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Time on Task (TT)

A Manual for Coding Student Learning Behaviour in Videos

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General information regarding the use of the coding scheme:

Individual students get rated in **10-second-intervals**, which means that they are rated all the time. The timeline is divided into 10-second intervals, and for each interval a new marker is defined. The first marker goes from time-stamp 00:00:01 to time-stamp 00:00:10, the second marker goes from time-stamp 00:00:11 to time-stamp 00:00:20, and so on.

The following aspects are rated:

- (1) Does the student spend time on the task (*on topic*) or not (*off topic*)?
- (2) Does the student participate in the lesson? (real learning time vs. organizational matters vs. private issues)
- (3) Does the student act actively or passively?
- (4) Is the student silent, or does he speak to his learning partner, the teacher or students in other groups?

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Table 1 Coding Scheme Time on Task (TT)

Focus	Subject	Activity	Social form	Examples
on topic [2]	Learning time [3]	Active [2]	Alone/silent [4]	Works silently on a PC or with paper and pencil; conversations with oneself, mumbling etc.
			In conversation with learning partner(s) [3]	Talks with the learning partner(s) about the task at hand
			In conversation with teacher [2]	Poses questions towards the teacher/talks to the teacher about the task at hand
			In conversation with other group [1]	Talks with another group of learners (not learning partners(s) only), asks for help
		Passive [1]	Alone/silent [4]	Watches/listens to video (as introduction of the learning sequence), watches the learning partner(s) and engages in reflections; conversations with oneself, mumbling etc.
			In conversation with learning partner(s) [3]	Listens to the learning partner(s), who talk(s) about the topic at hand
			In conversation with teacher [2]	Listens to the teacher, who talks about the topic at hand
			In conversation with other group [1]	Listens to another group of learners, who talk about the topic at hand
	Organisation of the learning process [2]	Active [2]	Alone/silent [4]	Reads instructions
			In conversation with learning partner(s) [3]	Talks with the learning partner(s) about the organization of the learning process
			In conversation with teacher [2]	Asks questions/talks with the teacher about the organization of the learning process
			In conversation with other group [1]	Talks with another group of learners about the organization of the learning process
		Passive [1]	Alone/silent [4]	Waits for the PC to boot ("please wait" is showing on the screen)
			In conversation with learning partner(s) [3]	Listens to the learning partner(s), who talk(s) about the organization of the learning process
In conversation with teacher [2]			Listens to the teacher who talks about the organization of the learning process	
In conversation with other group [1]			Listens to another group of learners, who talk about the organization of the learning process	
Off topic [1]	Private [1]	Active [2]	Alone/silent [4]	Plays with mobile etc.
			In conversation with learning partner(s) [3]	Talks with the learning partner(s) about private matters
			In conversation with teacher [2]	Talks with the teacher about private matters
			In conversation with other group [1]	Talks with another group of learners about private matters
		Passive [1]	Alone/silent [4]	Is not involved in the learning process at all, self-absorbed: bounces on the chair, sings to him-/herself etc.
			In conversation with learning partner(s) [3]	Listens to the learning partner(s), who talk(s) about private matters
			In conversation with teacher [2]	Listens to the teacher, who talks about private matters
			In conversation with other group [1]	Listens to another group of learners, who talk about private matters
Unclear [0]	Unclear [0]	Unclear [0]	Unclear; also: too many code-switches within one coding interval	

The **marker** is named after the student (student-ID). The respective student's ratings are inserted in the comment line in the above mentioned order (focus, subject, activity, social form), whereby the categories are separated by commas so that first, the coding value for *focus* is indicated and second, the coding value for *subject*, and so on. The coding values of different actions are specified in the table above.

Examples: If a student concentrates on the task during a 10 second interval asking his learning partner whether he is allowed to use a calculator, his or her behaviour in this situation would be rated 2,2,2,3 (=on topic, organisation, active, in conversation with the partner). If a student asks a student from another dyad whether he wants to go out in the weekend, this would be rated as 1,1,2,1 (off topic, private, active, in conversation with students from other groups). Whenever it is not possible to allocate the student's behaviour to one of the categories, please insert a 0 and code the remaining categories as described above! If for instance a student acts actively and is in conversation with the teacher, but we do not know whether they are on topic / off topic and it remains unclear whether the student's behaviour can be categorized as real learning time or he or she is dealing with organizational matters or private issues, we rate 0,0,2,2 (=unclear, unclear, active, in conversation with teacher).

The category **focus** (on topic / off topic), or use of the learning time, distinguishes between time spent on the task (for example by working on the task, asking for explanations, searching for teaching material) and time which is not spent on the task (for example private conversations with the learning partner, playing games on the mobile phone, being bored, staring into space).

The category **subject** (real learning time, organization, private) is explained on the following page.

The category **activity** (active / passive) distinguishes between students who are acting (actively = speaking, writing, searching for teaching material, writing text messages) and students who are not (passive = does not act, also: listening).

The category **social form** (Alone-silent/ In conversation with learning partner / In conversation with teacher / In conversation with other group) specifies, to which extent a student acts socially within an interval, for instance whether he is working in silence or he is talking to someone else. Please note: If a student listens to someone, he is still in conversation, although he does not say anything at this very moment.

The category **unclear** applies if an action cannot be assessed acoustically or visually (e.g. sentences or sounds which are not understandable, student cannot be seen on screen) or cannot be classified as learning time, organization etc. because of its complexity.

If **several codings are possible** within an interval, chose the one which lasts for the longest time.

Table 2: Coding options in the category ,subject'

Characteristic	Description	Coding standards
Real learning time	Corresponds to <i>active learning time</i> or <i>active time on task</i> .	The student spends time on solving the task, and this is visually or verbally recognizable. He uses the learning program at the PC and / or comments his / her (?) own actions (“thinking aloud”) regarding the problem, or talks to a classmate about it. Taking part in group reflection and working with work material can also be allocated to this category.
Organisation	Part of the <i>usable learning time</i> . Includes organisation, disciplining and testing.	It can be seen or heard that the student receives working material, organises him- or herself in a working group with other students or asks the teacher a question.
Private	Private conversations between students are also part of the <i>usable learning time</i> .	It can be heard that the student has a private conversation about things which happened at the weekend or during leisure time. If it can be seen that the student is surfing the internet and does not work with the learning program, this is a private activity as well.