / "how"	Examples / counter-examples	Next lesson	0	0	0	0	=
9	Presentation	of"what" / "how"	Important aspects	Next lesson	0	0	0	0	=
12	Presentation	of"what" / "how"	General content	Next lesson	0	0	0	0	=
Caption : O = Opening / M = Modeling/ GP = Guided practice / IP = Independent practice / C = Closing the lesson									

6.1.2 Presentation of "why" / "when" / "where"

As shown in Table 14, the presentation of the reason (the "why") about the previous lesson (prior knowledge) or the time (the "when") or place (the "where") to use what was learned in the previous lesson (13) could be mobilized, if necessary, at any step of the lesson (e.g. if the students / certain students have difficulty responding to the teacher's checking for understanding interventions and therefore need the teacher to remind them of the previous lesson).

The purpose of the lesson (the "why") or the time (the "when") or place (the "where") to use what is learned in the current lesson (14) should be presented to the whole class at the opening of the lesson (Archer & Hughes, 2011; Gauthier et al., 2013; Hollingsworth & Ybarra, 2013; Rosenshine & Stevens, 1986). It should also be presented during modeling when the teacher performs a demonstration to the students involving presenting the "what", the "how", but also the "why", the "when" and the "where" (Bissonnette, 2018). This presentation of the "why"/"when"/"where" could be mobilized in subsequent steps, if necessary, due to the iterative nature of the explicit instruction model (Bocquillon, 2020; Bocquillon et al., 2021; Kohler et al., 1997; Rosenshine & Stevens, 1986). For example, during the guided practice, independent practice or closing steps, students / some students may experience difficulties indicating to the teacher that they have not fully understood the "why", "when" or "where" to use what has been learned during the lesson, requiring the teacher to teach them again.

The purpose of the lesson (the "why"), or the time (the "when") or place (the "where") to use what will be learned in the next lesson (15), could be presented by the teacher at the closing, when announcing the next lesson. This presentation of the "why" / "when" / "where" should not be mobilized during the preceding steps, which focus on the content of the current lesson (opening, modeling, guided practice, independent practice) and the previous lesson (opening).

Table 14

Correspondence table between the presentation of the "why" / "when" / "where" categories and each step of explicit instruction

Ref	Function	Sub-function	Type of content	O	M	GP	IP	C
13	Presentation	of"why" / "when" / "where"	Prior knowledge	=	=	=	=	=
14	Presentation	of"why" / "when" / "where"	Current lesson	+	+	=	=	=
15	Presentation	of"why" / "when" / "where"	Next lesson	0	0	0	0	=
Caption : O = Opening / M = Modeling/ GP = Guided practice / IP = Independent practice / C = Closing the lesson								

6.2 Instructions

6.2.1 Instructions about the previous lesson (prior knowledge)

As shown in Table 15, instructions requiring one or more students to carry out an exercise on prior knowledge in front of the other students ("group exercise instructions") (16) could be used at any step. For example, at any step, the teacher might, following an intervention of checking for understanding, realize that the students have not mastered the prior knowledge required for the new learning to be carried out, and so ask a student to carry out an exercise on this subject on the blackboard.

Instructions asking students (or some students) to pair up for reciprocal teaching ("reciprocal teaching instructions") about the previous lesson (prior knowledge) (19) should not be observed, as reciprocal teaching is supposed to take place during guided practice (Bissonnette et al., 2010) about what has been learned in the current lesson.

Instructions inviting students to complete a formative assessment of the previous lesson ("prior knowledge") (22) could be observed during the opening phase if the teacher has decided to check students' prior knowledge with a test. They should not be observed during the subsequent steps, which are more focused on the content of the current lesson (modeling, guided practice, independent practice, closing) and the content of the next lesson (closing).

The same applies to instructions inviting students to complete individual exercises ("individual exercise instructions") relating to prior knowledge (25): these could be observed during the opening step if the teacher has decided to check students' prior knowledge with individual exercises. These instructions should not be observed during the following steps, which are more focused on the content of the current lesson (modeling, guided practice, independent practice, closing) and the content of the next lesson (closing).

Table 15

Correspondence table between "instructions" categories relating to the previous lesson (prior knowledge) and each stage of explicit instruction

Ref	Function	Sub-function	Type of content	O	M	GP	IP	C
16	Instructions	Collective exercises	Prior knowledge	=	=	=	=	=
19	Instructions	Reciprocal teaching	Prior knowledge	0	0	0	0	0
22	Instructions	Formative assessment	Prior knowledge	=	0	0	0	0
25	Instructions	Individual exercises	Prior knowledge	=	0	0	0	0
Caption : O = Opening / M = Modeling/ GP = Guided practice / IP = Independent practice / C = Closing the lesson								

6.2.2 Instructions about the current lesson

As shown in Table 16, instructions requiring one or more students to carry out an exercise about the current lesson in front of other students ("collective exercise instructions") (17) should be mobilized during guided practice, as this is one of the modalities that guided practice can take (Clarke et al., 2017; Rosenshine & Stevens, 1986). They should not be mobilized during the preceding steps, which focus on prior knowledge (opening) and the teacher's demonstration of the task to be performed (modeling). They could be mobilized during independent practice in the event of difficulties experienced by one or more students, which would constitute a form of return to guided practice, again illustrating the iterative nature of the explicit instruction model (Bocquillon, 2020; Bocquillon et al., 2021; Kohler et al., 1997; Rosenshine & Stevens, 1986). They should not be mobilized at the end of the lesson, which focuses on reviewing critical content and announcing the next lesson (Archer & Hughes, 2011; Gauthier et al., 2013).

Instructions asking students (or certain students) to pair up for reciprocal teaching ("reciprocal teaching instructions") on the lesson in progress (20) should be observed during guided practice, as this is one of the modalities that guided practice can take (Bissonnette et al., 2010). They could be observed during independent practice if students are experiencing difficulties and the teacher asks them to return to reciprocal teaching, which would constitute a form of return to guided practice, again illustrating the iterative nature of the explicit instruction model (Bocquillon, 2020; Bocquillon et al., 2021; Kohler et al., 1997; Rosenshine & Stevens, 1986). They should not be observed during the steps preceding guided practice, which focus in particular on the review of

prior knowledge (opening) and the teacher's demonstration of the task (modeling). Nor should they be mobilized during the closing phase of the lesson, which focuses on reviewing critical content and announcing the next lesson (Archer & Hughes, 2011; Gauthier et al., 2013).

Instructions inviting students to carry out a formative assessment about the lesson in progress (23) should be observed during guided practice, as it is necessary to ensure that each student has an 80% rate of correct answers before inviting them to carry out independent practice (Bocquillon, 2020; Rosenshine & Stevens, 1986). They should not be observed during the preceding steps, which focus in particular on the verification of prior knowledge (opening) and the teacher's demonstration of the task (modeling). Nor should they be observed during the subsequent steps, which are conditioned by formative assessment during guided practice.

Instructions inviting students to carry out exercises relating to the lesson in progress individually ("individual exercise instructions") (26) should be observed during independent practice, which is designed to enable students to practice individually (Bocquillon, 2020; Rosenshine & Stevens, 1986). They should not be observed during the preceding steps, as it is only when the student obtains 80% correct answers at the end of guided practice that he or she can realize independent practice (Bocquillon, 2020; Rosenshine & Stevens, 1986). They could be mobilized during the closing of the lesson devoted in particular to further practice (Archer & Hughes, 2011; Gauthier et al., 2013).

Table 16

Correspondence table between the "instructions" categories about the lesson in progress and each of the steps of explicit instruction

Ref	Function	Sub-function	Type of content	O	M	GP	IP	C
17	Instructions	Collective exercises	Current lesson	0	0	+	=	0
20	Instructions	Reciprocal teaching	Current lesson	0	0	+	=	0
23	Instructions	Formative assessment	Current lesson	0	0	+	0	0
26	Instructions	Individual exercises	Current lesson	0	0	0	+	=
Caption : O = Opening / M = Modeling/ GP = Guided practice / IP = Independent practice / C = Closing the lesson								

6.2.3 Instructions about the next lesson

As shown in Table 17, the different types of instructions relating to the next lesson (18; 21; 24; 27) should not be implemented, as the lesson is supposed to end with the announcement of the next lesson (Archer & Hughes, 2011; Gauthier et al., 2013).

Table 17

Correspondence table between the "instructions" categories about the next lesson and each of the steps of explicit instruction

Ref	Function	Sub-function	Type of content	O	M	GP	IP	C
18	Instructions	Collective exercises	Next lesson	0	0	0	0	0
21	Instructions	Reciprocal teaching	Next lesson	0	0	0	0	0
24	Instructions	Formative assessment	Next lesson	0	0	0	0	0
27	Instructions	Individual exercises	Next lesson	0	0	0	0	0
Caption : O = Opening / M = Modeling/ GP = Guided practice / IP = Independent practice / C = Closing the lesson								

6.3 Checking for understanding

6.3.1 Interventions to check understanding of the previous lesson

As shown in Table 18, interventions aimed at checking understanding of the previous lesson (28), but which do not allow students to develop their responses ("stereotypical checking for understanding") should not be observed at any step, as they do not really check students' understanding (Bocquillon, 2020; Gauthier et al., 2013; Hollingsworth & Ybarra, 2013; Rosenshine & Stevens, 1986).

Interventions of "specific checking for understanding (process)" and interventions of checking for understanding (content), when they relate to the content of a previous lesson (prior knowledge) (31 and 34), should be observed at the opening of the lesson, one of whose functions is precisely to check students' prior knowledge (Archer & Hughes, 2011; Gauthier et al., 2013; Hollingsworth & Ybarra, 2013; Rosenshine & Stevens, 1986). These interventions could also be observed, if it's necessary, during subsequent steps of the lesson. For example, if students / some students are having difficulty completing a task due to a lack of mastery of prior knowledge, the teacher can check understanding about prior knowledge.

Table 18

Correspondence table between the "checking for understanding" categories relating to the previous lesson (prior knowledge) and each of the steps of explicit instruction

Ref	Function	Sub-function	Type of content	O	M	GP	IP	C
28	Checking for understanding	Stereotypical checking for understanding	Prior knowledge	0	0	0	0	0
31	Checking for understanding	Specific checking for understanding (process)	Prior knowledge	+	=	=	=	=
34	Checking for understanding	Checking for understanding (content)	Prior knowledge	+	=	=	=	=
Caption : O = Opening / M = Modeling/ GP = Guided practice / IP = Independent practice / C = Closing the lesson								

6.3.2 Interventions to check understanding of the current lesson

As shown in Table 19, interventions aimed at checking understanding of the current lesson (29), but which do not allow students to develop their responses ("stereotypical checking for understanding") should not be observed at any step, as they do not really check students' understanding (Bocquillon, 2020; Gauthier et al., 2013; Hollingsworth & Ybarra, 2013; Rosenshine & Stevens, 1986).

Interventions of "specific checking for understanding (process)" and interventions of checking for understanding (content), when they relate to the content of the lesson in progress (32 and 35), should be observed during the opening step, where the teacher notably checks understanding of the lesson's objective (Archer & Hughes, 2011) ; during the guided practice step, characterized by numerous interventions to check understanding and questioning (Bocquillon, 2020; Bocquillon, Derobertmasure & Demeuse, 2021; Doabler et al. , 2015; Gauthier et al., 2013; Slavin, 2009); during the independent practice step, when the teacher continues to check students' understanding and question them (Bocquillon, 2020; Doabler et al., 2020; Gauthier et al., 2013; Hughes & Riccomini, 2019); and during the closing step, characterized in particular by a moment when the teacher reviews critical content by asking students questions (Archer & Hughes, 2011; Gauthier et al., 2013).

Although modeling is not characterized by many interventions of checking for understanding, but rather by presentation interventions (Archer & Hughes, 2011; Hughes et al., 2018; Doabler et al., 2015), interventions of "specific checking for understanding (process)" and interventions of checking for understanding (content), could be mobilized during this step if necessary. For example, in some lessons, the teacher might ask students a few simple questions (e.g., asking them to solve simple calculations that are part of a more complex procedure he or she is demonstrating).

Table 19

Correspondence table between the "checking for understanding" categories relating to the current lesson and each of the steps of explicit instruction

Ref	Function	Sub-function	Type of content	O	M	GP	IP	C
29	Checking for understanding	Stereotypical checking for understanding	Current lesson	0	0	0	0	0
32	Checking for understanding	Specific checking for understanding (process)	Current lesson	+	=	+	+	+
35	Checking for understanding	Checking for understanding (content)	Current lesson	+	=	+	+	+
Caption : O = Opening / M = Modeling/ GP = Guided practice / IP = Independent practice / C = Closing the lesson								

6.3.3 Interventions to check understanding of the next lesson

As shown in Table 20, interventions aimed at checking understanding of the next lesson (30), but which do not allow students to develop their responses ("stereotypical checking for understanding") should not be observed at any step, as they do not really check students' understanding (Bocquillon, 2020; Gauthier et al., 2013; Hollingsworth & Ybarra, 2013; Rosenshine & Stevens, 1986).

Interventions of "specific checking for understanding (process)" and interventions of "checking for understanding (content)", when they relate to the content of the next lesson (33 and 36), could be observed during the closing of the lesson when the teacher announces the next lesson. For example, the teacher could check students' understanding of the objective of the next lesson he or she has just presented. These interventions should not be implemented during the preceding steps, which focus on the content of the previous lesson (opening) and the content of the current lesson (modeling, guided practice, independent practice).

Table 20

Correspondence table between the "checking for understanding" categories relating to the next lesson and each of the steps of explicit instruction

Ref	Function	Sub-function	Type of content	O	M	GP	IP	C
30	Checking for understanding	Stereotypical checking for understanding	Next lesson	0	0	0	0	0
33	Checking for understanding	Specific checking for understanding (process)	Next lesson	0	0	0	0	=
36	Checking for understanding	Checking for understanding (content)	Next lesson	0	0	0	0	=
Caption : O = Opening / M = Modeling/ GP = Guided practice / IP = Independent practice / C = Closing the lesson								

6.4 Feedback

As shown in Table 21, feedback on the previous lesson ("prior knowledge") (37) should be observed during the opening phase, which focuses in particular on the teacher's verification of students' prior knowledge (Archer & Hughes, 2011; Gauthier et al., 2013; Hollingsworth & Ybarra, 2013; Rosenshine & Stevens, 1986). They could be observed in subsequent steps, if necessary. For example, if students / some students are experiencing difficulties related to a lack of mastery of prior knowledge, the teacher might check students' understanding about prior knowledge and provide feedback to students about it.

Feedback about the lesson in progress (38) should be observed during the guided practice, characterized by a large number of feedback (e.g. Turcotte, Giguère & Godbout, 2015), as well as during independent practice, during which the teacher continues to provide feedback (Bocquillon, 2020; Doabler et al., 2020; Gauthier et al., 2013; Hughes & Riccomini, 2019). They should also be observed during the closing of the lesson, notably when the teacher asks questions to review critical content and to check students' understanding (and thus provides feedback on students' answers) (Archer & Hughes, 2011; Gauthier et al., 2013). This feedback could be observed during the opening of the lesson (for example, if the teacher checks the students' understanding of the objective and therefore provides them with feedback on this) and during modeling (for example, if the teacher asks the students questions with a view to getting them to perform small parts of the task he or she is demonstrating to them and therefore provides them with feedback on this).

Feedback on the next lesson (39) should be observed during the closing of the lesson, after the teacher has presented the objective of the next lesson to the students and checked their understanding (Archer & Hughes, 2011; Gauthier et al., 2013). They should not be implemented during the preceding steps, which focus on the content of the previous lesson (opening) and the content of the current lesson (modeling, guided practice, independent practice).

Table 21

Correspondence table between "feedback" categories and each step of explicit instruction

Ref	Function	Type of content	O	M	GP	IP	C
37	Feedback	Prior knowledge	+	=	=	=	=
38	Feedback	Current lesson	=	=	+	+	+
39	Feedback	Next lesson	0	0	0	0	+
Caption : O = Opening / M = Modeling/ GP = Guided practice / IP = Independent practice / C = Closing the lesson							

6.5 Scaffolding

As shown in Table 22, the support provided to students ("scaffolding") about the previous lesson ("prior knowledge") (40) could be implemented at different steps of the lesson. For example, if, after an intervention of checking for understanding about prior knowledge, the teacher realizes that the students are experiencing difficulties, he or she could provide them with scaffolding.

The scaffolding interventions about the current lesson (41) should be implemented during guided practice (Bocquillon, 2020). They should not be implemented during the opening of the lesson, which is more focused on prior knowledge (Archer & Hughes, 2011; Gauthier et al., 2013; Hollingsworth & Ybarra, 2013; Rosenshine & Stevens, 1986). They could be observed during modeling. For example, in some lessons, the teacher might ask students a few simple questions (e.g., asking them to solve simple calculations that are part of a more complex procedure he or she is demonstrating) and thus provide them with feedback on this, and, if necessary, help. They could also be observed during independent practice if students need them (Hughes and Riccomini, 2019) and during the closing phase. For example, when the teacher reviews critical content (Archer & Hughes, 2011; Gauthier et al., 2013), students / some students may find it difficult to respond to his or her questions and the teacher may provide help to guide them.

The scaffolding interventions about the next lesson (42) could be observed during the closing of the lesson. For example, the teacher could present the objective of the next lesson to the students, check their understanding of this objective, and help them if they have difficulties. These interventions should not be observed during the preceding steps, which focus on the content of the previous lesson (opening) and the content of the current lesson (modeling, guided practice, independent practice).

Table 22

Correspondence table between "scaffolding" categories and each step of explicit instruction

Ref	Function	Type of content	O	M	GP	IP	C
40	Scaffolding	Prior knowledge	=	=	=	=	=
41	Scaffolding	Current lesson	0	=	+	=	=
42	Scaffolding	Next lesson	0	0	0	0	=
Caption : O = Opening / M = Modeling/ GP = Guided practice / IP = Independent practice / C = Closing the lesson							

6.6 Getting students' attention

As shown in Table 23, the teacher should get students' attention (43) when opening the lesson (Archer & Hughes, 2011; Gauthier et al., 2013; Hollingsworth & Ybarra, 2013; Rosenshine & Stevens, 1986). He or she could also do so during the other steps whenever necessary (Gauthier et al., 2013).

Table 23

Correspondence table between "Getting students' attention" category and each step of explicit instruction

Ref	Function	O	M	GP	IP	C
43	Getting students' attention	+	=	=	=	=
Caption : O = Opening / M = Modeling/ GP = Guided practice / IP = Independent practice / C = Closing the lesson						

6.7 Managing student's participation

As presented in Table 24, interventions aimed at designating which student(s) should complete a task or respond to a teacher prompt ("Managing students' participation") (44) should be mobilized during the opening, guided practice and closing steps, characterized by numerous checking for understanding interventions (Archer & Hughes, 2011; Bocquillon, Derobertmasure & Demeuse, 2021; Doabler et al., 2015; Gauthier et al., 2013; Hollingsworth & Ybarra, 2013; Rosenshine & Stevens, 1986) which requires the designation of students to answer the teacher's questions. This is important to avoid the same people answering all the time (Bocquillon et al., 2021; Gauthier et al., 2013; Hollingsworth & Ybarra, 2013).

Although modeling is not characterized by many checking for understanding interventions, but rather by presentation interventions (Archer & Hughes, 2011; Hughes et al., 2018; Doabler et al., 2015), interventions to manage students' participation could be mobilized during this step if necessary. For example, in some lessons, the teacher may ask students to perform part of the task aloud (e.g., solving simple calculations that are part of a more complex procedure) and therefore need to manage their participation.

Although independent practice is more characterized by moments when students work alone, interventions to manage students' participation could also be implemented by the teacher. For example, the teacher could designate a student experiencing difficulties who should carry out a task on the blackboard, verbalizing the steps of his or her reasoning and being helped by the teacher. This is, for this student, a form of return to guided practice illustrating once again the iterative character of the explicit instruction model (Bocquillon, 2020; Bocquillon et al., 2021; Kohler et al., 1997; Rosenshine & Stevens, 1986).

Table 24

Correspondence table between "Managing students' participation" category and each step of explicit instruction

Ref	Function	O	M	GP	IP	C
44	Managing students' participation	+	=	+	=	+
Caption : O = Opening / M = Modeling/ GP = Guided practice / IP = Independent practice / C = Closing the lesson						

6.8 The recipient of the teacher's verbal intervention

As shown in Table 25, interventions addressed to the whole class (45) should be observed at the opening of the lesson (notably when the teacher presents the objective), during modeling (notably when he or she demonstrates the task to be performed) and at the closing (notably when he or she announces the next lesson). They can be mobilized during guided practice and/or independent practice. For example, if students are experiencing difficulties, the teacher may demonstrate the task again. This form of return to modeling again illustrates the iterative nature of the explicit instruction model (Bocquillon, 2020; Bocquillon et al., 2021; Kohler et al., 1997).

Interventions addressed to a group of students / a pair of students (46) should be observed during guided practice, one of the modalities of which is reciprocal teaching (Bissonnette et al., 2010). They should not be observed during modeling, which focuses on the teacher's demonstration of the task. They could be mobilized at the opening (e.g., if the teacher organizes a group/pair exercise) to check prior knowledge. They could be mobilized during independent practice if, in the event of difficulties encountered by certain students, the teacher again proposes reciprocal teaching, which would constitute a form of return to guided practice, again illustrating the iterative nature of the explicit instruction model (Bocquillon, 2020; Bocquillon et al., 2021; Kohler et al., 1997; Rosenshine & Stevens, 1986). They could be observed at the end of the lesson (for example, if the teacher reviews critical content by asking questions to groups of students).

Interventions addressed to a particular student in a public way (47) should be observed at the opening (e.g., when the teacher asks questions to check prior knowledge), during guided practice (e.g., when the teacher provides feedback to a student who has completed an exercise in front of others) and at the closing (e.g., when the teacher asks questions to review critical content). They could also be mobilized during independent practice (e.g., when the teacher provides feedback to a student who is carrying out individual exercises, which the other students can hear). Although modeling is in principle characterized by few questions, interventions addressed to a particular student in a public way could be observed (e.g., if the teacher asks students to solve simple calculations that are part of a more complex procedure he or she is demonstrating to them).

Interventions addressed to a particular student in private (48) should be observed during guided practice and during independent practice, during which the teacher provides feedback to students in particular (Bocquillon, 2020; Doabler et al., 2020; Gauthier et al., 2013; Hughes & Riccomini, 2019; Turcotte et al., 2015). They could be observed during modeling if the teacher wishes to say something privately to a student. They could be mobilized during the opening (e.g. if the teacher organizes individual exercises to check prior knowledge) and during the closing devoted in particular to further practice (Archer & Hughes, 2011; Gauthier et al., 2013).

Table 25

Correspondence table between the categories related to the recipients of the teacher's verbal interventions and each step of explicit instruction

Ref	Last grid level (recipient)	O	M	GP	IP	C
45	Whole class	+	+	=	=	+
46	Group of students / pairs of students	=	0	+	=	=
47	Particular student (public)	+	=	+	=	+
48	Particular student (in private)	=	0	+	+	=
Caption : O = Opening / M = Modeling/ GP = Guided practice / IP = Independent practice / C = Closing the lesson						

6.9 Content-related student answers

As shown in Table 26, collective answers that have been designated by the teacher (49) could be mobilized during the opening (e.g., if the teacher activates prior knowledge by asking students to respond in chorus to his or her prompts), during guided practice (e.g., if the teacher checks students' understanding by asking them to respond in chorus to his or her prompts) and during the closing (e.g., if the teacher reviews critical content by asking them to respond in chorus to his or her prompts). Although modeling is generally characterized by few checking for understanding interventions, the teacher could, for example, ask students to solve in chorus simple calculations that are part of the more complex task he or she is demonstrating. Collective answers that have been designated by the teacher should not be mobilized during independent practice, when at least some of the students (those scoring 80% on the formative assessment at the end of guided practice) are expected to carry out individual exercises (Bocquillon, 2020; Rosenshine & Stevens, 1986).

Collective answers that have not been designated by the teacher (50) should not be observed at any step, as this shows a lack of management of student participation by the teacher, which makes it impossible to check the understanding of the whole class.

Individual answers provided by non-designated students (51) or students chosen among the volunteers (52) should not be mobilized, as they are not a good indicator of all the students' understanding (Bocquillon et al., 2021; Gauthier et al., 2013; Hollingsworth & Ybarra, 2013). However, individual answers provided by non-designated students (51) should be mobilized during independent practice, when the teacher circulates in the classroom to check students' understanding. In this case, the teacher generally does not designate the pupil by which he or she stops to check comprehension (in which case the category "individual answer provided by a non-designated student" is coded).

Individual answers provided by students designated among non-volunteers (53) and individual answers provided by students designated with an explicit random designation system (54) should be mobilized during opening (when the teacher checks prior knowledge), during guided practice (when the teacher checks student understanding) and during closing (when the teacher reviews critical content). Indeed, this enables the greatest number of students (not just volunteers) to receive feedback (Bocquillon et al., 2021; Gauthier et al., 2013; Hollingsworth & Ybarra, 2013).

They could be mobilized during modeling (for example, if the teacher asks students to perform simple calculations that are part of a more complex procedure he or she is demonstrating). They should not be observed during independent practice, where at least some of the students (those scoring 80% on the formative assessment at the end of guided practice) are expected to carry out individual exercises (Bocquillon, 2020; Rosenshine & Stevens, 1986).

Group/pair answers provided by groups/pairs not designated (55) or designated among volunteers (56) should not be mobilized, as they are not a good indicator of all the students' comprehension (Bocquillon et al., 2021; Gauthier et al., 2013; Hollingsworth & Ybarra, 2013).

Group / pair answers provided by groups / pairs designated among the non-volunteers (57) and group / pair answers provided by groups / pairs designated with an explicit random designation system (58) could be mobilized during the opening (e.g.: if the teacher checks students' prior knowledge by asking them to prepare answers in pairs). They should not be observed during modeling, which focuses on the teacher's demonstration of the task. They could be observed during guided practice (e.g., if the teacher, after reciprocal teaching, asks certain groups to share their answers). They should not be observed during independent practice, when at least some of the students (those having obtained 80% on the formative assessment at the end of guided practice) are expected to carry out individual exercises (Bocquillon, 2020; Rosenshine & Stevens, 1986). They could be observed during the closing (e.g., if the teacher designates groups of students to answer his or her questions aimed at reviewing critical content).

Table 26

Correspondence table between the categories "content-related student answers" and each of the stages of explicit instruction

Ref	Type of answer	Sub-category	O	M	GP	IP	C
49	Collective answer	Designated collective answer	=	=	=	0	=
50	Collective answer	Not designated collective answer	0	0	0	0	0
51	Individual answer	By a student not designated	0	0	0	+	0
52	Individual answer	By a student designated among the volunteers	0	0	0	0	0
53	Individual answer	By a student designated among the non-volunteers	+	=	+	0	+
54	Individual answer	By a student designated with an explicit random designation system	+	=	+	0	+
55	Answer by group / pair	By a group / pair not designated	0	0	0	0	0
56	Answer by group / pair	By a group / pair designated among the volunteers	0	0	0	0	0
57	Answer by group / pair	By a group / pair designated among the non-volunteers	=	0	=	0	=
58	Answer by group / pair	By a group / pair designated with an explicit random designation system	=	0	=	0	=
Caption : O = Opening / M = Modeling/ GP = Guided practice / IP = Independent practice / C = Closing the lesson							

The following section provides an overview of the various correspondence tables between the categories of the MSEI grid and the steps of explicit instruction.

6.10 Correspondence table between the categories of the MSEI grid and each step of explicit instruction

Table 27

Correspondence table between the presentation of the "what" / "how" categories and each step of explicit instruction

Ref	Function	Sub-function	Further clarification	Type of content	O	M	GP	IP	C
1	Presentation	of"what" / "how"	Objective	Prior knowledge	=	=	=	=	=
2	Presentation	of"what" / "how"	Objective	Current lesson	+	=	=	=	=
3	Presentation	of"what" / "how"	Objective	Next lesson	=	=	=	=	+
4	Presentation	of"what" / "how"	Examples / counter-examples	Prior knowledge	=	=	=	=	=
5	Presentation	of"what" / "how"	Examples / counter-examples	Current lesson	0	+	=	=	=
6	Presentation	of"what" / "how"	Examples / counter-examples	Next lesson	0	0	0	0	=
7	Presentation	of"what" / "how"	Important aspects	Prior knowledge	=	=	=	=	=
8	Presentation	of"what" / "how"	Important aspects	Current lesson	0	+	=	=	=
9	Presentation	of"what" / "how"	Important aspects	Next lesson	0	0	0	0	=
10	Presentation	of"what" / "how"	General content	Prior knowledge	=	=	=	=	=
11	Presentation	of"what" / "how"	General content	Current lesson	0	+	=	=	=
12	Presentation	of"what" / "how"	General content	Next lesson	0	0	0	0	=

Caption : O = Opening / M = Modeling/ GP = Guided practice / IP = Independent practice / C = Closing the lesson

Table 28

Correspondence table between the presentation of the "why" / "when" / "where" categories and each step of explicit instruction

Ref	Function	Sub-function	Type of content	O	M	GP	IP	C
13	Presentation	of"why" / "when" / "where"	Prior knowledge	=	=	=	=	=
14	Presentation	of"why" / "when" / "where"	Current lesson	+	+	=	=	=
15	Presentation	of"why" / "when" / "where"	Next lesson	0	0	0	0	=
Caption : O = Opening / M = Modeling/ GP = Guided practice / IP = Independent practice / C = Closing the lesson								

Table 29

Correspondence table between "instructions" categories and each stage of explicit instruction

Ref	Function	Sub-function	Type of content	O	M	GP	IP	C
16	Instructions	Collective exercises	Prior knowledge	=	=	=	=	=
17	Instructions	Collective exercises	Current lesson	0	0	+	=	0
18	Instructions	Collective exercises	Next lesson	0	0	0	0	0
19	Instructions	Reciprocal teaching	Prior knowledge	0	0	0	0	0
20	Instructions	Reciprocal teaching	Current lesson	0	0	+	=	0
21	Instructions	Reciprocal teaching	Next lesson	0	0	0	0	0
22	Instructions	Formative assessment	Prior knowledge	=	0	0	0	0
23	Instructions	Formative assessment	Current lesson	0	0	+	0	0
24	Instructions	Formative assessment	Next lesson	0	0	0	0	0
25	Instructions	Individual exercises	Prior knowledge	=	0	0	0	0
26	Instructions	Individual exercises	Current lesson	0	0	0	+	=
27	Instructions	Individual exercises	Next lesson	0	0	0	0	0
Caption : O = Opening / M = Modeling/ GP = Guided practice / IP = Independent practice / C = Closing the lesson								

Table 30

Correspondence table between the "checking for understanding" categories and each of the steps of explicit instruction

Ref	Function	Sub-function	Type of content	O	M	GP	IP	C
28	Checking for understanding	Stereotypical checking for understanding	Prior knowledge	0	0	0	0	0
29	Checking for understanding	Stereotypical checking for understanding	Current lesson	0	0	0	0	0
30	Checking for understanding	Stereotypical checking for understanding	Next lesson	0	0	0	0	0
31	Checking for understanding	Specific checking for understanding (process)	Prior knowledge	+	=	=	=	=
32	Checking for understanding	Specific checking for understanding (process)	Current lesson	+	=	+	+	+
33	Checking for understanding	Specific checking for understanding (process)	Next lesson	0	0	0	0	=
34	Checking for understanding	Checking for understanding (content)	Prior knowledge	+	=	=	=	=
35	Checking for understanding	Checking for understanding (content)	Current lesson	+	=	+	+	+
36	Checking for understanding	Checking for understanding (content)	Next lesson	0	0	0	0	=
Caption : O = Opening / M = Modeling/ GP = Guided practice / IP = Independent practice / C = Closing the lesson								

Table 31

Correspondence table between "feedback" categories and each step of explicit instruction

Ref	Function	Type of content	O	M	GP	IP	C
37	Feedback	Prior knowledge	+	=	=	=	=
38	Feedback	Current lesson	+	=	+	+	+
39	Feedback	Next lesson	0	0	0	0	+
Caption : O = Opening / M = Modeling/ GP = Guided practice / IP = Independent practice / C = Closing the lesson							

Table 32

Correspondence table between "scaffolding" categories and each step of explicit instruction

Ref	Function	Type of content	O	M	GP	IP	C
40	Scaffolding	Prior knowledge	=	=	=	=	=
41	Scaffolding	Current lesson	0	=	+	=	=
42	Scaffolding	Next lesson	0	0	0	0	=
Caption : O = Opening / M = Modeling/ GP = Guided practice / IP = Independent practice / C = Closing the lesson							

Table 33

Correspondence table between "Getting students' participation" and "Managing students' participation" categories and each step of explicit instruction

Ref	Function	O	M	GP	IP	C
43	Getting students' attention	+	=	=	=	=
44	Managing students' participation	+	=	+	=	+
Caption : O = Opening / M = Modeling/ GP = Guided practice / IP = Independent practice / C = Closing the lesson						

Table 34

Correspondence table between the categories related to the recipients of the teacher's verbal interventions and each step of explicit instruction

Ref	Last grid level (recipient)	O	M	GP	IP	C
45	Whole class	+	+	=	=	+
46	Group of students / pairs of students	=	0	+	=	=
47	Particular student (public)	+	=	+	=	+
48	Particular student (in private)	=	0	+	+	=
Caption : O = Opening / M = Modeling/ GP = Guided practice / IP = Independent practice / C = Closing the lesson						

Table 35

Correspondence table between the categories "content-related student answers" and each of the stages of explicit instruction

Réf	Type de réponse	Type de réponse	O	M	PG	PA	C
49	Collective answer	Designated collective answer	=	=	=	0	=
50	Collective answer	Not designated collective answer	0	0	0	0	0
51	Individual answer	By a student not designated	0	0	0	+	0
52	Individual answer	By a student designated among the volunteers	0	0	0	0	0
53	Individual answer	By a student designated among the non-volunteers	+	=	+	0	+
54	Individual answer	By a student designated with an explicit random designation system	+	=	+	0	+
55	Answer by group / pair	By a group / pair not designated	0	0	0	0	0
56	Answer by group / pair	By a group / pair designated among the volunteers	0	0	0	0	0
57	Answer by group / pair	By a group / pair designated among the non-volunteers	=	0	=	0	=
58	Answer by group / pair	By a group / pair designated with an explicit random designation system	=	0	=	0	=
Caption : O = Opening / M = Modeling/ GP = Guided practice / IP = Independent practice / C = Closing the lesson							

7. Presentation of the MSEI grid version for coding coaching sessions

With the version of the MSEI grid used to code coaching sessions, the observer codes the statements of the coach and teacher each time one of them mentions an element of the teacher's practice to be maintained/increased/reduced/implemented/removed. Two elements are then coded: the teaching practice (to be chosen from the list of categories in the MSEI grid) and the type of change envisaged by the coach and/or teacher (maintain/increase/reduce/implement/remove)[17]. For example, the coach may advise the teacher to introduce a system of explicit random designation; the teacher may consider reducing the use of

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[17] This classification is the result of a reflection on the different types of changes that can be implemented by a teacher following a coaching session.

interventions in which he/she does not really check student understanding ("stereotypical checking for understanding"), and so on.

The categories of this grid are therefore all the categories of the MSEI grid (teacher verbal interventions and student verbal interventions) presented in section 4, to which a few categories (presented in table 36) have been added.

Table 36

Operational definitions and illustrations of the categories added to the MSEI grid to code the verbal interventions of the coach and coached teacher.

Category	Definition	Illustration
Other advice from coach / other teacher's intention to act	This category is coded when the coach gives advice to the teacher, or when the teacher formulates an intention to act that does not concern one of the teaching practices defined in the MSEI grid (see section 4). When this category is coded, the observer notes in the "comments" space of the software what the coach's advice/teacher's intention to act relates to.	Example of a coach's advice to maintain a practice: "And as for the little homework assignment you suggested, well, that's good too. It's also a practice that's recommended in explicit instruction, so that homework is prepared in class and students don't ask themselves at home: "What should I do?"" (16 min 10 s, SC1)
Not retained	This category is coded when the coach/teacher speaks about something that does not concern a change in the teacher's practices (e.g.: training organization, timetable).	Teacher: "In the end, I think everyone at home understood how TEAMS worked" (41 min 54 s, SC1).

For each category (teaching practice) coded, the observer must also select one of the four sub-categories shown in Table 37.

Table 37

Operational definitions of the sub-categories used to code coach and teacher interventions

Sub-category	Definition	Illustration
Increase	This sub-category is coded when the coach's advice/teacher's intention to act is aimed at increasing a teaching practice in the teacher's behavioral repertoire.	Teacher: "It would be nice if I could implement more specific checking for understanding" (fictitious example, as this type of intervention was not coded in this research).
Reduce	This sub-category is coded when the coach's advice/teacher's intention to act is aimed at reducing a teaching practice in the teacher's behavioral repertoire.	Coach: "If I'm not mistaken, this is something you could also improve on. Often it's those who raise their finger that you take [This should be reduced]" (17 min 25 s, SC1)
Maintain	This sub-category is coded when the coach's advice/teacher's intention to act is aimed at maintaining a teaching practice in the teacher's behavioral repertoire.	Teacher: "It reinforces our idea that we did the right thing by choosing "Pilotis" as our method and moving towards a more phonetic method [...]" (23 min 43 s, SC1)
Implement	This sub-category is coded when the coach's advice / the teacher's intention to act aims to implement a new teaching practice previously absent from the teacher's behavioral repertoire.	Teacher: "Maybe we can do it [implement checking for understanding (content) related to prior knowledge] before learning a new letter" (8 min 47 s, SC1)
Remove	This sub-category is coded when the coach's advice/teacher's intention to act aims to remove a teaching practice from the teacher's behavioral repertoire.	Coach: "I'd advise you to stop designating students among volunteers." (fictitious example, as this type of intervention was not coded during this research).

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