# SI-PASS in a Belgian university – A pilot showcase

Dominique Verpoorten, University of Liège, IFRES, Traverse des Architectes, B63b, 4000 Liège, Belgium

Emmanuelle Parlascino, University of Liège, IFRES, Traverse des Architectes, B63b, 4000 Liège, Belgium

Catherine Colaux, University of Liège, Pedagogical Office of Gembloux Agro-Bio Tech, Passage des Déportés, 2, 5030 Gembloux, Belgium

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Contact : Pr. Dr. D. Verpoorten, dverpoorten@uliege.be, 0032 366 98 38

**Abstract.** In recent years, the University of Liège (Belgium), like many other institutions, has been coping with an ever-increasing number of first-year students, not compensated by an equivalent increase of supervisory capacities. This situation has resulted in both a rather impersonal first-year experience for freshmen and a worrisome level of drop-out and failure, especially in difficult entry courses. To tackle these two issues, the Faculty of bio-engineering (Gembloux Agro-Bio Tech, https://www.gembloux.uliege.be/cms/c_4039827/en/gembloux-agro-bio-tech ) has decided to run the pilot of a SI-PASS peer tutoring scheme. This article reports on the practical aspects of this dry-run and provides participants' data about its perceived effects.

## 1. Introduction

Topping (1996, p. 322) gives two definitions of *peer tutoring*. The first one has long been equated to "more able students helping less able students to learn in co-operative working peers or small groups carefully organized by a professional teacher". Today's definition has moved beyond this dichotomy between high and low performers to a broader definition that does not stigmatize students within the group. The commonly accepted definition is therefore "people from similar social groupings who are not professional teachers helping each other to learn and learning themselves by teaching".

This general definition may cover very different realities as there are so many factors that can influence the instantiation of this tutoring. Thus, Topping (1996), following a meta-analysis, built a typology of peer tutoring based on 10 dimensions (opcit. p. 322)[1]. In the next section, we use Topping's framework to describe and qualify our Belgian SI-PASS case study. To this end, the next section dispatches Topping's ten dimensions according to the typical information breakdown found in any regular "Method" section, giving for each theoretical dimension how it was practically implemented in the pilot.

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[1] Besides Topping's typology, Andrews & Clark (2011) define a seven-fold descriptive tool of peer-tutoring set-ups. There is no real overlap between the two conceptual tools because they locate at different granularity level. However, if we try to use Andrews & Clark framework, the Liège's SI-PASS scheme falls the most appropriately under the type "One-to-group longer term peer mentoting" (p. 21).

## 2. Method

### 2.1.     The course

Topping's dimension 1 – *"Curriculum Content - which may be knowledge or skills orientated, or a combination. The scope of peer tutoring is very wide and projects are reported in the literature in virtually every imaginable subject".*

According to a regular SI-PASS scheme (Martin & Arendale, 1992), the pilot was focused on a challenging course. The syllabus of the course "General physics: Thermodynamics" can be found here: https://www.programmes.uliege.be/cocoon/20192020/en/cours/PHYS3024-1.html

### 2.2.     Participants

Topping's dimension 2 – *"Contact Constellation - some projects operate with one tutor working with a group of tutees, but the size of group can vary from two to thirty or more. Sometimes two tutors take a group of tutees together. Less traditional, and more intensive, is peer tutoring in pairs (dyads)".*

In our case, all first-year students were dispatched at random in 17 groups of about 15 participants guided by one tutor, called "leader" (usual vocabulary in SI-PASS schemes).

Topping's dimension 3 – *"Year of Study - tutors and tutees may be from the same or different years of study".*

In this case, tutors were students of 2nd or 3rd year.

Topping's dimension 4 – *"Ability - while many projects operate on a cross-ability basis (even if they are same-year), there is increasing interest in same-ability tutoring (where the tutor has superior mastery of only a very small portion of the curriculum, or a pair are of equal ability but working towards a shared, deeper and hopefully correct understanding)".*

We are aware of this growing interest for same-ability/same-year peer tutoring (Thalluri, O'Flaherty, & Shepherd, 2014). However, this dimension does not apply to conventional SI-PASS programs, favoring a tutoring by students who succeeded in the targeted course.

Topping's dimension 8 - *"Tutee Characteristics - projects may be for all students or a targeted subgroup, e.g. the especially able or gifted, those considered at risk of under-achievement, failure or dropout, and those from ethnic, religious and other minorities".*

SI-PASS defines itself – and it is a hallmark – as "non-remedial" (Principle 6 of the "21 SI-PASS principles", European Centre for SI-PASS, 2018, p.13). It means that the participants do not come because they "have a problem" ("deficit pedagogy, Lawrence, 2002) but because they want to make progress together and each at his/her level in the mastery of the course. So, it can be said that in our case there is deliberately no tutee characteristics defined.

Topping's dimension 9 - *"Tutor Characteristics - the traditional assumption was that tutors should be the 'best students' (i.e. those most like the professional teachers). However, very large differentials in ability can prove under-stimulating for the tutor. If tutors are students who are merely average (or even less), both tutor and tutee should find some cognitive challenge in their joint activities. Although tutee gain may not be so great, the aggregate gain of both combined may be greater. Many projects in schools have deployed students with learning and behavior difficulties as tutors, to the benefit of the tutors themselves".*

Tutors were recruited on a voluntary basis. The inclusion conditions were: to have passed the course with success, to be willing to help freshmen (as expressed in a motivation letter) and to attend the two-day training (Bachelet, 2010 puts emphasis on such training). Tutors where paid at the university student's job rate for 30 hours including training time, session time (one per week during one semester) and preparation time of these sessions. They also engaged to fill a feedback questionnaire at the end. The data presented hereunder come from this instrument. Beyond the initial 2-day training, a "mini-cursus" was offered to leaders. It was composed of 3 hours scattered in the semester. During this "leader continuous training", a debriefing took place and some new facilitation techniques were provided for the sessions.

### 2.3. Organization and schedule

Topping's dimension 5 – *"Role Continuity - especially in same-ability tutoring, the roles of tutor and tutee need not be permanent. Structured switching of roles at strategic moments (reciprocal tutoring) can have the advantage of involving greater novelty and a wider boost to self-esteem, in that all participants get to be tutors".*

Strictly speaking, there is no switch of role in SI-PASS. However, if we focus on the second part of Topping's description, SI-PASS encourages mutual explanations by participants during the sessions, the group leader playing then a role of activator (Hattie, 2009). Moreover, a reinforced self-esteem is also a benefit observed for leaders in some SI-PASS programs. This side-effect will not be investigated in this chapter which mostly targets data from freshmen in SI-PASS sessions.

Topping's dimension 6 – *"Place - Peer tutoring may vary enormously in location of operation".*

The instruction to leaders has been to organize the SI-PASS sessions in university tenements. To book available rooms (classes or spots in the library), they could rely on the help of the Faculty's pedagogical advisor.

Topping's dimension 7 – *"Time - Peer tutoring may be scheduled in regular class contact time, outside of this, or in a combination of both, depending on the extent to which it is substitutional or supplementary".*

Leaders were free to fix the best timeslot for their groups but it was asked to make this choice as inclusive as possible, excluding therefore evening' meetings because some participants leaving at some distance of the campus would have been obliged to come back just for the sessions. It was requested from leaders that they organize their meetings once a week.

### 2.4. Goals and achievement measurements

Topping's dimension 10 - *"Objectives - projects may target intellectual gains, formal academic*

*achievement, affective and attitudinal gains, social and emotional gains, self-image and self-concept gains, or any combination. Organizational objectives might include reducing dropout, increasing access, etc.".*

The pilot results from discussions within our teaching and learning center, with the university vice-chancellor and with protagonists in the different faculties/departments having volunteered for participation. From these discussion, the following goals have been assigned to the SI-PASS scheme:

1. Contribute to improve student performance in the selected high-risk course;
2. Contribute to reduce the number of drop-outs;
3. Facilitate the intellectual transition from secondary to higher education;
4. Facilitate the social integration of new students into the university environment;
5. Improve students' study strategies;
6. Foster collaboration among students and the creation of partnership networks for learning purposes;
7. Train students to argue and justify their ideas/views.

During their training (Bird, 2019), leaders were taught these goals but also informed about priority levels. Ultimately SI-PASS schemes target better performance in the selected course. The scheme is therefore primarily focused on academic integration. That does not mean that SI-PASS is deprived of other types of benefits but these are more seen here as nice to have but as by-products anyway. This list of seven goals is important for the remainder of this chapter, as it is used as a guide to present the results.

## 2.5. Instruments and data sources

At the end of the SI-PASS scheme, we administered a feedback questionnaire to both leaders and participants. It clearly means that the displayed results are based solely on self-reported data. It is also needed to point out that no congruent information could be collected concerning the seventh goal relating to the training of argumentation and the justification of their ideas. It was planned to record some sessions to possibly see this targeted skill at work but the first iteration of the scheme eventually did not allow this. Therefore, we will not discuss this goal further in the results. Regarding the first objective of performance

improvement in the challenging course, we acknowledge that the natural expectation would be to look at students' scores at the exam. However, this was not applied for the following reasons: a) scores at the exam, and especially the non-anonymized scores needed here to associate performance and SI-PASS attendance are protected by laws on personal data, b) we have favored a survey that preserves the anonymity of the students, which makes it impossible to link the participation in the SI-PASS meetings to the results obtained in the examination of the course particularly worked on, c) in human sciences, any effort to precisely trace the influence of any type of learning support back to a final not is fraught with problems as one knows that this note is the result of many non-controlled variables, starting with the level of the individual students at baseline.

## 3. Results

The results are organized so that readers can make up their mind about the achievement of the 7 goals defined just above for the program.

Before displaying the results related to the purposes assigned to the SI-PASS scheme, a look at the overall attendance is needed as student participation rate is, besides perception and performance (see the "3P" in Verpoorten et al, 2017, p. 39), a global indicator of the value granted to any student support action (Verpoorten et al. 2019). During the first semester of the 2019-2020 academic year, 279 freshmen were offered to take part in SI-PASS sessions. Out of this number, the attendance reports filled each week by the leaders indicate that 129 students (46%) attended at least one meeting. The participation rate is broken down in Table 1.

|  | No participation | Between 1 and 5 meetings | Between 5 and 10 meetings | More than 10 meetings |
|---|---|---|---|---|
| Number of students | 150 | 85 | 36 | 8 |

*Table 1 - Breakdown of students by number of sessions attended*

Figure 1 relates the participation rate to the 81 respondents.

## The SI-PASS scheme consisted of 15 meetings. I attended (N=81):

| 16 | 24 | 18 | 23 |
|:---:|:---:|:---:|:---:|

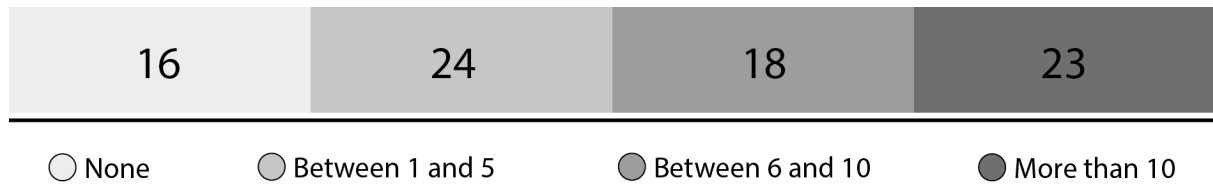○ None　　　◉ Between 1 and 5　　　◉ Between 6 and 10　　　◉ More than 10

*Figure 1 – The data comprises all levels of commitment to the SI-PASS scheme[2].*

Each participant could mention three reasons for participation and 39 students cited at least one. Of these, the most frequently mentioned were the following:

- Improve understanding of the course (22 occurrences)
- Rework the course/subject (14)
- Get help/answers to their questions (11)
- Study collectively and regularly (10)
- Getting together as students (10)
- Wanting to help others with what the student understood from the course (5)
- Approaching the material from a different angle / with different explanations (5)
- Get advice/explanations from the leader (4)
- Hear questions from others (4)
- Discover a different methodology (4)
- Just curiosity (4)

What we find interesting about these responses is that they reflect both concerns for additional help and concerns for self-assessment and possible confirmation of one's own understanding of the material in this reputedly difficult course. Here starts the systematic presentation of the results according to the goals assigned to the pilot.

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[2] The respondents who did not attend any SI-PASS meetings were guided, after three questions about their reasons for non-participation, towards the end of the survey. If all respondents had answered to everything, we would have a N of 65 for all questions. Unfortunately, respondents regularly, and without any satisfying explanation, bypass questions so that the N mostly revolves around 50.

### 3.1. Goal: "Contribute to improve student performance in the selected high-risk course"

For the reasons mentioned hereunder, this goal will be examined, like all the others, through the prism of the effects and perceptions reported by the students in the survey.

**The SI-PASS scheme will contribute to my success at the exam (N=51).**

| 2 | 2 | 18 | 21 | 8 |
|---|---|----|----|---|

○ Strongly disagree  ○ Disagree  ◐ Neither agree, nor disagree  ◕ Agree  ● Strongly agree

*Figure 2 – Half of the respondents state that the SI-PASS scheme will have a positive influence on the likelihood of passing the exam.*

Table 2 suggests an association between this perception and the attendance.

|  | I disagree completely | Somewhat disagree | Neither agree nor disagree | Pretty much agree | I couldn't agree more |
|---|---|---|---|---|---|
| Between 1 and 5 meetings (**13**) | 2 | 1 | 6 | 4 | 0 |
| Between 5 and 10 meetings (**16**) | 0 | 1 | 7 | 6 | 2 |
| More than 10 meetings (**22**) | 0 | 0 | 5 | 11 | 6 |

*Table 2 - Decomposition of the reported effects of SI-PASS on exam success based on the number of meetings the student attended.*

The more students participate in the SI-PASS sessions; the more virtues they attribute to the scheme concerning the success of the exam. In fact, when the student has participated in more than 10 meetings, there are no responses that disagree with the proposal and this link between SI-PASS and exam success is more popular than in the other categories of participation in these meetings.

Other data in the survey corroborate these views on improving student performance. Three germane questions in particular have been singled out.

## The SI-PASS scheme helped me to better perceive the value of the course (N=53).

| 9 | 26 | 18 |
|---|----|----|

○ Neither agree, nor disagree　　　○ Agree　　　● Strongly agree

*Figure 3 – A large majority of respondents report a gain in the understanding of the course relevance.*

## The SI-PASS scheme gave me opportunities to clarify difficult concepts in thermodynamics (N=53).

| 4 | 15 | 34 |
|---|----|----|

○ Neither agree, nor disagree　　　○ Agree　　　● Strongly agree

*Figure 4 – Participants credit the SI-PASS scheme of helping them to grapple with learning bottlenecks in the course.*

## The SI-PASS scheme gave me many learning opportunities in thermodynamics (N=51).

| 4 | 7 | 22 | 18 |
|---|---|----|----|

○ Disagree　　　○ Neither agree, nor disagree　　　○ Agree　　　● Strongly agree

*Figure 5 – The SI-PASS scheme is overall considered as providing extra learning opportunities.*

When we break down the students' responses to the question "the SI-PASS provided me with many opportunities to learn about the thermodynamics course" according to their participation in the organized meetings, we get the following table:

| | I disagree completely | Somewhat disagree | Neither agree nor disagree | Pretty much agree | I couldn't agree more |
|---|---|---|---|---|---|
| Between 1 and 5 meetings (**13**) | 0 | 2 | 5 | 6 | 0 |
| Between 5 and 10 meetings (**16**) | 0 | 2 | 0 | 7 | 7 |
| More than 10 meetings (**22**) | 0 | 0 | 2 | 9 | 11 |

*Table 3 - Breakdown of perceptions of SI-PASS as a place to learn by number of attended meetings.*

Here too, the students who take part in more than 10 meetings express no disagreement on this link between SI-PASS and learning and more opinions in agreement with the proposal.

Based on what students are saying, the SI-PASS scheme thus seems to have achieved this goal of improving performance, and it would appear that regular participation in the scheme further improves students' performance or, at the very least, their sense of being able to do better.

## 3.2. Goal: "Contribute to reduce the number of drop-outs"

Although such an impact on reducing first-year student dropouts is suggested in literature (Malm, Bryngfors, & Mörner, 2011; Malm, Bryngfors, & Frederiksson, 2018; Dawson, Van der Meer, Skalicky, & Cowley, 2014), we reluctantly included questions thereabout because because it seemed oversized to us. Indeed, we did not exclude the possibility of some indirect influence but not a reporting of straight one.

## The SI-PASS scheme prevented the dropout of at least one student I know (N=50).

| 11 | 2 | 34 | 3 |
|---|---|---|---|

○ Strongly disagree　　○ Disagree　　○ Neither agree, nor disagree　　● Agree

*Figure 6 – Against all odds, three respondent report a direct impact on drop-out prevention.*

Is this naïve or flawed with social desirability. Maybe. In any effect, no leader reported such an effect on their own students (Fig. 7).

## The SI-PASS scheme prevented the dropout of at least one of my participants (N=12).

| 6 | 6 |
|---|---|

○ Strongly disagree          ◐ Neither agree, nor disagree

*Figure 7 - Leaders do not report influence on retention for their participants*

Regarding the objective n°2, the data we have leaves us lopsided. It must also be noted that the surveys were submitted to the students (both leaders and freshmen) before the first exam session of the academic year. As a result, it may be difficult for the students to make up their mind on whether or not their classmates were tempted to quit. We can note however, that, while there is no conclusive result on the decrease in dropouts, the responses regarding student perseverance (Fig. 8, 9) in the course are more telling.

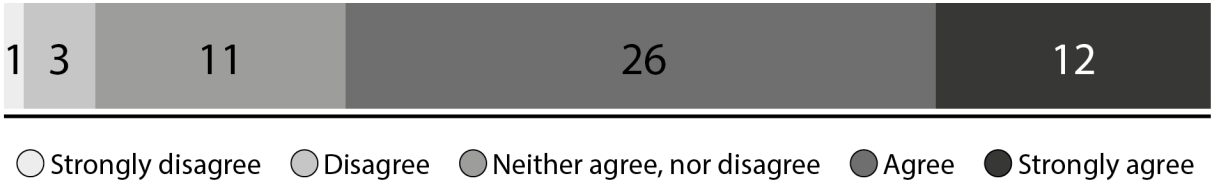## The SI-PASS scheme spurred my dedication to the course of thermodynamics (N=53).

| 1 | 3 | 11 | 26 | 12 |
|---|---|----|----|----|

○ Strongly disagree   ◔ Disagree   ◐ Neither agree, nor disagree   ◕ Agree   ● Strongly agree

*Figure 8 – The SI-PASS scheme is perceived as having a positive effect on the academic commitment to the course.*

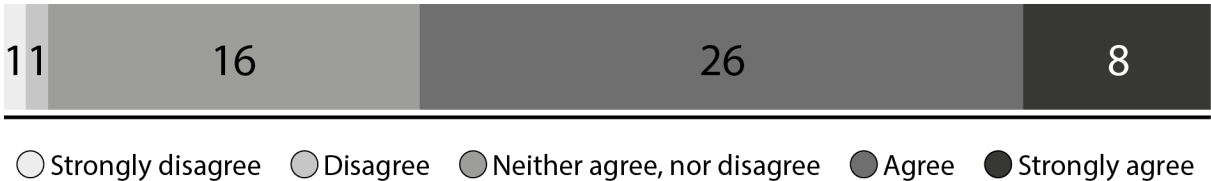## The SI-PASS scheme strengthened my perseverance in the course, despite the difficulties (N=52).

| 1 | 1 | 16 | 26 | 8 |
|---|---|----|----|---|

○ Strongly disagree   ◔ Disagree   ◐ Neither agree, nor disagree   ◕ Agree   ● Strongly agree

The results given in this section do not mean that, at the end, students are not going to give up, but it does show – at the self-report level – that the SI-PASS scheme has, at a minimum, made them want to work harder on the course.

### 3.3. Goal: "Facilitate the intellectual transition from secondary to higher education"

There is a fairly broad consensus that the transition from secondary to higher education is paved with challenges and difficulties (Tinto, 2003; Romainville & Michaut, 2012), tied among others to changes in the study habits. There was therefore reasons to believe that a SI-PASS

**The SI-PASS scheme helped me to navigate the transition towards higher education (N=50).**

| 1 | 11 | 20 | 14 | 4 |
|---|----|----|----|---|

○ Strongly disagree  ○ Disagree  ● Neither agree, nor disagree  ● Agree  ● Strongly agree

scheme could help in this way. Unfortunately, this aspect was not largely expressed by the students.

*Figure 10 – Respondents judging that the SI-PASS scheme is supportive of the transition from secondary to university education are a modicum.*

It is surprising that the benefits of this SI-PASS on this transition from secondary to higher education are not perceived in the same way by the freshmen and by the leaders. Indeed, the latter take a much more positive view on the achievement of this objective (Fig. 11).

**The SI-PASS scheme helped my participants to navigate their transition to higher education (N=12).**

| 4 | 7 | 1 |
|---|---|---|

● Neither agree, nor disagree  ● Agree  ● Strongly agree

*Figure 11 – SI-PASS leaders do see a contribution of the scheme to the transition to higher education.*

The participants answers about transition could also be tempered with another aspect of this SI-PASS scheme: putting young first-year students in contact with a peer who has just passed his first year has been perceived quite positively by the students (Fig. 12). We do not pretend that this means that transition was alleviated. However, some benefits for the transition might flow from the vicarious learning that results from these meetings with more advanced students who share a fairly similar profile.

**I found it valuable to meet a student who succeeded in his/her first year at university (N=51).**

| 2 | 6 | 14 | 29 |
|---|---|----|----|

◯ Disagree   ◯ Neither agree, nor disagree   ⬤ Agree   ⬤ Strongly agree

*Figure 12 - Meeting a more advanced peer (the leader) through the SI-PASS scheme was appreciated.*

### 3.4. Goal: "Facilitate the social integration of new students into the university" environment

Going through one's transition from secondary to university education is one thing. Feeling as members of one's new institution is a second one. We had the wish that the SI-PASS scheme facilitate this social integration and this sense of belonging to a community (Pittman & Richmond, 2008).

**The SI-PASS scheme fostered my sense of belonging to the university (N=51).**

| 3 | 5 | 19 | 15 | 8 |
|---|---|----|----|---|

◯ Strongly disagree   ◯ Disagree   ◯ Neither agree, nor disagree   ⬤ Agree   ⬤ Strongly agree

*Figure 11 – The SI-PASS scheme is not strong on the reinforcement of affiliation.*

Only 46% of students take a positive view about the effect of SI-PASS on their university membership. Two other indicators reveal a largely positive effect on the image of the

university that the peer tutoring scheme induced.

## The SI-PASS scheme showed me that I belong to a university that cares about my success (N=50).

| 7 | 22 | 21 |
|---|----|----|

● Neither agree, nor disagree    ● Agree    ● Strongly agree

*Figure 12 – Most freshmen have received the SI-PASS scheme as a "welcome pack" from the institution.*

## The SI-PASS scheme countered my feeling that, in university, «I am just a number» (N=50).

| 2 | 16 | 21 | 11 |
|---|----|----|----|

● Disagree    ● Neither agree, nor disagree    ● Agree    ● Strongly agree
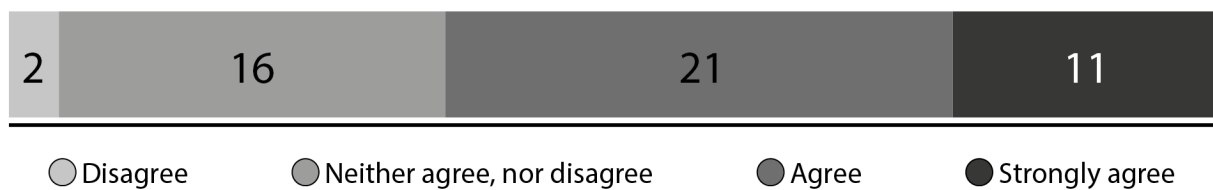
*Figure 15 – A majority of freshmen see the SI-PASS scheme as a worthwhile way to diminish feeling of impersonality sometimes attributed to university.*

86% of the students feel that their university cares about their success and 64% that they are more than just a number to their University. These positive opinions about their school could be understood in the following way: if, as students, they are positive about the school where they learn, that school has, at least in part, included them in its midst and they feel good there. The SI-PASS scheme is not an irrefutable proof of inclusion but it is perceived as an "institutionally-stamped" catalyst, among others.

### 3.5.    Goal: "Improve students' study strategies"

While SI-PASS programs are firstly dedicated to improving student performance in high-risk courses, they also trigger study strategies and effective methodologies to get the most of one's study efforts. In the survey, we explored these study strategies dimensions through three parameters: workload management, course preparation, and exam preparation.

## Thanks to the SI-PASS scheme, I better managed the workload of the course (N=52).

| 1 | 3 | 23 | 19 | 6 |
|---|---|----|----|---|

○ Strongly disagree  ○ Disagree  ◔ Neither agree, nor disagree  ◕ Agree  ● Strongly agree

*Figure 16 – SI-PASS scheme is claimed to be helpful regarding workload management.*

## The SI-PASS scheme brought me useful information for studying my other courses (N=52).

| 7 | 26 | 19 |
|---|----|----|

◔ Neither agree, nor disagree  ◕ Agree  ● Strongly agree

*Figure 17 – The data contains indications of transfer benefits to other courses.*

## The SI-PASS scheme brought me useful information for preparing my other exams (N=52).

| 4 | 17 | 18 | 13 |
|---|----|----|----|

○ Disagree  ◔ Neither agree, nor disagree  ◕ Agree  ● Strongly agree

*Figure 18 – Students' answers point at transversal benefits of the SI-PASS scheme regarding exam preparation.*

A cross-reference of these questions with the attendance rate at the SI-PASS meetings was not conclusive: we found the same number of students agreeing or disagreeing regardless of the number of meetings they had attended.

### 3.6. Goal: "Foster collaboration among students and the creation of partnership networks for learning purposes"

SI-PASS programs mainly rely on interactions between peers as catalysts for learning. Collaboration, seen also a generic skill to train, is therefore of the utmost importance in such peer-tutoring schemes. This objective seems to have been met, based on the students' statements, in the two dimensions envisaged.

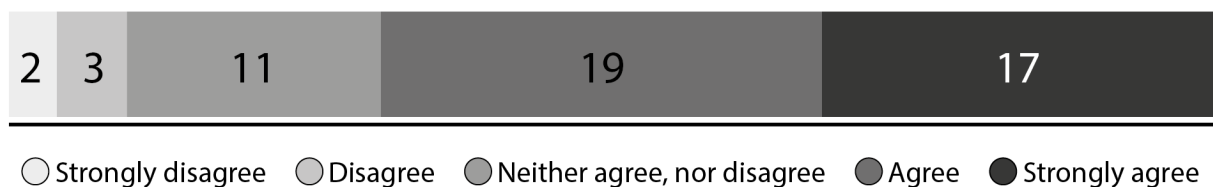**The SI-PASS scheme allowed me to develop relationships with other students (N=52).**

| 2 | 3 | 11 | 19 | 17 |
|---|---|----|----|----|

○ Strongly disagree    ○ Disagree    ◐ Neither agree, nor disagree    ◕ Agree    ● Strongly agree

*Figure 19 – Offered at the start of the first semester, the SI-PASS scheme seems to have extended the social network of the attendees.*

**The SI-PASS scheme made me discover a valuable way to learn with others (N=50).**

| 1 | 3 | 20 | 26 |
|---|---|----|----|

○ Disagree    ◐ Neither agree, nor disagree    ◕ Agree    ● Strongly agree

*Figure 20 - Besides the pure social integration effect, the SI-PASS helps freshmen to envision collective ways to practice learning.*

These results are corroborated by what respondents express regarding their underpinning motivation to attend the SI-PASS meetings:

- benefit from the emulation of the group (cited 9 times)
- getting help (11) and helping others (4)
- hear questions from others (4)

Students verbatims from open questions put emphasis on reciprocity, alternate roles of giver/receiver or teacher/student (Annis, 1983) , and mutual benefits of learning together:

"teaching a subject to a peer makes it possible to integrate the subject in question better than if the student merely reads it for personal knowledge", "Listening to other people's questions is a good way to see if you know how to answer other people's questions," "Learning how to formulate correct answers and explanations," or "It's super interesting to hear other people's questions and participate in the answer.

## 4. Discussion

This first implementation of a SI-PASS scheme in a French-speaking university is instructive. Although we deplore an overall lack of student participation, those who participated report to have benefited from this action, particularly in terms of performance (Fig. 2,3,4,5) and study strategies (Fig. 16, 17, 18). This SI-PASS was also experienced as a way of creating links with students from the same year (Fig. 19) and next year (Fig. 12) and as a way of learning differently (in contrast to individual learning or learning with teachers or TA, Fig. 20). The SI-PASS scheme had also a beneficial effect on the students' vision of their University (Fig. 13, 14, 15). This survey therefore gives us good encouraging indications as to the continuation of this peer-tutoring program, while inviting us to draw lessons from this experience and regulate it so that it brings additional benefits to students. The most prominent regulation that we draw from the findings is a renewed attention to the attendance in SI-PASS sessions and the best conditions to promote this attendance, knowing however that it was a pilot and that it probably takes time to establish the reputation of a program in the student population.

In attempting to move from the local context of this case study to more general statements, three observations are worthy of reflection:

1) The SI-PASS in Liège is the first ever organized in a French-speaking country. Despite this different cultural context, the opinions obtained from the participants provide indications of effects found in other contexts (see Dawson et al.'s systematic review, 2014), especially in terms of general satisfaction and well-being, enhanced social relationships, study strategies and techniques or student persistence. The convergence goes even further since, in Belgium too, if we trust the self-reported effects, these effects seem to increase with SI-PASS attendance. This array of effects is no trifle, particularly if it is related to the funding needed for a SI-PASS program. If

the literature does not currently provide any information about this financial aspect, SI-PASS efficiency ratios would be worth investigating compared to other student-support programs.

2) Theoretically, whilst Toppings's typology of peer tutoring (1996) caters for valuable parameters allowing to depict a SI-PASS scheme like the one implemented at our university, we nevertheless found that this conceptual tool would deserve some updates and refinements, especially with regard to the definition of the 10 dimensions. We noticed for instance, that the typology does not easily express the fact that the SI-PASS leaders can be paid, or not, for the job. Both options do exist worldwide in SI-PASS schemes. Furthermore, Topping's proposal, while sometimes splitting dimensions which are strongly interrelated in the daily logistics of a SI-PASS scheme might also be forgetful of some of them. This is the case, we think, of the grounding of a SI-PASS scheme in the disciplinary context of a faculty. In Liège, for instance, relying on an active resource-person working locally in the bioengineering faculty turned out to be of great support for the Teaching & Learning Center of the university that assumed leaders' training and general coordination. Such a collaboration between a transversal body and a local contact has proved to work efficiently in other student-support actions (Verpoorten et al. 2019; Huart, Verpoorten, & Leduc, 2019). Lastly, Topping's theoretical proposal could be questioned regarding the granularity level where it stands. Of course, any typology, to be useful, must convey a certain level of generality. However, in the case of a SI-PASS scheme, the way learning is driven in the very sessions (specific techniques and principles and climates, deliberate efforts for avoiding "teaching", refusal to present as "remedial", overarching spirit of the leaders' team, etc.) can make a strong difference that the 10 dimensions, if not enough unfold and elaborated, might miss.

1) The major limitation of the case-study, for the reasons mentioned earlier, is that it can only draw an indirect link between participants' opinions on the SI-PASS scheme and contribution to academic success. Although succeeding at the test is not the only measurement of learning (Boud, 1990), although stakeholders might wish to improve people's capacities as learners or other dimensions of satisfaction and affiliation, it would reasonably be expected that performance gains result from student-support actions. Further work should then be carried out in the line of the efforts by Malm et

al. (2011, 2019) who managed to sharpen investigations around SI-PASS programs and to consolidate them through appropriate performance-related measurements.

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