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AGENCY, RESPONSIBILITY AND EQUITY IN TEACHER VS STUDENT-CENTRED ACTIVITIES: A COMPARISON BETWEEN TEACHERS' AND LEARNERS PERCEPTIONS

Abstract

The literature in educational psychology has increasingly emphasised the need for schools and school professionals to reduce traditional teaching models in favour of student-centred learning practices. This paradigm change is considered as necessary in order to foster equitable learning contexts able to sustain students' active and accountable role in their educational pathway. Nevertheless, a number of studies provided evidence that teachers tend to overestimate, as compared to students, the quality of the learning environment. On the basis of these premises, the aim of this study was to compare students' and teachers' perceptions of two differently organized learning environments, i.e. teacher- vs. student-centred activities. Specifically, we considered their views on the dimensions of student agency, responsibility and context equity, measured through self-report instruments in two separate moments, that is, for teacher and student-centred activities, respectively. The study was held on a sample of 26 teachers and 397 middle school students. The results showed that student-centred activities – organised *ad hoc* after a teacher training – were only partially perceived as differently promoting the three dimensions. Moreover, our study confirmed that teachers tended to emphasize their capacity to foster agency, responsibility and equity both in teacher and student-centred activities. In contrast with the core recommendations contained in European and local documents, the results of this this study suggest that there is still a resistance in school that limits the possibility for students to be positioned as active authors of their teaching and learning environment.

AGENCY, RESPONSIBILITY AND EQUITY IN TEACHER VS STUDENT-CENTRED ACTIVITIES: A COMPARISON BETWEEN TEACHERS' AND LEARNERS PERCEPTIONS

Introduction

In the last two decades, scholars in educational psychology have supported the importance for schools and school professionals to position students as active authors of their educational pathway (Schweisfurth, 2015). This conception, which reverberates in political discussions and agendas, finds its roots in the assumption that learning processes are fostered when students are considered as social agents or active learners in an equalitarian context (Lave & Wenger, 1991; Kovalainen & Kumpulainen, 2007; Sfard, 2008). In the practice, this approach stresses the need to create learning environments able to (a) solicit students' active and agentic participation in educational practices (e.g. Mäkitalo, 2016; Reeve & Tseng, 2011), (b) encourage them to feel co-responsible with the teachers for their own school path (Fishman, 2014; Mameli, Molinari, & Passini, 2018), and (c) equally valorise all students by considering the specific competences they have (Deutsch, 1985; Resh & Sabbagh, 2014).

For these ambitious goals to be achieved, governments and educational agencies are engaged in the promotion of interventions and teacher training programs aimed to support and increase instructional models and methods that are sensitive to student involvement and participation in school activities (e.g. Antoniou & Kyriakides, 2013; Gordon et al., 2009; Pepin, 2011). In this sense, particular attention should be given to the match between *teachers' and students' perceptions of what they are doing in the classroom*. In fact, we know that "if students' perceptions do not match with the intentions of teachers and instructional designers, the instruction is likely not to reach its goals" (Konings, Seidel, & van Merrienboer, 2014, p. 1). In view of this, if the learners' views and perceptions of their own learning environments are disregarded, all projects aimed at empowering teachers to give students more space and voice may not be able to achieve their goal (Cook-Sather, 2006).

Based on these premises, the aim of this study was to compare students' and teachers' perceptions of two differently organized learning environments, i.e. traditional lectures or teacher-centred activity vs. laboratory or student-centred activities. Specifically, and in line with the core of the current educational agenda, we will consider their views on the dimensions of student agency, student responsibility and equity.

Teacher vs. student-centred learning environments: Implications in terms of Agency, Responsibility and Equity

In Western societies, schools of all types are structured in similar ways, with classes, activities, schedules and programs to be completed. Nevertheless, the learning environment – here defined as "a set of conditions in place for understanding learning activities" (Osorio Gómez & Duart, 2012, p. 260-261) – varies depending on the specific practices teachers and students co-construct in everyday classroom interactions (Elen, Clarebout, Léonard, & Lowyck, 2007; Molinari & Mameli, 2013). To simplify the multiple forms and features that learning environments may take on, many authors (e.g. Baeten, Dochy, Struyven, Parmentier, & Vanderbruggen, 2016; Elen et al., 2007; Freiberg & Lamb, 2009) have agreed to consider them on a continuum extending from a teacher-centred to a student-centred pole. These two poles are not to be conceived as opposite educational repertoires (e.g. Alexander, 2008; Mameli & Molinari, 2014), but rather as complementary in their nature. In fact, they aim to achieve different goals – focused on the acquisition of contents and on the development of skills, respectively – and they both are functional and effective if adopted flexibly.

The differently organized learning environments elicit various degrees of student participation in the classroom. In particular, we consider three features of participation: student *agency*, here meant as "the individual's ability to transform the social practices in which s/he participates" (Mameli & Passini, 2018, p. 2); student *responsibility*, considered as the "sense of internal obligation and commitment to produce or prevent designated outcomes" (Lauermann &

Karabenick, 2011, p. 135), and context *equity*, realized when all students are assigned the same conditions and the same opportunities.

Agency, responsibility and equity are limited when school activities are teacher-centred (e.g. Brocato, 2009; De Corte, 2003; Garrett, 2008). In these cases, the learning environment typically takes the form of lectures, readings, tests or teacher-led discussions. The decision-making and relational power is mostly in the teacher's hands, as it is the adult who decides, in a rather unilateral way, the lesson contents, which students can intervene, and what counts or does not count as knowledge. Still, it is the teacher who monitors and guides instructional activities and students' actions, directing the course of the lesson towards pre-established and not-negotiable learning goals. As discussed by several authors (Matusov et al., 2016; Rajala, Kumpulainen, Rainio, Hilppö, & Lipponen, 2016), teacher-centred learning environments tend to limit student agency, or rathe to favour a responsive or domesticated type of agency, that is, a basically compliant form of action. The same is true for responsibility, as the interaction control exerted by the teacher implies the de-legitimation of learners as capable of choosing and taking decisions for which they are called upon to respond personally (Helker & Wosnitza, 2016; Kammerl, 2008; Lauermann, 2014; Lauermann & Karabenick, 2011). In this environment, student participation is thus restricted to the response given after a teacher's solicitation, with the interactive path fundamentally controlled by the adult. Moreover, the focus on contents and performances challenges the promotion of equity, given that well performing students will have more chances to be valorised and appreciated as competent students (see Mameli, Mazzoni, & Molinari, 2015).

When learning environments get closer to the student-centred pole of the continuum, their organizational features and meanings change. Teaching, in this case, takes the form of collaborative activities, reflective thinking, investigations, exploratory discussions and collective projects (Edwards & Watts, 2004). Such environments promote a vision of teaching and learning processes as rooted in the collective co-construction of knowledge (Elen et al., 2007; Smit, Brabander, & Martens, 2014), with students solicited to take a truly active, agentic and accountable role. Teachers

reach this goal by maintaining their guiding role, but at the same time exploiting the emerging occasions to concede part of their instructional power to the learners, who can thus propose, negotiate, discuss, and eventually transform educational practices (Martin, 2016; Rajala et al., 2016). By promoting and encouraging such varied learning activities, teachers encourage students to be responsible for their own actions (Cannon & Newble, 2000), to make choices and to take decisions. In this variety of school activities, there is space for the appreciation and valorisation of different types of competences and learning styles, and therefore for offering all students equal participation opportunities.

In most countries and schools, the traditional model of teacher-centred education is the most widespread (Hardman, 2011; Makela & Helfstein, 2016; Schrittesser, Gerhartz-Reiter, & Paseka, 2014), although it has been widely recognized as being inadequate, alone, for promoting the 21st century skills (Dole, Bloom, & Kowalske, 2016). For these reasons, the invitation to teachers to enrich their learning environments in a student-centred direction is at the core of the international educational policies (e.g. Hannafin, Hill, Land, & Lee, 2014). To work in this direction, however, it is fundamental that both teachers and students understand, recognize, and above all share a common vision, on "what" is the learning environment they mean to co-construct and how they perceive it (Elen et al., 2007; Konings et al., 2014).

Teachers' and learners' perceptions of the learning environment

Within a transactional and dialectical view of classroom practices (e.g. Reeve, 2013; Mameli & Molinari, 2014), teachers and students are called to actively and reciprocally collaborate in order to co-construct their learning environment and to reach the desired educational goals. However, for this mutual adaptation to be realised, the way the learning environment is perceived by teachers and students is of crucial importance (Könings et al., 2014; Vermetten, Vermunt, & Lodewijks, 2002). This point should never be overlooked, as every practice is interpreted from a subjective perspective (Elen et al., 2007) that inevitably influences actions. To make classroom work and activities effective, it is important for teachers and students to share similar visions of the educational setting.

So, the question is: to what extent do teachers' and students' perceptions of the same learning environment intersect? Unfortunately, as it often happens, the different actors' points of view differ, and school is no exception. The literature shows that in most cases teachers perceive educational practices more favourably as compared to their students (Doppelt, 2004; Konings et al., 2014; Watkins, 2004). Konings and colleague (2014) used the term 'friction' to define such a divergence. When modest, this discrepancy might lead teachers and students to constructively engage in exchanges aimed at improving the learning environment. On the contrary, when the discrepancy is so large as to not allow for any integration, a 'destructive friction' hampers the pursuit of the same educational purposes.

After reviewing a series of studies conducted on various learning environment dimensions – including teacher personal involvement, student participation, cohesiveness, goal direction and task difficulty – den Brock and collaborators (2006) concluded that "regardless of the domain of teaching studied, teachers on average have higher perceptions than their students with respect to the areas of interest" (p. 128). In a more recent study, Konings and collaborators (2014) reached similar results. By comparing teachers' and students' perceptions of variables such as productive learning (i.e., little emphasis on the sole reproduction of learning contents), interaction (i.e., collaboration with peers and interaction with the teacher) and differentiation (i.e., opportunities for students to choose and make different tasks or solve problems in different ways), the authors found significant differences in favour of the teachers.

Despite the long tradition of research comparing teachers' and students' point of views, no studies, as far as we know, have taken into consideration their perceptions of agency, responsibility and equity. Agency has been mostly investigated in students, either with qualitative methods (see Mäkitalo, 2016) or quantitative scales (Mameli & Passini, 2018; Reeve and Tseng, 2011), while the issue of teachers' perceptions of their students' active role in the classroom has been left behind. As for responsibility, the few studies in the field have focused separately on teachers (e.g. Lauermann & Karabenick, 2011) or students (e.g. Mameli, Molinari, & Passini, 2018; Zimmerman & Kitsantas,

2005). Finally, the research field on school justice (Dalbert & Stoeber, 2006; Resh & Sabbagh, 2016), stressed the importance that students attribute to equity and fairness, which affects engagement and wellbeing (Berti et al., 2016; Molinari, Speltini, & Passini, 2013; Peter & Dalbert, 2010), while teachers' perceptions were again overlooked.

To reach the aim of implementing educational environments capable of encouraging learners' active participation and accountability, both teachers' and students' perceptions should be considered. On one side, teachers, together with school principals and policy makers, use their knowledge and experience to create the best possible learning environments. By benefiting from and responding to learning contexts perceived more or less positively, students, on the other side, decide the degree of commitment they mean to reserve to their school paths (Entwistle, 1991; Fishman, 2014; Konings et al., 2014; Rudduck & McIntyre, 2007).

The present study

As argued above, the literature has provided evidence that teachers tend to overestimate, as compared to students, the quality of the learning environment. However, despite the consistent literature on teacher and student-centred learning environments, previous studies have compared teachers' and learners' perceptions in relation to a generic learning environment (e.g. Den Brok, Levy, Rodriguez, & Wubbels, 2002; Konings et al., 2014), while their perceptions of the two forms of teaching have never been considered. In particular, the literature does not provide evidence on teachers' and students' views on the dimensions of agency, responsibility and equity.

In the light of these premises, the aim of the present study was twofold. Firstly, we verified whether teachers and students, separately, perceive that teacher- vs. student-centred activities differ in the degree to which they promote agency, responsibility and equity. Secondly, we compared students' and teachers' perceptions of teacher vs. student-centred learning environments. Teacher-centred activities corresponded here to traditional frontal lectures, readings, tests and teacher-led discussions, which take place overall in the typical everyday lesson. Student-centred activities, based on collaborative activities, reflective thinking, investigations and exploratory discussions,

were instead organized in the form of laboratories able to foster agency and responsibility in a climate of justice and equity (additional comments are provided in the Procedures section). In greater detail, this study had four sub-goals, which are illustrated in Figure 1. First of all, we compared perceptions that students (sub-goal 1) and teachers (sub-goal 2) respectively have on the degree of agency, responsibility and equity in teacher vs. student-centred activities. Given the literature results that in student-centred learning environments students are solicited to take an active, agentic and accountable role (Martin, 2016; Mameli et al., 2015), we expect that both students and teachers will have a significantly more positive perception of student-centred activities on all three dimensions. Secondly, we compared students' and teachers' perceptions respectively for teacher-centred (sub-goal 3) and student-centred (sub-goal 4) activities. In line with the literature (e.g. den Brock et al., 2006; Konings et al., 2014), we expect that in both cases teachers will overestimate, as compared to students, the investigated dimensions.

Insert Figure 1

Method

Participants

The study was held between March and May 2017 on a convenience sample of students and teachers from one urban middle-class middle school (grades 6 to 9) located in Northern Italy. All the students and their teachers participated in the study.

Since our data were collected in two separate moments, for teacher and student-centred activities, respectively, we describe the samples separately for the two waves. The teacher sample included 26 participants (3 males and 23 females) in the first wave of data collection and 24 participants (2 males and 22 females) in the second wave. Overall, teachers averaged 49.01 years of age (range 35-63; *DS* = 6.81) and 18.81 years of experience (range 3-34, *DS* = 9.39). The student participants were 383 (188 males and 194 females, 1 missing) in the first wave of data collection, and 397 (194 males and 201 females, 2 missing) in the second wave. Their ages varied from 11 to 15 years (*M* = 12.17, *DS* = .96); the majority of students came from middle-class families and 10%

were of foreign origin but spoke Italian fluently. The different number of participants in the first and second waves depended on who was actually at school at the time of questionnaire administration. Student absences and teacher free days were the reasons why the two samples differed slightly.

Procedures

The school was randomly selected from five schools that applied to participate in a wider pilot project on improving the learning environment. After explaining the research goals to the school principal, the researchers presented the study to the whole of the teaching staff, and they all voluntarily signed their consent to participation. Prior to the data collection, the minors' parents were asked to complete an informed consent form. No family refused to do so.

The data collection took place in four phases. In Phase 1 (first wave of data collection) we administered a self-report questionnaire to all teachers and students in the school. They were asked to answer by referring to a typical school lesson (teacher-centred activities).

In phase 2, researchers set up a teacher training course lasting six hours and spread over two days. In particular, teachers were trained to promote students' agency and responsibility and to create an egalitarian climate by legitimating various competencies and skills and by offering all students participation opportunities. Specifically, in the first day of the course we introduced the difference between teacher vs. student-centred activities, put forward a definition of agency, responsibility and equity, commented on episodes reported by the teachers, and proposed interactive exercises specifically aimed to facilitate the transfer of theory into teaching practice. On the second day, the teachers were invited to split up into small groups of between three and 5 individuals who taught the same subject, and to discuss which activities could favour student agency, responsibility and equal participation. In the end, each teacher was invited to individually plan two student-centred laboratory activities, meant as educational situations fostering active learning (Roberts, 2012), to be proposed to a group of students. Each teacher was left free to decide the teaching

approach and the topic, within the frame of student-centred activities specifically intended to promote agency, responsibility and equity.

In phase 3, all teachers and students participated in two-day student-centred laboratories. Students, no matter from which year, were left free to select for each day one of several 'packages' of laboratories offered by teachers, based on their personal interests and preferences. Therefore, the composition of the groups of students who attended the various laboratories did not match the usual composition of classrooms[1].

In Phase 4 (second wave of data collection), all teachers and students were administered the same questionnaire previously administered in phase 1. This time, however, they were asked to answer by referring to the laboratories (student-centred activities).

For both the first and the second data collection waves, all the students were asked to voluntarily participate, and were assured about the confidentiality and anonymity of the data handling. The researchers administered the self-report instrument to students and teachers in their classrooms during the school hours. For each class, the filling in of the questionnaire was preceded by a short illustration of the research and its general goals. Due to Italian administrative regulations and school privacy issues, and to a specific school principal's request as well, for this study we were not allowed to match data coming from students and teachers for the first and the second waves of the data collection.

Instruments

The questionnaires administered to students and teachers comprised the same measures, with different formulations: students were asked to think about their own behaviour, while teachers were asked to think about how they facilitated students' behaviour. The measures, each of which was evaluated on a 5-point likert scale of agreement, were translated and adapted from three of the scales (i.e., Involvement, Young adult ethos, Equity) of the Constructivist-Oriented Learning

[1] We should specify that, in Italy, classes are made up of groups of students that remain the same for all disciplines and for the entire educational cycle.

Environment Survey (COLES; Aldridge, Fraser, Bell, & Dorman, 2012) and consisted in the following.

Agency. This scale comprised 6 items assessing the degree and quality of students' active participation in classroom activities. Item sample for the student version: I give my opinions during class discussions. Item sample for the teacher version: I ask students to give their opinions during class discussions.

Responsibility. This scale comprised 7 items measuring the degree of student responsibility and treatment as young adults. Item samples for the two versions: I am encouraged to take control of my learning / I encourage students to take control of their learning.

Equity. This scale was composed by 6 items evaluating the degree of equal treatment from teachers. Item samples for the two versions: I get the same opportunity to contribute to class discussions as other students / I give each of my students the same opportunity to contribute to class discussions.

As these instruments were never used before in Italy, a back-translation procedure was adopted. Chronbach's alphas for these scales, calculated separately for the first and the second waves of data collection, ranged from .75 to .78 for the student sample, and from .73 to .88 for the teacher sample.

Results

Table 1 presents the means and standard deviations of students' and teachers' perception scores on the three considered dimensions and for waves 1 and 2, respectively.

*** Insert table 1 ***

Similarities and differences on participants' perceptions of teacher-centred and student-centred activities were tested by inspecting the presence of statistically significant differences between the first and the second waves of data separately for students and teachers. As regards the students (see Figure 2), the findings of a series of Analysis of Variance (ANOVA) revealed a significant, albeit moderate, increase from the first to the second wave in terms of responsibility (*M*

$_{\text{first wave}}$ = 3.35; $M_{\text{second wave}}$ = 3.47; F = 4.04; p = .045) and equity ($M_{\text{first wave}}$ = 3.59; $M_{\text{second wave}}$ = 3.92; F = 30.58; p <. 001) scores, while no difference was found for agency ($M_{\text{first wave}}$ = 2.97; $M_{\text{second wave}}$ = 2.98; F = 0.30; p = .86).

*** Insert figure 2 ***

As regards the teachers, the non-parametric Mann Whitney U test[2] did not indicate any significant difference between teacher-centred and student-centred lessons on the score distributions of the considered dimensions, i.e. agency (mean rank $_{\text{first wave}}$ = 25.44; mean rank $_{\text{second wave}}$ = 26.58; U =310.50, z = -.274, p = .78), responsibility (mean rank $_{\text{first wave}}$ = 25.37; mean rank $_{\text{second wave}}$ = 26.66; U = 308.50, z = -.312, p = .76) and equity (mean rank $_{\text{first wave}}$ = 24.69; mean rank $_{\text{second wave}}$ = 27.36; U = 291.00, z = -.645, p = .52).

*** Insert figure 3 ***

In order to compare students' and teachers' perceptions of the learning environment separately for the two waves, Mann Whitney U Tests were used for each of our measure. The results indicated the presence of significant differences, with teachers overestimating, as predicted, the considered dimensions with respect to students. More in specific, as regards teacher-centred activities, teachers obtained higher scores on agency (mean rank $_{\text{teachers}}$ = 339.79; mean rank $_{\text{students}}$ = 195.85; U =1474.50, z = -6.018, p < .001), responsibility (mean rank $_{\text{teachers}}$ = 294.19; mean rank $_{\text{students}}$ = 198.95; U = 2660.00, z = -3.981, p < .001) and equity (mean rank $_{\text{teachers}}$ = 257.71; mean rank $_{\text{students}}$ = 201,42; U = 3608.50, z = -2.354, p = .019).

As for student-centred activities, teachers obtained higher scores on agency (mean rank $_{\text{teachers}}$ = 351.38; mean rank $_{\text{students}}$ = 202.69; U = 1465.50, z = -5.922, p =.001), and responsibility (mean rank $_{\text{teachers}}$ = 290.58; mean rank $_{\text{students}}$ = 206.52; U = 2985.50, z = -3.348, p = .001), while no difference emerged on equity (mean rank $_{\text{teachers}}$ = 237.96; mean rank $_{\text{students}}$ = 209,83; U = 4301.00, z = -1.121, p = .262).

[2] The Mann Whitney U test was chosen because of the small number of participating teachers. In addition, data concerning teachers revealed a non-normal distribution, as assessed by Shapiro-Wilk's test (p < .05).

*** Insert figures 4 and 5 ***

Discussion

The general purpose of this study was to compare students' and teachers' perceptions of teacher vs. student-centred learning environments with a focus on the dimensions of student agency, student responsibility, and context equity. Overall, the results showed that student-centred activities – organised *ad hoc* after the teacher training – were only partially perceived as differently promoting the three dimensions. Moreover, our study confirmed that teachers, as compared to students, tended to emphasize their capacity to foster agency, responsibility and equity both in teacher and student-centred activities. Key findings and educational implications are discussed in the following sections.

Students' and teachers' perceptions of teacher vs. student-centred activities

Consistently with our hypothesis, learners evaluated student-centred activities as more equal and more oriented to sustaining their own responsibility in the co-construction of the unfolding activities, as compared with teacher-centred lessons. These results lead us to conclude that the students perceived a change in their teachers' way of promoting these dimensions in class during the activities tested in the second wave, which indirectly support the quality of teacher training in introducing a change in the teaching activity. Nevertheless, and contrary to our expectations, students did not register variations in terms of their agentic participation, as in both waves they evaluated agency with mean scores below the midpoint of the scale. This finding suggests that the encouragement and recognition of a student's truly proactive and transformative role is a difficult task for teachers. In line with other scholars (Mameli & Passini, 2018; Matusov et al., 2016; Rajala et al., 2016), our study seems to confirm that teachers, in their everyday practices, tend to accept and legitimise mainly *domesticated* forms of agency, i.e. such forms of participation adhering or responding to teachers' specific requests and plans, while other forms of agentic participation – i.e. new proposals, initiatives, critics – remain under-represented. The fact that the training course was insufficient to bring about a change in this dimension is a critical point, as it highlights that the

interactive dynamics between teachers and pupils are very much crystallised around the teacher's sharp guidance and resistant to transformations. Given its implications in everyday classroom life, this issue certainly warrants further analysis by scholars and policy-makers.

Inconsistently with our expectations, no difference was found in teachers' perceptions of teacher vs. student-centred learning activities. Indeed, we observed no variation in the average values given by teachers in the two waves to the three considered dimensions, which, by the way, were already rated as very high before the intervention. We could advance two possible explanations on this point. First, it may be that teachers perceived their 'normal lessons,' analysed in the first wave of data collection, as already student-centred, and therefore judged them as very similar to the student-centred laboratory lessons. Although this explanation is plausible, it is in marked contrast with the results obtained from students, who perceived the activities in waves 1 and 2 as very different. Another explanation could be that teachers overestimated the quality of their teacher-centred activities in terms of agency, responsibility and equity, and as a consequence the variation margin of the scores at the second data collection was inevitably reduced, with little chance of increasing. No matter what the explanation, this result raises worries concerning the way teachers perceive and evaluate everyday classroom practices. Facing a scientific debate that increasingly calls for fostering students' responsibility and active engagement (Carpenter & Pease, 2013; Fisher & Frey, 2008), our data seem to reveal that teachers do not actually "see" this need simply because they feel they have already achieved these educational principles.

Comparison between students' and teachers' perceptions of teacher and student-centred activities

In line with our hypothesis, the comparison between students' and teachers' perceptions for teacher and student-centred activities respectively showed that, both in the first and in the second waves of data collection, teachers significantly over-evaluated, as compared to their pupils, the levels of learners' agency and responsibility. This is an innovative result. In fact, although the literature (e.g. den Brock et al., 2006; Konings et al., 2014) has already shown that teachers tend to

overemphasise various learning environment dimensions, to our knowledge no studies have taken into consideration their perceptions of students' proactive involvement and accountability. There are reasons for concern about these results. In fact, echoing Konings' remarks (Konings et al., 2014), we found a 'destructive friction' between teachers' and students' perceptions, which may hamper the quest to improve the learning environments by fostering student agency and responsibility (Fisher & Frey, 2008; Mäkitalo, 2016; Mameli et al., 2018). This is a very problematic issue: how can teachers and students collaborate in the co-construction of virtuous learning environments, if they fail to agree on 'what they are doing' together in the classroom?

Despite these results, it should be noted that the dimension of equity, overrated by teachers with respect to teacher-centred activities, was similarly evaluated (with high scores) by both teachers and students in the second wave of data collection, i.e. for student-centred activities. This is a significant finding, suggesting that teachers and learners agree that student-centred activities promote an equalitarian distribution of learning and participation opportunities (Mameli et al., 2015). The procedure we deliberately decided to adopt – that students could choose the packages of laboratories they wished to attend – might have affected this finding. In fact, as the groups of students participating in the laboratories differed from the usual classes, teacher-student interactions were challenged by the fact that teachers could not anticipate which students were the most competent, or the most disruptive, or the most proactive. This 'new scenario' may have facilitated an equalitarian conduction of the activity. This finding is promising as it suggests that by removing or weakening some typical school constraints – i.e. the composition of the classes and the limited possibility for students to choose which activities to engage in – teachers could be in the position to foster fairness and equal participation by all students.

Limits and conclusions

This study has some limitations that should be borne in mind when interpreting the results. Firstly, our investigation is limited with respect to student and teacher samples, which came from just one middle school. In addition, we are aware that our teacher population is unbalanced in terms

of gender. Further studies on different and broader populations are needed to confirm and eventually generalise our findings. Second, we cannot state with certainty that the activities investigated through self-report instruments in the first and in the second waves of data collection were actually teacher vs. student-centred. Moving from teacher- towards student-centred practices is a radical change, not only in terms of activities but rather in the overall teaching approach: it relies on attitudes, knowledge and it is highly affected by the teaching culture in the school, which is not easily changed with brief teacher trainings. Nevertheless, previous studies (Hardman, 2011; Makela & Helfstein, 2016; Schrittesser et al., 2014) provided evidence that, generally, traditional instructional models, i.e. teacher-centred, still prevail in everyday practices in schools all kinds. In addition, our results, especially those from students, gave us good reason to assume that the teacher training we delivered promoted laboratory activities characterised by a student-centred orientation. Nevertheless, further studies should carefully consider the use of observations or video-recordings to identify the actual quality of the considered learning environment. Finally, our study did not provide any assessment of student learning in teacher and student-centred activities. Therefore, we do not know if students' academic achievement changes according to how the learning environment is perceived.

Notwithstanding these limitations, our study provides insights into practice and policy frameworks. First of all, it highlighted that teachers tend to overrate, with respect to their pupils, the learning environment dimensions that nowadays are at the core of the educational agenda. Unfortunately, in a learning environment already perceived as optimal, little room remains for change and improvement. On one side, this calls for the need to train teachers about their potential for change, which should always be a goal for improving educational quality. Moreover, it empowers students' points of view as an essential feedback to monitor teaching strengths and weaknesses both from the perspective of the designers and the users of school practices. This good practice definitely needs to be implemented, at least in the Italian context. The TALIS survey (Teaching and Learning Educational Survey; OECD, 2014) actually showed that, in Italy, only one

third of the teachers have received some feedback on their activities from their students in the last few years.

To conclude, we point out two considerations going in the opposite direction. First, we should recognise the positive effect of actions aimed at raising awareness among school professionals on the importance of responsible and equal participation. Combined with an attempt to undermine some educational constraints in the direction of a student-centred learning environment, teacher training was able to limit the friction between teachers' and students' perspectives, and to allow them to work together for reaching a common goal. However, and this is the negative factor, this was not true for student agency. Indeed, this dimension remains a sort of raw nerve for teachers, who in any of the considered conditions (teacher vs. student-centred activities, teachers' vs. students' perspectives) were able to recognise how important it is to promote in their students the basic skills needed to be active citizens. In contrast with the core recommendations contained in European and local documents, there is still a resistance in school that limits the possibility for students to be positioned as active authors of their teaching and learning environment. Researchers and professionals should cooperate to implement actions and interventions capable of improving agentic participation from the earliest years of schooling.

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