

Author: Yoann BUYCK

What if implementing peer assessment was not a self-condition of teaching quality?

Your full name: Yoann BUYCK

Affiliated authors with institutions: None

Affiliation: University of Geneva

Current position: PhD Fellow

Title of your paper: What if implementing peer assessment was not a self-condition of teaching quality?

**Abstract** (322 words)

### Introduction

Recent developments of “Assessment as Learning” points out that involving student in the assessment process should lead to four added-value (Earl, 2013, p.28). Our contribution studies more specifically if Peer Assessment (PA) meets this these four Added-Value of Assessment as Learning (AV-AaL). In this contribution we stand that implementing PA may contribute to enhance teaching quality if it meets the four AV-AaL.

### Methodology

This study takes place in a Geneva’s primary school (Switzerland), and study a contemporary dance physical education unit that we built. By suggesting subjective criteria, it was obvious that the teacher had to build with the pupils a common comprehension of them of the process of PA. We filmed every lesson and analyzed the data in two consecutive ways. We firstly coded the interaction between the teacher and the students with *generic* learning content of PA. To do so, we based our coding on the four invariants of assessment activity (IAA): definition, collection, interpretation, communication (Mottier Lopez, 2017). This gave us a quantity and repartition of occurrence of each IAA. We based our second level of analysis by gathering every occurrence of each criterion in separated tables to study the evolution of *specific* learning content.

### Results

Regarding at the quantity of occurrence of each IAA, it reveals the teacher seems to effectively teach the whole process of PA. But the repartition of IAA raised some issues. For example, the second level analysis reveals that instead of revealing the intention to facilitate disciplinary learning, we observe that a systematical definition of the same criterion at each lesson is neither repeated nor completed but transformed trough the lessons, thus failing at meeting some AV-AaL.

### Conclusion

This contribution aims to emphasize the complementarity of different scale analysis. We will show that focusing on generic learning content was essential but not sufficient to tell if PA meets the AV-AaL and thus teaching quality as we define it to study benefits of PA.

**Extended summary** (1055 words)**Introduction**

According to Earl (2013, p.28), involving students in the assessment of the contents learnt in classrooms should lead to four Added-Value of Assessment as Learning (AV-AaL):

1. Procedural efficiency by involving students in the process of connecting assessment to their learning.
2. Disciplinary learning facilities by making sense of information and relating them to prior knowledge.
3. Disciplinary learning deepening by taking advantage of this relation process to create new knowledge beyond prior knowledge.
4. Interdisciplinary skills development by supporting their critical thinking, reflexivity and critical analysis.

Among these forms, Peer Assessment (PA) seems relevant when it comes to “help students help each other plan their learning, identify their strengths and weaknesses, target areas for remedial action, and develop metacognitive and other personal and professional skills” (Topping, 2009, p.20). Hence, implementing PA may contribute to enhance teaching quality if it meets the four AV-AaL. More specifically, our didactic theoretical framework leads us to focus on conditions to tell whether it facilitates and/or deepens disciplinary learning targeted.

**Methodology**

In this contribution, we consider two categories of knowledge contents involved in teaching and learning contemporary dance, at primary school. First one is related to contemporary dance as *specific disciplinary learning contents*. Following the steps of the “didactic engineering” methodological frameworks (Artigue, 1994), we designed a teaching unit in which the teacher implemented PA. Subjective assessment criteria such as “hesitations” and “degree of interest” were involved since they enable the students to grasp the aesthetic dimension of the dance moves beyond the technical dimensions. These contents were described in the teaching resources provided to the teacher.

Secondly, by choosing such criteria, it was obvious that the students would not be able to use them directly without building a common signification about them. Consequently, the teacher has to support the students in building the meaning of these criteria in the intersubjective space of interactions about the evaluation of the students' groups dance performances. Learning how to assess peers can then be defined as *generic learning contents*. Four invariants of assessment activity outlined by Mottier-Loper (2017) allow to grasp the learning contents of PA and examine teaching quality process since it meets the four AV-AaL (these contents did not figure in the teaching unit given):

- Ability of “collecting data” (IAA) is related to “procedural efficiency” (AV-AaL) since it supposes to observe, identify and write down observable data, it does not demand specific knowledge.
- Knowing the “definition of each criterion” (IAA) is related to disciplinary learning facilities” (AV-AaL) by the intersubjectivity (about criteria) building process.
- “Interpretation regarding knowledge contents” is related to “deepen disciplinary learning” (AV-AaL) by enabling students to get how peer assessing should help improving their dance abilities.
- Finally “communication of assessment to the assessed” is related to “developing interdisciplinary skills” (AV-AaL) by learning how to behave and communicate appropriately and constructively.

We transcribed the six 90min lessons in the dance teaching unit that was video-recorded. We then analyzed these data regarding two scales. First, we coded every episode in which IAA appeared in the

classroom interactions between teacher and learner. These coded data generated two graphs about the occurrence of each IAA: i) overall quantity and ii) time repartition in the teaching unit. This first scale focus on teaching IAA as *generic* learning contents. We completed this process with an analysis on the evolution of presenting each criterion. We consider as *specific* learning contents this second scale since it focuses on disciplinary knowledge (meaning, observing, interpreting and judging “hesitation” and “degree of interest” have to be taken in their cultural dance assumption).

### **Results**

When looking at the quantity of the IAA, it seems that all IAA are equivalently represented (23, 28, 20, 42, respectively). At first look, PA seems relevant to perform AV-AaL. But looking at the repartition of IAA raised the following issues: for example, does a systematical definition of the same criterion at each lesson reveals the intention to facilitate disciplinary learning? Would the teacher repeat or complete the definition? The study of the evolution of meaning of each criterion showed that the criterion “degree of interest” is defined in four different (and sometimes inconsistent) ways. Moreover, alternative meanings of the criteria “hesitation” come up: it may be assessed in a qualitative way (what are the evidence of “hesitation”), in a quantitative (how many “hesitations” in the dance performance) or even in sequential way (when does the “hesitation(s)” occur). Unfortunately, but interestingly, the criterion is never assessed in a systematic way (effect of hesitation(s) on the aesthetic of the choreography) as indicated in the support provided to the teacher.

Issues found in the time repartition of the generic learning contents (based in the IAA) led us to study the specific learning contents, i.e. the successive meanings made by the teacher. In other word, if the quantity of IAA about formal dimensions of teaching informs of an eventual teaching quality (each IAA represented equivalently), the analysis of the disciplinary learning contents revealed a lack of two AV-AaL (disciplinary learning facilities and deepening).

### **Conclusion**

Regarding QUINT conference theme 1, our aim is to illustrate how our two scales of analysis (generic contents on AaL and disciplinary specific content about contemporary dance) are complementary to examine teaching quality. The first scale of coding is useful to give an overview of the teaching process: the teacher tried to teach how to assess peers through regulations on the four IAA. However, this level of analysis of teaching quality does not tell us whether teaching PA generated the expected AV-AaL. Generating a visual repartition of the occurrence on the learning unit uncovered first doubts, but still needed to be studied more precisely. That is why the *specific* analyzing scale focusing on disciplinary content was complementary.

Beyond the case of teaching and learning contemporary dance, we argue that the study of teaching quality when implementing PA requires at least two levels of analysis: generic scale seems essential to reveal the presence of all four dimensions of IAA, but it is not sufficient to tell if it meets the AV-AaL. On the other hand, focusing directly on specific learning contents might not be sufficient to capture evidence of effective PA learning content. Even if this contribution happens in context on physical education, this contribution aims at emphasize the relevance of combining complementary scales of analysis when studying teaching quality.

### **Reference**

Artigue, M. (1994). Didactical engineering as a framework for the conception of teaching products. In R. Bielher, R. W. Scholz, R. Strässer, & B. Winkelmann (Éds.), *Mathematics Didactics as a Scientific Discipline*. Kluwer (Springer).

Earl, M. L. (2013). *Assessment as Learning: Using Classroom Assessment to Maximize Student Learning*. Corwin Press.

Mottier Lopez, L. (2017). Une modélisation pour appréhender la référentialisation dans l'évaluation des apprentissages des élèves. In P. Detroz (Ed.), *L'évaluation à la lumière des contextes et des disciplines* (pp. 169-192). Bruxelles: De Boeck Supérieur.

Topping, K. (2009). Peer Assessment. *Theory Into Practice*, 48(1), 20-27. DOI: [10.1080/00405840802577569](https://doi.org/10.1080/00405840802577569)