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# FROM INFORMING TO TRANSFORMING: STUDENTS ENGAGEMENT THROUGH PRACTICE-BASED LEARNING METHODOLOGY AND COMMUNITY SERVICES

**DANIELE ECKERT**
daniele_eckert@yahoo.com.br

**ROGERIO LEITE GONZALES**
rogerio.gonzales@gmail.com

**LUIS FELIPE MACHADO DO NASCIMENTO**
UNIVERSIDADE FEDERAL DO RIO GRANDO DO SUL
nascimentolf@gmail.com

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## ABSTRACT:

The purpose of this study was to investigate if the introduction of a Practice-Based Learning (PBL) methodology and the provision of community services, by allowing students to have a more active role, is reflected in greater engagement and, consequently, in a better learning perception. Two classes of Socio Environmental Management discipline were analyzed, evaluating a total of 89 students from the ninth and tenth semester. Observations occurred during a semester. In addition, questionnaires were applied, as well as individual interviews and several rounds of feedback throughout the semester. Results indicate a greater engagement and less boredom perception by students, a need to leave the comfort zone, satisfaction in solving a real problem, and a sensation of a deeper learning. However, there is a relevant gap on how students are used to have classes and this new approach, so strangeness and difficulty in adapting became evident. As a contribution, this study proposes an advance in the use of PBL methodology, specially related to sustainability teaching process, as well as provides nine conclusions / suggestions on the transition to this approach that can be useful to researchers, policy-makers and professors.



**Keywords:** Community Services**;** Practice-Based Learning **(**PBL); Organizational Learning; Sustainability Teaching; Student´s Engagement.

## 1. Introduction

In the middle of a lecture a teacher realizes that out of fifty students only two or three are aware of what is being taught. The other students are using cell phone, talking, distracted, or even sleeping. At the same time, many students at university complain it's unpleasant watching classes, once they evaluate it as boring and that it does not have a connection to real life or a practical application. They are disengaged and their attention is not available. If a student is asked months later what he/she has learned, many of them will answer they no longer remember. This is not a new or unique experienced case, since the literature describes similar situations referring to student´s lack of engagement (see Trout, 1997; Osterman; 1998; Merwin, 2002; Sullivan, 2014. Anderson; Mitchell; Osgood, 2005, for example).

This research started from an inquietude facing such situation, especially because in the Brazilian context little has been done so far. Classes are usually expositive with a teacher as the only knowledge holder and students with a passive role of listeners. Grandchildren are having the same class as their grandparents had decades ago in a world that has changed significantly. Education model needs to be reviewed to improve student's engagement.

Engagement is related to the formulation of a deeper connection between a student and a topic, either in the readings requested or in the proposed activities. It is a part and a requirement for learning (Schussler, 2009). In this sense, several authors understand that practice plays an important role, since it may be able to improve learning process (Antonello; Godoy, 2011; Gherardi, 2002; Gherardi, 2015; Schatzki, 2009).

But practice is not synonymous to routine or reality, the concept is related to social interactions as essential parts of the process of acquiring knowledge. It can have three dimensions: interconnected activities as a way of ordering collective action and the common orientation; sense-making process that supports and negotiation of the meanings of a practice by its practitioners; and the social effects generated by a practice (Corradi; Gherardi; Verzelloni, 2010). In this sense, acquires importance the concept of practice based approach that understands knowledge as historically and socially situated and learning as a participative social process in which practical activities have an essential role. It will be better explored throughout this article.

Thus, innovative curriculum based on practice approach such as PBL seeks to prioritize active methods of teaching and learning, changing the focus of the teacher to the student, in the sense that the latter starts to assume a co-responsibility for his/her learning and can engage more in proposed activities. Instead of assuming the role of the transmitter of knowledge, the teacher becomes a facilitator, in a situation where both work together in the construction of knowledge (Souza; Iglesias; Pazin-Filho, 2014). Stimulating students to reflect critically and creatively through a more dynamic and interactive teaching method should elicit more interest in learning (Macedo; Duarte; Teixeira, 2012). In this sense, learning is the process of acquiring knowledge (UNESCO, 2015).

In addition, there is a parallel trend in some countries to approach universities and communities in learning processes. Such practices are based on the literature propositions about better engagement resulting from classes that transcend the walls of the universities and make students solve real problems faced by the society in which they are inserted (see Tilbury, 2011; Vickers; Harris; McCarthy, 2004). In this article, such initiatives are considered also as practical based approach.

**Therefore**, **the purpose of this study is to investigate if the introduction of a Practice-Based Learning methodology and the provision of community services, by allowing students to have a more active role in classroom, is reflected in greater engagement and, consequently, in a better learning perception.** Many researches are focused on children learning and there are just a few approach interactions between adults (see Fassinger, 1996), lacking studies in developing countries, those that most need to improve their learning process. Furthermore, the difficulty of bringing innovations in classroom is a theme that transcends this context (see UNESCO, 2015) and new investigations can contribute to this global problem.

This article is divided into 7 sections, after the introduction we have section 2 and 3 regarding the theoretical lenses used in the study, section 4 describes the methodology utilized, so that in section 5 we can explore the results obtained. The paper concludes with a discussion and the implications to researchers, policy-makers and professors.

## 2. The traditional teaching-and-learning method and the passive role of students

Traditional teaching-and-learning method refers to class based on an educator who transmits knowledge on a particular topic to learners using the accepted instructional technologies as books, articles and lectures. The learning process was considered effective when the intended message was presumably total transferred from teacher to learner (Ruben, 1999).

However, new patterns of knowledge and skills that came with the passing of the decades require new ways to recognize, validate and evaluate learning process (UNESCO, 2015). This makes the traditional model of teaching and learning obsolete. Although few actions in the world are effectively taking place in order to change the way in which learning takes place within educational institutions, the criticisms have long existed. According to Tynjälä (1999) the main critics is that traditional educational practices differ from the expertise required in the real environments for which students are supposed to be prepared.

Some criticisms are related to the fact traditional method implies in misunderstanding that teaching is a necessary condition for learning. This is not true, once people also learn all the time outside classroom, for example, from conversations with casual strangers. Another criticism is the use of tests to measure knowledge as indicators of learning. The ultimate test of the knowledge and skill acquisition is in the translation of knowledge into behavior, the ability to use knowledge appropriately. For knowledge become fully understood the simple transmission of information is not effective, it requires reinforcement, application, repetition, and often practice in a variety of settings and contexts (Rubens, 1999).

In this sense, McCarthy & Anderson (2000) point that at many colleges and universities the lectures students passively absorb “pre-processed” information and then regurgitate it in response to periodic multiple-choice exams, in an outdated teaching model, resulting in students concentrating just on superficial indicators, neglecting deep learning. Anderson; Mitchell & Osgood (2005) relate that students on traditional model rely on short-term memorization strategies rather than learning the material with deep understanding. According Tynjälä (1999) students are encouraged to simply memorize and reproduce the knowledge they have acquired.

Moreover, traditional teaching-and-learning tend to emphasize the transmission of knowledge from an acknowledged expert to individuals in isolation. The problem is that learning is a social and, collaborative phenomenon. Even the structure of the classroom carries a mistaken

message. Together, they pass the message that there are just a few people possessing the knowledge that should be acquired by large numbers of passive learners. Not enough, it still makes the classroom boring for students (Rubens, 1999).

The wide application of this methodology in the classroom leaves behind the fact that technological and informational innovations had a relevant impact on learning possibilities. What was previously restricted to the educational space, was extended to home, to work and even to leisure space. The school, not innovating properly to adjust to this new conjuncture is now questioned about its traditional methodology focused basically in cultural transmission. In a context that information is easily available it must open space for new teaching methodologies (Gadotti, 2000).

Therefore, the current context of transformation of the educational landscape, such as social networks, information easily accessible in mobile devices and online courses, offers an opportunity to reconcile all learning spaces by creating synergies between formal education and other educational experiences, as well as offering new opportunities for experimentation and innovation (UNESCO, 2015). In this context, the concept of PBL can bring some insights and possibilities.

## 3. Practice-Based Learning (PBL)

A possibility to overcome the challenges of organizational learning is to adopt a practice-based perspective (Antonello; Godoy, 2011). Learning is not a phenomenon that takes place in a person's head. It is a participative social process, a way to take part in the social world, to engage with the others and to take part in the power or knowledge game. The community constructs and perpetuates social and working practices, once it is the source and the medium for socialization (Corradi; Gherardi; Verzelloni; 2010; Gherardi, 2002). In fact, learning is a combined use of the language, action and observation (Gherardi, 2002).

The turn of practice draws attention to practices defined as ways of people do things together and thus to social processes that support ethical, aesthetic, and emotional situations (Gherardi, 2015). One of the cases that the practice-approach based may be useful is for a "renewed conception of organization as a texture of interrelated practices which extend to form an action-net sustained by a knowing-in-action which renews itself and transforms itself into being practiced". Another possibility is "a renewed conception of knowledge as a situated, negotiated, emergent and embedded activity" (Gherardi, 2009, p. 357).

However, it is important to pay attention to some problematic definitions in the concept of PBL that make practice almost synonymous of workplace and profession. Much of this may be related to a concern to increase student employability after graduation and it is driven mainly by the ideology of economic rationalism, by considering an education for a form of investment and a university as a business (Gherardi, 2015). The standardization and the dissemination of teaching based on the American post-war model is still present in the curriculum of Brazilian administration schools, whether in content or in the lectures that relegate to the students also a passive role (Alcadipani; Bertero, 2014).

Practices have two basic components, action and structure. Structure corresponds to the organization and it embraces at least four phenomena (1) understandings of the actions constituting the practice, for example, knowing how to email and to recognize emailing (2) rules, as directives, admonishments, or instructions that participants in the practice observe or

disregard; (3) teleological-effective structuring, i.e., a range of ends, projects, actions, maybe emotions, and end-project-action combinations that are acceptable for or enjoined of participants to pursue and realize; and (4) general understandings as, for example, general understandings about the nature of work or about proper teacher–student interactions. In this sense, a practice is a spacetime manifold of actions organized by an evolving a set of such items (Schatzki; 2009, p. 1864).

Thus, an organization (as a university) is a bundle of practices and material arrangements like any social phenomenon. The material arrangements, i.e., assemblages of material objects like persons, artifacts, organisms, and things also constitutes the organization. Some examples are a classroom, a manufacturing plant, a boardroom. They support the activities. In an organization, the practices are interrelated and arrangements connected. For example, an academic department consists in interrelated practices of grading, teaching, advising, research, decision-making, and ceremony transpiring amid interconnected offices, classrooms, auditoriums, laboratories, and so on (Schatzki; 2009).

To understand the phenomenon of organizational learning empirically four interrelated characteristics must be observed: the level of learning, the neutrality of the goal, the notion of change and the procedural nature of learning. The level of learning relates to the influence of social interactions on the quantity, quality and direction of learning that takes place in an organization's space and understands learning as an interpersonal phenomenon. Neutrality of the goal means that learning can be good or bad, but that very often a positive relationship is assumed by the operationalization of the result and this trivializes the concept of organizational learning. The notion of change refers to the fact that not all learning manifests itself as a change in organizational behavior. Finally, the procedural nature of learning means that learning is a much more complex process than inputs associated with facilitating conditions or obstacles generating outputs (Antonello; Godoy, 2011).

In this sense, Fassinger (1996) found student's participation is class are not shaped directly by professors' personal traits. Peers significantly shape classroom dynamics, that is, interaction norms among classmates encourage class participation. From this follows his important conclusion that is necessary to think about teaching strategies in ways that may stimulate classroom interaction to improve student's participation, therefore shaping learning. Students could be encouraged to see themselves not as isolated individuals, but as part of a broad learning community.

So, to promote an active learning methodology teachers do not have to position themselves as the only holders of knowledge, but as facilitator, and they need to give more responsibility to students, negotiate about aims, methods and control of learning. However, it does not mean leaving students alone, but developing their capacities and empowering them (Niemi, 2002). In this context, the educator becomes a mediator of knowledge rather than a single transmitter, since the student is the subject of his or her own formation (Gadotti, 2000).

As proposes McCarthy & Anderson (2000) group role-playing and collaborative exercises are exciting ways to diversify in classroom and to incorporate active learning into teaching. They propose the active learning strategies refer to a variety of collaborative classroom activities. In their investigation they found that groups exposed to the active learning activities outperformed those taught by traditional methods, suggesting active learning techniques in the classroom may being more engaging for students and enable them to absorb and retain information better than in traditional methods. Similar results were identified by Anderson; Mitchell & Osgood (2005), once they found a clearly enhanced performance of students in the cooperative learning methodology.

Finally, the teacher are responsible for structuring the enabling conditions and the learner for engaging them. This is an effective way to ensure high quality once it promotes a deep approach to learning. In fact, a good teacher should seek teaching methods that encourage students to adopt a deep learning approach instead of a surface one. In an ideal system, students are expected to engage the highest level learning activities. This was the attempt made in this study, together with community services seeking that students solve real problems related to sustainability in organizations and in the community around the university campus.

## 4. Methodology

The experience in this study challenged students to solve problems and offer services to society outside the classroom. The practical issue was related to a real problem, which required a solution. It was created real situations in which they had to develop discipline-related activities as if they were experts in the subject. In the proposed activities the students were evaluated by an external bank, of clients for whom they proposed solutions. The data collection was carried out through classroom observations, a questionnaire and individual interviews, as exposed below.

### *4.1 Classroom Observations*

The observations were carried out in a five-month period during the 2016/2 semester in a business administration bachelor course. Two classes of Socio Environmental Management discipline were analyzed. It is a compulsory discipline that occurred during night shift. It was attended by students from the ninth and tenth semester, Class A with 45 students and Class B with 44 students. Observations were made and classes were given by current authors, being a titular professor with more than 20 years of experience, a doctoral and a master student, both teaching internship, one of them with a experience on Team Academy, a Finnish university that uses PBL. At the end of each class notes were taken and in those in which more remarkable events took place recorded audios also occurred. The obtained data were explored through a descriptive analysis in order to understand the patterns, regularities, inconsistencies and to analyze the individual and collective activities.

### *4.2 Questionnaires and individual interviews*

The first questionnaire was applied at the beginning of the semester, evaluating previous knowledge about sustainability, learning objectives, expectations, students' satisfaction and dissatisfaction with the teaching methods in the disciplines they had already studied and what in their perception could be done to increase their engagement in classroom.

The second questionnaire was virtually applied in the last week of the semester. Proposal was to get feedback about the student's perceived experience, the positives and negatives occurrences and to ask for suggestions to improve their engagement. The questionnaire was composed of 3 blocks of questions, subdivided into smaller ones. Block 1 evaluated the positive and negative perceptions related to the methodology used in the discipline, block 2 evaluated the perception about the final project and block 3 brought questions related to the student's involvement with the discipline and the project. In total, 9 open questions were asked for the student.

Their answers were best explored in the last class, when a round of individual interviews occurred with each one of the students, in which questions were asked focused on the answers they offered in the questionnaire. They were asked to deepen their responses, offer examples,

as well as give a general feedback. This step was also evaluated through descriptive analysis, as occurred with observations. In addition, throughout the discipline were held some small rounds of feedback with classes and a more elaborate one in the middle of the semester.

## 5. Results

### *5.1 Classroom Observations*

The Socio Environmental Management discipline was organized with 15 classes during the semester, each of them with 4 hours. It was divided into two major processes, the first one - short cycle - revolves around the theme of group work; the second one - long cycle - relates to exploration, design and delivery of the final project.

The first part of the semester was thought of as a pilot, which was called the **"short cycle", a short cycle of faster activities to present the methodology**, which aimed to introduce students to our PBL and accommodate their discomfort. If necessary we could make adjustments to the route. There was a great concern in embarking everyone on the subject's proposal, since it is evident the rupture with the most recurrent traditional classroom model among the other disciplines. It was known the importance of challenging them, and how much discomfort would be part of the process.

From the first day we exercised some premises that would guide our work during the semester, could highlight **2 main guiding principles: surprise and proximity**. The first one aimed to hold their interest in classes and proposed activities; proximity was fundamental in building a closer relation which had a challenge of facing uncertainty during the process.

Based on the answers of the first questionnaire filled out by the students, in the second class it was proposed a methodology based only on PBL, without expository content. Teachers would present real problems faced by organizations and community nearby university for students to solve. The themes would involve the contents already studied throughout other disciplines in the business administration course, such as finance and marketing, and all the questions to solve would also be related to **sustainability**. The initial proposal consisted in 5 or 6 students for group work, with teams suggested by teachers based on the topics of interest reported in the initial questionnaire, but it could be changed if they wanted.

Organizations presented the problems they face and students had the freedom to choose the one they were going to work with. Some classes were dedicated to this activity, and they presented the solutions to these organizations, teachers and colleagues. The representatives of these organizations gave students a feedback based on the quality of the solution proposed and the possibility of putting it into practice. After they received feedback from the professors and colleagues, a reflection process took place within the group itself about the teamwork and learning process (if) occurred.

Throughout this hole “short cycle” process professors acted as facilitators, inserting theory (if students ask for), cases, contacts of professionals and exchanging ideas. During classes, we spent the time to individually accompany each group, checking the difficulties they were facing, helping to analyze the possibilities to solve the problem and monitoring the progress of the activities. The rule was that in each class there was a delivery of a task related to solving the problem. It is important to note that some classes / activities took place outside the classroom, for example, in a city bar, and in co-working spaces.

In addition, it was proposed that the presence in the classroom would not be mandatory, students should attend classes only if they were willing to participate. Rare students missed classes. When questioned, they offered mostly two answers: 1) one class was so different from the other that they felt the need to attend; 2) they suspected that the teachers did not really assess the student's' presence.

The final evaluation would be performed also by students (self-assessment), evaluating issues such as their engagement in the tasks proposed, ability to work in teams and perception of improvement in learning. The students' greatest difficulty was that they wanted a more objective evaluation criteria on the part of the professors. They were also insecure about the ability to fulfill the tasks (fear to receive a poor assessment). In several moments it was necessary to emphasize that this is one of the possible characteristics of a more active methodology of learning, and that the idea was precisely to improve their learning process and not to do exams or punitive evaluations. This point was a reason for distrust and insecurity for a long time.

In spite of this, it was possible to verify a great participation and engagement of the students in the proposed activities. In addition to the discussions in the groups, the progress of the activities was how we expected, they asked us to help them to discuss the issues related to the project they were developing and in many situations they were very proactive. The result of the solutions proposed by some groups was really of relevant application, and there was a interest of the organizations who were facing the problem and evaluating students' projects to move forward with the proposed solutions. This motivated more these specifically groups.

Given the premise of proximity, two practices were key in our process: shared snacks and feedback spaces. Since each class lasted 4 hours it was organized in all of them a shared snack in order to approach to students during the break and create a less formal environment. These moments broadened the interaction and were a way to stimulate students, exchange ideas with them and get small feedbacks.

Feedback spaces were a constant throughout the process, formally highlighted in class 7 and 15, where in the last one a structured feedback process that occupied the entire meeting was held (interviews). In this sense, feedback in class 7 - end of “short cycle” - was a key to clarify a bunch of points and expose some difficulties that are normally veiled in the relationship teacher-student. For example, even though the discipline proposal was aligned with their expectations - to have practical classes instead of theoretical, as indicated by them in the open questions of the first questionnaire - during the feedback some aspects had been indicated as difficulty to deal with: a) need to receive more theoretical classes; b) difficulty in dealing with the freedom to perform the tasks, since they were accustomed to receiving orders and only execute it; c) lack of time for dedication for the discipline, due to the need for conciliating university and their work, and also other personal life demands; d) their group did not help in the execution of the work; e) complains like “why are we only now having an active and instigating methodology like this?” These feedbacks were very similar to those offered at the end of the “long cycle”.

Regarding the received feedback, it is interesting to note that although it was proposed a task in which **students had the freedom to work as they wanted and propose the solution that seemed most appropriate for them, they had great difficulty in getting out of passivity and having more empowerment in their actions.** They constantly asked about what was expected and how they would be evaluated by us. Their concern was not to learn or enjoy the freedom to do something different in the classroom, but to know what they should do to be well evaluated. Also, in individual conversations, many students reported that they could not have ideas on how to do the activities, asking teacher for help to tell what they could do (lack of creativity).

The second cycle or **"long cycle"** started after the feedback activity and consisted in the **elaboration of an activity of a greater complexity, demanding a little more time for the execution**, but with similar to the objectives and activities carried out in the first cycle. The difference is that at this stage, in addition to problem resolution / performance of the service / activity should be accompanied by a final report. Final feedback was also more complex because it involved issues related to the two cycles.

During the semester there was a strike of the University workers, which compromises our last three classes and brought a greater level of complexity to the project, and ended up reducing the expected time for the development and execution of the work. Many of the projects proposed were aimed at intervening and influencing the student's' routine, and once their target audience became inaccessible (some projects would be carried out for "clients" within the university) it was necessary to make adjustments in the projects, but it undoubtedly undermined the commitment and confidence of the groups.

*5.2 Questionnaires and interviews*

From the questionnaires and interviews it was possible extract 7 relevant points or standards in the students perceptions: the more dynamic methodology leading to greater engagement and less boredom, the need to leave the comfort zone, satisfaction in solving a real problem, acquiring consciousness, the sensation of a deeper learning, the need to spend more time to solve the activities, and surprisingly they reported the need to also take traditional and more expository classes to a lesser extent.

The student´s perception regarding the **more dynamic methodology leading to greater engagement and less boredom** appeared in many questionnaires and interview reports. For example: “What was cool about the discipline was this dynamism that the discipline had, and also the feeling of not being in a class (it was not boring)”. One student said that "The form of the class generated real interest in the discipline”.

In this sense, an interesting report was: "All activities performed were ‘out of the box’, i.e., unlike any methods already worked on in any discipline. This made the classes much more interesting, because for the first time we could do what was in fact of our interest. So I believe that the methodology proposed was very positive". Another student reported that:

> It was interesting to approach the contents closer to our reality. The mischaracterization of the master / apprentice model is very positive for me because the knowledge acquired through self-interest tends to be more lasting and more in-depth. The challenges proposed broadens the scope of knowledge and helps in the approximation of content with reality, whose lack I believe is one of the main causes of students' lack of interest in some content.

**A need to leave the comfort zone** was possible to see in students feedback like: “The good thing about the discipline was that it ran away from the trivial routine presented by the others. It is important to make the student escape from their comfort zone and face challenges that differ from day to day”. One student reported that she never missed class because she did not know what would happen, it was always something different.

**Satisfaction in solving a real problem**: “What I liked the most was having the possibility of being able to develop a project to solve a problem proposed by a client. The most rewarding thing was receiving the feedback”. One student reported that “This discipline inserted me into the socio-environmental problems and charged me with serious actions to solve / mitigate the problem / impact. My growth was significant”. Another one wrote “What I liked most about developing this project was that we managed to bring up the idea of solving a problem that many students go through, just like me”.

**Acquiring consciousness about the objects of study** was also reported by students. For example, one of them reported that “I felt a growing awareness of what we are studying”. Some students who engaged in practical activities, for example, teaching in public schools for children from low-income families, reported that it was a very significant experience and that it showed new realities for them.

**Sensation of a deeper learning** was also pointed out. For example, one of them reported that “this methodology allowed a broader and deeper learning for me”. Many students reported that they felt more willing to express their opinions and participate, once the informal environment helped to feel less pressured.

A **need to spend more time to solve the activities** compared to other methodologies was reported as a problem since they were at the end of the course and needed to reconcile this discipline with other ones and in most of the cases with their professional life too. Therefore many students reported that it was difficult to dedicate themselves to the discipline in terms of time spent.

No doubt the most interesting feedback received was the **need to also take traditional and more expository classes to a lesser extent.** Students reported having difficulty in finding the knowledge alone or asking teachers for help in this search. Mainly in the interviews they explained that they are accustomed to receiving the content in classes and that they "got lost" with such a sudden change in the methodology used in the classroom. Even encouraged in all classes to ask for theoretical content if they had the need, they were unable to ask for it.

Regarding this feedback, some replies to the questionnaire deserve special mention: “Too bad that this process of self-learning does not start at a more initial stage of the course. We student tends to come from preschool following the traditional model of learning and present difficulties to adapt to a diverse and broader form of learning”. One student reported that "The question of lack of theoretical content was something I felt. But I think it's also the student's responsibility to do their own research, cultivating their interest. "

One student suggest that “you have to continue on this line, but you should have a bit of the traditional approach to content, that could be approximately 30%". Other one indicated that "for the next semester I recommend to have a few (just a few) lectures at the beginning of the semester so that students have a clearer path to choose the theme of their final work”.

## 6. Discussion

It was evident during the whole semester the resistance of the students to adapt to the methodological proposal of the discipline. They were totally challenged and removed from the comfort zone that they were always accustomed to receive classes in traditional methodologies.

In fact, the proposal was to test the students' reaction to the insertion of a PBL methodology without worrying about adaptations with the previous one.

The biggest discomforts students faced were in relation to the lack of clear drivers of how they should work and parameters about the evaluations during the semester; uncertainty related to their learning process, which did not have their steps clearly drawn at the beginning, and also related to external situation, e.g. a university's workers strike; difficulty in dealing with their empowerment while more active students, which was reflected in difficulties of creativity and proposition of solutions, and in taking the initiative to request theoretical materials to help with gaps of knowledge (even if it is encouraged in all classes); and greater time demand than in conventional classes.

Linking with existing researches, students seemed to get lost in the four phenomena of structure (organization), specially asking for rule, finding it difficult to work by themselves (see Schatzki; 2009). Essentially there was a difficulty in operationalizing their role as protagonists of their own learning, once they were used to play a passive role in the teaching-learning process. This result is in line with the proposition by Alcadipani & Bertero (2014) that pointed how students got used to a passive attitude in class. Student empowerment is part of the approach used in Project-Based Learning, where space and freedom for students to create their solutions is fundamental to the success of the methodology (Hanney; Savin-Baden, 2013; Andersen; Heilesen, 2015), and in this experience it was difficult for them to be in this new position. Kuh et al. (2001) also report similar results related to the fact students are distracted by too many competing demands on their time because of work or family commitments, the same as our students claimed.

Once during the semester activities were performed in different places in addition to a conventional classroom (such as pub and co working) to change the organization interaction and memory (as proposed in somehow by Schatzki; 2009), there was a big gap on how they were accustomed to and how things happened that caused them this strangeness and difficulty in adapting - it became evident. Their various feedback that the classes were so dynamic and different that sometimes they did feel like "not to be in a class" may have generated both the positive feelings they related of engagement and satisfaction as this loss of reference and difficulty.

In fact, despite the best results in terms of participation and learning, Niemi (2002) found active learning methods are much harder for students and even for teacher, once since it requires more effort on the part of the student and for teacher more planning and more preparation of learning materials than traditional teaching. Similar behavior was pointed out by Shor (1996), once she found students do not know how to use self-authority and that it is easier for them act passively as in traditional teaching, once it is more demanding to take responsibility for their education. In Brazilian context, it may be related to the fact they almost never experienced a different way of learning. Almost all the students had a class in which the teachers determined the task and said explicitly what was expected from student´s. It may be difficult for a person to simply change the "key" after almost 15 years with the same learning methodology.

Regarding this question, Niemi (2002) found not all students are prepared for this type of methodology and that this has little relation with age and more with earlier experiences of learning. To deal with such situations, Delaney et al. (2017) recommend the identification of the most suitable pedagogical approach, delivering a pilot program, for example, in the first semester as form of a preparation, induction and defining the first PBL problem to after review of the pilot programme, incorporating formative and evaluative assessment and reflections of

participants, similar to what we performed over the 2016/2 semester, but we did it dividing into cycles.

One point that may follow from this is that the insertion of this methodology in contexts that students have always had traditional lessons needs an adaptation, a “go and return” between traditional and new methodologies, in order to bring this reference. In this sense, leaving a schedule of activities clearer from the first day and maintaining a more traditional assessment form along with other possibilities might be an option. The first cycle may have a greater insertion of traditional methodology and this may be reduced in the second one.

However, this experience shows that keeping activities out of the classroom remains essential. In addition, the services rendered to organizations and the community in the face of real problems and external feedbacks were essential to form the sense of engagement reported by students and verified in class, the satisfaction in solving a real problem, the acquiring consciousness about the objects of study (which is essential in raising awareness of sustainability) and their related sensation of a deeper learning.

## 7. Implications, conclusions and suggestions for future research

The objective of this research was to investigate if the introduction of a Practice-Based Learning methodology and the provision of community services, by allowing students to have a more active role in classroom, is reflected in greater engagement and, consequently, in a better learning perception. The results are consistent with similar studies that found greater engagement of students but a series of difficulties associated to the insertion of new methodologies, in our case amplified because the students always have studied in the traditional methodology and lost their references when we used this new approach, despite all the associated benefits.

Based on these findings, this research provides nine conclusions / suggestions on the transition to PBL: 1) Make clear the methodology to be worked in the classroom, and the form of evaluation of the semester from the first day; 2) Give and request feedback in the middle of the semester and based on this make feedback - reassessment; 3) For each class communicate a clear goal, and a concrete deliverable; 4) External feedback from the community or the market is mandatory; 5) Exit the classroom! Changing the environment brings more energy to students; 6) To work with real community problems, to identify themselves or to generate greater awareness the problem must be complex and real, so that the student can be taken out of the comfort zone; 7) Mix short expository classes, with guided activities and development of more complex projects; 8) Follow-up of individual evolution - the student can not be marked by the whole, not all are in the same stage; 9) Gradually increase the percentage of practical activities, such as: start of course start with 50% theoretical - 50% practical, evolving until the end of the course to 100% practical to gradually change the student's mindset.

In this study it was clearly verified that it is not only the PBL methodology that leads the student to a greater engagement. This experience challenged students to solve problems and offer services to society outside the classroom. The practical issue was related to a real problem that required a solution in which they had to develop discipline-related activities as if they were experts in the subject and were evaluated by professors and external organizations / community. During the process they exercise their capacity to learn and realized how much they still need to learn. Therefore, it is concluded that in this reported case, the introduction of the PBL methodology and the provision of community services, by allowing students to have a

more active role in classroom was reflected in greater engagement and in a better learning perception from the students.

However, it should be pointed out that the findings of this study are limited by student´s profile (university students of a bachelor degree course) and by the geographical location. Further data collection in additional developing countries and developed ones may be necessary. As suggestions for future studies it would also be interesting to replicate this experience in other disciplines and in other geographic, cultural and student profile contexts to see if the results are similar. It would also be interesting to carry out a focus group and to apply the Revisited two-factor Study Process Questionnaire (R-SPQ-2F) from Biggs, Kember & Leung (2001) to evaluate student's learning approach in combination with observations, questionnaires and interviews.

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