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The Study of EFL Teachers' Instruction Formalization in LMS

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Abstract

The paper focuses on the formalization of English as foreign language teachers' instruction in LMS eFront. Instruction is considered as a minimum teaching method unit with (in)variable parameters in relation to the knowledge object, students' activity, and control. The two approaches, i.e., information-centered and student-centered, are studied in its formalization. The paper provides the results of a two-stage analysis: 1) semi-structured interviews with EFL teachers at the tertiary level, and 2) teachers' and students' survey evaluating EFL instruction. Important findings include advantages of instruction formalization in technological simplification and quality control in course development, and also serve to enhance further research agenda.

Keywords: *teachers' instruction, EFL, formalization, educational environment, information- and learner-centered approaches*

Introduction

The presented paper deals with the problem of formalizing teachers' instruction. As a key element of learning, it requires researchers' attention when the questions of automation of course development (Rukavishnikova, 2007) and unification of educational outcomes arise in the context of global learning community growth, migration, academic mobility, etc. Also, standardized assessment of course effectiveness adds up to the importance of teacher instruction research (Marin-Diaz, 2014; Schwier, 2010).

The purpose of this paper was to define teachers' instruction from the methodological perspective and in view of formalization to approach the issue of English as foreign language teachers' instruction in LMS. We argue that only with regard to the conceptual structure of the educational environment and the theory of learning objects (Wiley, 2000) can instruction be formalized to be effectively automated and optimally used.

Literature review shows that researchers and practitioners refer to the term 'instruction' without manifesting its content (Tabbers, Martens, van Merriënboer, 2004; Bourdeau, Mizoguchi, 1999). It is often referred to as 'task' and 'assignment' (Schneider, 2010). However, in EFL textbooks, per se, teachers' verbalized assignments are presented as tasks given in a written form. If we want to limit ourselves to formalizing instruction, neither 'assignment' ("how it is said"), nor 'task' ("what is to be done") is helpful. Another question with 'task', however, is that being synonymous to 'problem' it may also be confused with the unit of problem-based learning (Hmelo-Silver et al, 2007), while the latter may include instructions a teacher gives. A learning task (Van Merriënboer, Clark, De Croock, 2002) cannot stand the test of frequency of use among scholars, mainly because it presupposes the learner's perspective only, thus, typically is not referred to teaching.

Making a distinction between the learner's and the teacher's perspectives, an instructional task comes into sight where instruction is a part of the educational process, and each instruction is specific in education, e.g., in Gagne's theory (1985) or in Merrill's theory (2002).

As far as our working term is concerned, we operate the term 'teachers' instruction' to highlight teachers' impact and their accountability for outcome.

Methodology

Since our focus is the formalizing of instruction, we turn to educational environment formalization experiences and the theory of learning objects. The applied analysis includes two stages: 1) semi-structured interviews with EFL university teachers, concerning educational environment formalization practices, and 2) teachers' and students' survey evaluating and commenting on particular EFL teaching instructions. The second stage is carried out with the purpose to identify key variable parameters in an attempt to formalize EFL teachers' instruction.

There are two main dimensions for instruction to be formalized within the educational environment approach (Anstrand, Kirkbird 2002; Educational environment, 2010): *participants* (learners, teachers, and the environment itself) and

environmental *functions* (teaching, administration, pedagogical communication, content delivery, and assessment) (Rukavishnikova, 2006–2007). Therefore, teachers' instruction is a crucial point of interaction between participants and functional applications of the educational environment.

Firstly, let us turn to the information-centered approach in the starting point of learning. From this angle, instruction is the information for learners which activity they are to perform. In its turn, describing this instruction may aim *not* to include new information; this means description is based on learners' existing skills and knowledge. As a result, the model for an activity in instruction may be given explicitly (algorithm for performance or example of the result) or implicitly (international instruction coherence with the objective or external instruction coherence with the course or ontology).

Secondly, let us consider the learner-centered approach. Learners' activity in instruction has several characteristics (Rukavishnikova, 2006–2007):

- a) instruction may indicate a stage in knowledge acquisition (recognition -> understanding -> acquisition);
- b) relative complexity of the task classified according to B.S. Bloom's taxonomy (knowledge, understanding, application, analysis, synthesis, evaluation);
- c) cognitive load [though being hard to identify, attempts to measure cognitive load can be made] in the factors such as the number of pages to read, proximity/distance of task from its theoretical ground, illustration design, text–illustration ratio, learners' independence at accomplishing a task, etc. (Sweller, 1988).

Results

Stage One: Teacher interviews

As the educational environment is described by two parameters, considerations for formalizing instruction would not be complete without addressing further four functions of the environment. For this, we also conducted semi-structured interviews with 12 EFL teachers at university level, asking questions like: “While writing instructions, do you write some part/s of them mechanically, without giving it much thinking?”, “Do you write instructions in some particular way because authorized sources recommend to do so?”, “Can you think of instructions of yours that you regarded as especially effective?”, “Have you ever had difficulties in writing instructions? What kind?”, etc.

Teaching. Teachers' instruction is a starting point towards the objective.

Administration. Administrative function may include a new element of information and, thus, incorporate motivation, which is not directly related to the educational process. As such, the administrative function does not deliver education but may 'push' participants to work harder and/or with higher results. Obviously, this is a redundant and optional element of the teacher's instruction and a matter of preferred choice depending on learners, teachers, and environment. In addition, motivation created in the administering function can be both positive and negative.

Example 1: In a distance English course for students of physics forums were engaged. The teacher allowed the students to acquire forum moderator rights if some particular tasks were accomplished.

Example 2: In a class of students of finance I used additional bonuses while instructing for a correct answer in a high difficulty level activity, for the number of pages translated in home reading, and for doing extra tasks.

Example 3: I do not know if it relates to the question or not. But one of the highest motivators is time. Every time I tell students that when they complete the written test and they may be free to go, there are students who do the test in 20 minutes instead of 40!

Example 4: I had a class of adult learners, and surprisingly, 'the young learners' factor – "you cannot have ice-cream before you had your meal" translated as "you will not be able to study this grammar construction before you learn this well" – worked very well.

The pedagogical communication function presupposes reaction to educational activity. This poses the question: Can teachers' communication and comments in interaction provide motivation? Intuitively, designers see sense in incorporating it.

Example 1: We all saw how it works in computer games, right? Sound effects, applause when the game is over, even when the player did not pull it to the very end. But he was just so eager to hear it. As a teacher, I always say "Right" before I explain the problem.

Example 2: With time I noticed that my students feel especially proud if I make individual appointments for consultations with them in front of the

class, obviously, they feel privileged: other students simply do not have questions to discuss and the teacher's time is valuable.

Content delivery. Under current circumstances, researchers do not find this function beneficial (Cooper, 1998). But this does not automatically render all circumstances.

Example 1: I know many students would do a lot to get access to rare sources of information, unfortunately, this kind of motivation does not last long.

Example 2: Advanced technology is still the issue with Russian students. If they learn there is a better CD-ROM or something like this, the word spreads out before you know it.

The assessment/control function does not directly relate to instruction within this research framework because it does not add new information to the teacher's instruction. The teaching function is supposed to comprehensively include the information needed while the assessment/control function 'covers' the intersection of all educational environmental functions.

The result of this analysis is that, having a complete description of teachers' instruction, we can determine what elements of it can be reduced. Any instructional element can be considered redundant depending on the educational context. Therefore, contexts should be systematically described to automate redundancy identification. Following the above conclusion, teachers' instruction automation is possible as long as educational contexts are systematized.

Furthermore, judging by analytical results including teachers' interviews, a higher level of generalization of motivation within educational environment functions is observed. Each teacher spoke of an individual 'set of tricks' to motivate students. Projected study of the choice among motivation theories (Huitt, 2001; Konrad, 2005; Manninen, 2003; Ruohotie, 2000) also supposes redundancy, i.e. elimination of unsuitable motivators for instruction performance.

Stage Two: Students' and Teachers' Survey

One of the conclusions of the above-mentioned analysis is that a systematic description of motivation regarding the educational environment is needed. This will bring us closer to the answer to the following questions: 1) What elements of instruction are redundant and what are not; 2) What is proper timing for instruc-

tion reduction – start-term, mid-term, or end-term; 3) What are the objects and criteria for reduction, i.e., What can be implied in the course and what cannot; 4) Can instruction be “transparent” for all teachers and similarly rendered by them?

To answer these questions, a survey on understanding teachers' instruction was designed. Its aim was to clarify to what extent the instruction was “transparent” to teachers and students. The survey contained three instructions from three different EFL university teachers and covered three different aspects of language learning each: listening, writing and reading. Originally, instructions were developed for LMS e-Front automation courses and were chosen for the survey out of LMS pool. While choosing the instructions for the survey, to avoid biased results we considered the following criteria: 1) they focus on teaching different language skills – listening, writing and reading, 2) they are designed by teachers with different levels of expertise – years of experience at university, 3) they are developed for students with different majors, 4) they are developed for students with different competence levels in EFL.

The survey included multiple-choice questions (“Is the instruction clear to you? Yes/No/Not everything is clear” or “When is it better to deal with this instruction? Start-term/Mid-term/End-term”) and open questions (“Would you like to change anything in this instruction? If ‘yes’, then what is it and in what way would you like to change it?” or “Do you consider this instruction to be ‘transparent’ to all students? If ‘not’, then who and why will experience difficulties in understanding this instruction?”). 15 teachers and 30 students of Higher School of Economics, Perm, Russia, were asked to fill in the same questionnaire about three selected instructions. Having analyzed the teachers' and students' answers, we revealed essential differences between their opinions.

Instruction 1 on listening appears to be clear to 70 % of the teachers, the same number of them do not find any redundant information in it. At the same time, the remaining 30% are not sure about the types of questions asked and partially about the meaning of some instruction points. They consider questions 1–4 to be over-generalized (10 %), and do not have ideas about how to “*organize notes*” or “*take more notes*”. The teachers are not consistent in their approach to the timing for this instruction reduction – start-term (30 %), mid-term (60 %), or end-term (10%). 40% of the respondents would like to change the instruction. Although they have not produced any definite structure, still all of them have mentioned “putting more specific questions”, “terms clarification” and “giving more precise instructions”. As a result, 80 % of the teachers believe this instruction is not “transparent” to groups of beginners, to those unfamiliar with economics, having low skills in writing and having missed some previous classes.

As for the students, most of them (86.6%) understand the first instruction. The same number does not find any redundant information and feel ready to accomplish the task. The only thing that they would like to improve is to leave out “more” in “take more notes”. The students are even less consistent in choosing the part of a term for this instruction (40% - start-term, 40% - end term, for 20% there is no difference).

Out of three evaluated, instruction 2 on writing appears to be the vaguest for the teachers. It is clear only to 60% of them and 30% find redundant information, considering the phrases “topic vocabulary” and “vocabulary essential for understanding the topic” to mean quite the same. The same 30% of the respondents are certain that Step 3 in this instruction is unnecessary as it rewords the information given at the very beginning of this instruction. The teachers are mostly consistent in their approach to the timing for this instruction – mid-term (30%), end-term (70%). 40% of the respondents would like to change the instruction adding more details to it. Practically all of these 40% mention that the example of “Lexical set” and sources to find an essay structure should be given. Surprisingly, 30% of the teachers have a question about the type of essay although it is definitely mentioned in this instruction. The term “Lexical set” is unknown to 40% of the teachers, but only 20% of them think that students will find it difficult to understand. As a result, nobody considers this instruction to be “transparent” to all students. 20% of the teachers think it will not be clear to beginners, 30% – to those unfamiliar with essay structure, 20% – to those having low skills in terminology. The remaining 30% feel that the instruction should be completely changed but do not propose in what way.

The students, in contrast, are very optimistic about this instruction. 86.6% consider it to be clear and are ready to start with it just at once. 20% of them mention that “Step 3” and “vocabulary essential for understanding the topic” are redundant information but it does not impede their understanding and accomplishing the instruction. Nobody would like to change the instruction, and only 10% have not found the type of essay in it. 66.6% claim everything will be clear to all students, 13.3% hesitate about beginners and 20.1% are not sure that the term “lexical set” is known to learners. As for the part of the term to accomplish this instruction, the students again were not consistent (13.3% – start-term, 26.6% – mid-term, 46.6% – end-term, for 13.3% there is no difference).

The analysis of the teachers’ answers regarding Instruction 3 on reading reveals that it is clear to 70% of the respondents. Only one of them finds mentioning the source of the article to be redundant in this instruction and 70% would like to change some things. Of these 70%, more than a half is not sure about the terms.

There is even a surprising question “What is a synonym?” (the teacher assumes that students probably do not know this term). The rest of the teachers need examples of “collocations”, “terms” and “synonyms” built within the instruction, sometimes in the form of a table. The teachers' opinions on the timing of this instruction are the least consistent of all. 30% will deal with it in start-term, 30% – in mid-term, 40% – in end-term. As for the “transparency” of this instruction, all the teachers believe that students will experience difficulties with the terminology (50%) and lack of language skills for its accomplishing (50%).

The students, however, again demonstrate more confidence and readiness to deal with the instruction. 73.3% of them understand everything and 93.3% do not need any additional information to accomplish the task. 26.6% are not certain about the meaning of “collocations”, but do not identify this word as completely unknown. 80% would not change anything in this instruction and 20% would like to have some examples of “terms”, “synonyms” and “collocations” in it. 66.6% of the respondents consider this instruction to be “transparent” to all students, 20% find it to be too complex for beginners and 13.4% consider it to be “overloaded” with terminology.

Discussion and conclusions

A method such as a survey on “understanding” formalized EFL instruction helps to describe not only motivation in the educational environment, but also to address poorly identifiable problematic issues of instructions in a learner-centered approach. Firstly, there is certain discrepancy in understanding terminology and its appropriateness in instructions. Secondly, instructions may lack logical consistency. The evidence of this is the absence of formal tip markers that point timing of the instruction in the term, the level of complexity, especially for students with language competence level the instruction is developed. Thirdly, there still may be no clear algorithm for performance.

The teachers and learners approach these problems in a different way. The teachers' expectations of formalization are much higher. Fewer of them “completely understand” the instructions and practically nobody can improve them. The students demonstrate an advanced level of preparedness to work in a situation where some information is beyond their skills or knowledge. However, they are more concentrated on the assessment of their results. For instance, they ask questions about the number of words they are supposed to use while writing an essay, demonstrating an awareness of essay assessment criteria. Another example is that

the students try to find out if it is possible or not to use subtitles while listening. That means they are trained to deal with different assumptions at the level of complexity.

Detailed survey results emphasize the need to describe learners' existing skills and knowledge, or EFL competence level in teachers' instruction and often the need to explicitly provide algorithms for performance or models of outcomes.

Indication of task complexity and variability as well as the degree of learners' independence at accomplishing a task is found desirable. Optional and, therefore, redundant elements in instructions are implicit coherence with the objective or with the course. Although the assessment/control function does not directly relate to the instruction within this research framework, the survey results show students' need to comprehensively include information about assessment in instructions as it presents a certain level of motivation.

The survey results also demonstrate relative insignificance of instruction timing for the students while the teachers perceive timing for instructions as a sequence of particular linguistic skills: reading comes before writing, listening before writing, etc. Finally, "non-transparent" reading of instructions by EFL teachers is mainly attributed to differences in terminology.

The conclusion of the analysis of teachers' formalizing instruction is that key parameters and their variability in the educational environment have not been thoroughly studied yet. The advantages of instruction formalization are as follows: technological simplification, quality control in course development through: a) formal criteria like availability of elements, sequences; and b) semantic verification of instruction content in relation to exercises, tasks, etc. The overall conclusion is that EFL teachers' instruction automation is possible as long as educational contexts are systematized.

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