

ISSN: 1984-6444 | <http://dx.doi.org/10.5902/1984644494444>

Group work and social inequalities in university education: a case study in French-speaking Belgium

Trabalho de grupo e desigualdades sociais no ensino universitário: um
estudo de caso na Bélgica francófona

Trabajo en grupo y desigualdades sociales en la enseñanza
universitaria: un estudio de caso en la Bélgica francófona

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Recebido em 16 de dezembro de 2025

Aprovado em 23 de julho de 2026

Publicado em 23 de setembro de 2026

ABSTRACT

This research aims to characterise the effects of social inequality on the quality of group work produced by first-year students in the fields of psychological and educational sciences at a French-speaking Belgian university. It focuses on three social profiles: students from lower social classes, adults returning to education, and students from upper social classes. The data collected come from the analysis of work produced as part of a bibliographic research project by three homogeneous groups of eight students corresponding to these social profiles. It is supplemented by audio recordings of the group meetings they held with their assigned tutor. Content analysis of the verbal interactions reveals marked differences between the groups' work dynamics. Adults returning to education develop a form of cooperation that is more focused on the learning objectives, with less division of labour, which seems to be linked to higher quality work. In contrast, the other two groups demonstrate a more pronounced division of labour, which is more in line with the objective of formally producing the work required. While both these groups' work is of lower quality, it is

noticeably more so for the group of students from lower social classes, whose interactions reveal tensions and whose work organisation is more deeply flawed.

Keywords: Cooperation; Social differentiation; University teaching.

RESUMO

Esta investigação tem por objetivo caracterizar os efeitos da desigualdade social na qualidade dos trabalhos de grupo realizados por estudantes do primeiro ano de uma universidade belga francófona, nos domínios das ciências psicológicas e da educação. Incide sobre três perfis sociais: estudantes de classes sociais baixas, adultos que regressam aos estudos e estudantes de classes sociais altas. Os dados recolhidos provêm da análise de trabalhos realizados no âmbito de um projeto de investigação bibliográfica por três grupos homogêneos de oito estudantes que correspondem a estes perfis sociais. São complementados por gravações áudio das reuniões de grupo que tiveram com o tutor que lhes foi atribuído. A análise de conteúdo das interações verbais revela diferenças acentuadas entre as dinâmicas de trabalho dos grupos. Os adultos que regressam aos estudos desenvolvem uma forma de cooperação mais centrada nos objetivos de aprendizagem, com menos divisão de tarefas, o que parece estar associado a uma maior qualidade do trabalho. Em contrapartida, os outros dois grupos demonstram uma divisão do trabalho mais acentuada, que está mais de acordo com o objetivo de produzir formalmente o trabalho exigido. Se a qualidade do trabalho de ambos os grupos é inferior, é notoriamente superior no caso do grupo de alunos de classes sociais mais baixas, cujas interações revelam tensões e cuja organização do trabalho é mais problemática.

Palavras-chave: Cooperação; Diferenciação social; Ensino universitário.

RESUMEN

Esta investigación tiene como objetivo caracterizar los efectos de la desigualdad social en la calidad de los trabajos en grupo realizados por estudiantes de primer año de una universidad belga francófona, en las áreas de las ciencias psicológicas y de la educación. Se centra en tres perfiles sociales: estudiantes de clases sociales bajas, adultos que retoman sus estudios y estudiantes de clases sociales altas. Los datos recogidos proceden del análisis de trabajos realizados en el marco de un proyecto de investigación bibliográfica por tres grupos homogéneos de ocho estudiantes que corresponden a estos perfiles sociales. Se complementan con grabaciones de audio de las reuniones de grupo que mantuvieron con el tutor que les fue asignado. El análisis de contenido de las interacciones verbales revela diferencias marcadas entre las dinámicas de trabajo de los grupos. Los adultos que retoman sus estudios desarrollan una forma de cooperación más centrada en los objetivos de aprendizaje, con una menor división de tareas, lo que parece estar asociado con una mayor calidad

del trabajo. Por el contrario, los otros dos grupos muestran una división del trabajo más marcada, que está más orientada al objetivo de producir formalmente el trabajo exigido. Si bien la calidad del trabajo de ambos grupos es inferior, es notablemente menor en el caso del grupo de estudiantes de clases sociales más bajas, cuyas interacciones revelan tensiones y cuya organización del trabajo resulta más problemática.

Palabras clave: Cooperación; Diferenciación social; Enseñanza universitaria.

1. Introduction

The university student population in French-speaking Belgium is marked by significant and persistent social inequalities (GIRÈS, 2024; VERMANDELE *et al.*, 2012; MAROY & VAN CAMPENHOUDT, 2010). Multiple factors, often interdependent, contribute to this situation (cultural, economic and social capital, educational background and guidance processes, to name some). The research reported here focuses on one particular aspect: the influence of students' social background on their practice of group work and their opportunities for social and intellectual development. More specifically, our operational research question focuses on characterising group work dynamics according to social profile and examining their effect on the quality of the work produce. To this end, we are interested in three specific social profiles: students from lower social classes ("SEI-", for low socioeconomic index), adults returning to education ("ARE"), and students from upper social classes ("SEI+", for high socioeconomic index).

2. Theoretical framework

2.1. Cooperation vs collaboration: polysemous terms

We begin by characterising the students' group work dynamics based on the dichotomy between cooperation and collaboration. Although this dichotomy is widespread in the scientific literature, there is little consensus as to the meanings of each of these terms. For CONNAC (2022), cooperation is structured around three determinants: joint action, intentionality and mutual individual benefit. It is defined as "all situations in which pupils (or students, trainees, etc.) are encouraged to act and learn with, by and for others, with the intention of individual benefit" (*ibid.*, p. 56)ⁱ. A cooperative form of teaching is governed by the principles of fraternity and generosity ("the free gift of oneself", CONNAC, 2018, p. 2), whereas collaboration is governed more by the principle of solidarity, which consists of "associating to join forces" (*ibid.*). Collaboration thus takes on a more instrumental dimension, focused more on a common but specific production goal, rather than on a deeper aim of learning or developing a community of individuals. A number of benefits are expected from cooperation, among which are the exchange of ideas between learners, leading to a

broadening of their perspectives; increased help and support (from peers, not just teachers); and collective emulation.

Furthermore, CONNAC and IRIGOYEN (2023), along with authors who share their view (LERHAUS & ROUILLER, 2008 and ROUILLER & HOWDEN, 2010, cited in CONNAC & IRIGOYEN, 2023), distinguish between cooperative teaching methods and cooperative learning. Cooperative teaching stems from the tradition of the New Education movement, notably through educators such as Célestin and Élise Freinet or Barthélemy Profit (CONNAC & IRIGOYEN, 2023, p. 3). Cooperative learning represents a broad and disparate set of methods aimed at getting learners to work together; they include not only collaborative approaches but also a number of methods from the American tradition of cooperative learning (with methods such as the jigsaw) which can sometimes take on a clear dimension of competition between peers, which may be culture specific (BAUDRIT, 2007c, p. 117). This body of work includes well-known studies by the Johnson brothers (JOHNSON & JOHNSON, 2009; JOHNSON *et al.*, 2007), who, however, criticise competitive views of cooperation and instead place greater emphasis on positive interdependencies.

Finally, one line of research stands out for its very different view of the cooperative/ collaborative learning dichotomy. According to COSNEFROY and LEFEUVRE (2018, p. 78), collaboration is defined as “a process of constructing shared knowledge that requires partners to engage in a joint effort of elaboration based on each other’s proposals, comments and criticisms”. It requires interactions that lead to mutual influence capable of creating “a space for negotiation where everyone engages by striving to argue, convince and criticise in order to ultimately produce shared knowledge that is the result of collective negotiation” (*ibid.*). For this approach to be relevant, the task must be sufficiently complex as to allow group work to add value and opposing viewpoints to be enriching (through sociocognitive conflict). Furthermore, to avoid the phenomenon of “free riders” (*ibid.*, p. 79), where only some of the members do most of the work, the assessment methods cannot be limited to the group’s output but must also include an assessment of individuals’ contributions.

By contrast, the same authors develop a view of cooperation which consists of “dividing the group task into sub-tasks and then dividing up the tasks. Each member of the group is then responsible for a sub-task, and all the work thus carried out is combined to form the final group work” (COSNEFROY & LEFEUVRE, 2018, p. 78). Similarly, BAUDRIT (2007a, p. 123) indicates that in a cooperative learning setting, “each person plays a specific role, each person has a specific place”, whereas in collaborative learning, group work lacks an *a priori* structure. The same distinction is found in DILLENBOURG (1999, p. 8). Ultimately, it is no longer opposing ideas and argumentation that make cooperative group work effective, but the individual quality of each person’s contributions and the overall coordination required to bring them together. This is a far cry from the cooperative classrooms promoted by Freinet’s teaching methods.

2.2. Cooperate to succeed or cooperate to learn?

Not wishing to engage in a semantic battle that would detract from the fundamental issue, we have chosen to use only the term cooperation. This term seems the more appropriate because it is more generic in referring to group work, as to cooperate etymologically means “to act together”, which seems to us less specific than to collaborate, i.e. “to work together”. We are aware nonetheless that there are various ways of cooperating within a group. One point that we feel is essential to clarify refers to distinct purposes underlying cooperative work: whether cooperation is undertaken primarily “for ourselves” primarily – to build knowledge –, or primarily to meet the requirements of the assessment.

Further, the division of labour within groups (COSNEFROY & LEFEUVRE, 2018; BAUDRIT, 2007a, 2007b; DILLENBOURG, 1999) is a powerful indicator for analysing the direction of cooperative work based on the activity of learners. Thus, certain group dynamics are characterised by a greater division of the prescribed task into sub-tasks distributed among the members of the group. Responsibilities in carrying out the work are therefore highly compartmentalised, and the roles of each member are very fixed. Each member of the group therefore has a relatively well-defined responsibility that does not encroach on that of the other members. The final product produced by the group is therefore more a combination of individual outputs. In line with the authors mentioned above, we believe that in this case, to the extent that the objective of producing a piece of work can take precedence over that of learning, the internal regulation of the group will be structured mainly around the organisation of the work to be accomplished and less around learning from the content. It follows that the effectiveness of the group in this case depends above all on the commitment and quality of individual work, and on the group’s ability to ensure (pro)active coordination, as the interdependence of the group members is strong. In this respect, we expect the likelihood of strong leadership emerging to be greater in such a context. This type of dynamic can be described as “production-oriented” cooperation.

Conversely, group dynamics characterised by little division of labour imply that all members of the group are more involved in all components of the task. As a result, everyone’s roles are more interchangeable, and the work is largely common, which potentially leads to more substantive discussions among group members. Little division of labour encourages the co-construction of content that goes beyond the work done individually. This results in less interdependent individualisation of work and a more collective, but also more complex, decision-making process, with the emergence of leaders within the group being much less likely. As a result, and in stark contrast to production-oriented cooperation, the final output is far greater than the sum of the individual contributions. We refer to this type of cooperative dynamic as “learning-oriented”.

2.3. Emergence of conflicts and affective aspects

Another dimension of group work, which cuts across the division of labour and the primary purposes of cooperative work, is that of the socio-affective relationships within the group, which may give rise to tensions and conflicts. Indeed, beyond issues exclusively focused on task completion or on learning, there are also relational and affective issues within groups that affect the quality of their work (HUANG *et al.*, 2024; HUANG & LAJOIE, 2023; BALES, 1951). Thus, depending on the nature of cooperation within the group, the risks on this dimension are likely to vary. On the one hand, the greater the interdependence between individuals, the more the lack of individual commitment (qualitative or quantitative) creates insurmountable difficulties for the whole group in effectively carrying out the work. On the other hand, the more co-construction and co-decision making there is, the more complex the work of negotiation and compromise becomes, potentially making it more difficult to reach a consensus.

2.4. Two ideal poles of a continuum

We consider that the two categories of cooperative dynamics that we have outlined – “production-oriented” and “learning-oriented” – each represent an ideal that is not found in its “pure” form in real-life situations. Purely instrumental cooperation, with the sole aim of producing work in order to succeed, does not seem plausible to us on the scale of an entire group in the context of a project running throughout the academic year (see group project instructions below). Even if each person does most of the work individually, pooling resources to create a whole with a minimum of overall coherence requires discussion of the substantive content. Conversely, cooperation purely oriented towards learning, without any consideration for successfully completing the task (even if only to comply with formal requirements), seems equally implausible. Furthermore, not all of the work can be done collectively, as this would considerably and unreasonably increase the amount of time needed to complete it. We view these two categories as the two poles of a continuum between which the dynamics actually observed should lie, possibly closer to one than the other.

Our categorisation allows us to focus on three indicators to describe and characterise the work dynamics of the groups studied: (1) work focused on organising, structuring and planning the group’s actions (organisational regulation); (2) work focused on substantive content (epistemic regulation); (3) work focused on relational issues (socio-affective regulation).

3. The scope of the empirical investigation

3.1. Characteristics of the group project and the groups

The group work analysed in this research is part of the practical work required by a course offered in the first year of the bachelor's degree in Psychological and Educational Sciences at the *Université libre de Bruxelles* (HAJJI & SYLIN, 2023). The course aims to introduce students to various epistemologies and methodologies that are current in these scientific fields. For the practical work, students must carry out, for six months, in freely formed groups of eight, a bibliographic research project on a prescribed theme, chosen from a list of proposed themes. The research project is based solely on scientific articles, without collecting empirical data, and results in several outputs, including reading notes, an oral presentation, an interview with a professional in the field, an instrumented observation of a situation related to the project theme, and a final written report. The groups are supported in their work by a tutor who is a more advanced student in the degree programme. It should be noted here that the first and last authors of this article have academic responsibilities within this course.

To analyse the effect of social profile on group work, we selected three groups of eight students, freely formed, from the 2023-2024 academic year cohort whose composition was homogeneous in terms of the profiles we wished to study, namely a group of students from lower social classes (low socioeconomic index, SEI-), a group of students who are adults returning to education (ARE), and a group of students from upper social classes (high socioeconomic index, SEI+). The two SEI groups were selected on the basis of the socioeconomic index of the educational institution where they completed their secondary education, with the SEI- group in the lowest quartile and the SEI+ group in the highest quartile. Adults returning to education were identified on the basis of their age (25 years or older) and the presence of a discontinuity in their academic career.

3.2. The characteristics of the material collected

The empirical material consists primarily of recordings (with the consent of all students) and transcripts of collective meetings (lasting between 1.5 and two hours) that these groups organised with their tutor. A total of 14 meetings were recorded: 5 with the SEI- group, 4 with the ARE group, and 5 with the SEI+ group. These recordings were supplemented by the tutor's observation notes.

The meetings analysed were transcribed in full, with each intervention numbered and assigned to a student (numbered from S_1 to S_8). These transcripts were then subjected to a categorical content analysis (BARDIN, 2013) based on the three categories of regulation that we constructed in our theoretical framework: epistemic, organisational and socio-affective regulation. The first category concerns interventions relating to content, whether to understanding instructions for carrying out the work or to the substantive content of the topic addressed. The second category concerns interventions relating to the formal structuring of the collective work, such as the

distribution of tasks, setting meeting dates, or choosing production media. The last category of regulation concerns interventions relating to emotional issues and interpersonal relationships (possibly between sub-groups); these include conflicts and tensions, moments of relaxation, or moments when comments are made about other courses, for example. For the content analysis, we identified units of the transcripts consisting of a sequence of interventions (called an “episode”) constituting a coherent unit of meaning (coding work). The context unit therefore corresponds to each entire meeting (which we numbered from M₁ to M₄ or M₅, depending on the group). Thus, for each of the 14 meetings analysed, each identified episode (and thus its constituent interventions) was classified into one of three categories of regulation (categorisation work). Additionally, keywords were assigned to each episode to summarise its content.

Once the coding and categorisation were complete, we proceeded to draw inferences for each social group profile in order to identify differences in the groups’ work dynamics. This work was based both on a quantitative analysis (counting the number of interventions per category and per participant) and on a qualitative analysis. Finally, the results of these analyses were compared to the quality of the written report each group produced to better understand the potential effects of the group dynamics on their work.

4. Presentation and discussion of results

4.1. Quality of the written report

The scores obtained (out of 40) for the three groups’ written reports vary markedly: the SEI- group obtained a score of 5.5/40, the ARE group 30.5/40, and the SEI+ group 23/40.

The SEI- group’s report is poorly written, lacking clarity and consistency throughout. The arguments are poorly supported by sources, which are also poorly cited (in terms of APA citation standards). Concepts and theories are poorly defined or explained, and insights into their initial question are lacking. Their instrumented observation is very poorly executed. Finally, the group was given a significant penalty (-12) for not using enough relevant sources as the group failed to meet the required minimum of eight scientific articles (one per student).

In contrast, the ARE group’s report is well written and stands out for its excellent explanation of the concepts and theories they made use of, which are well supported by the sources read, reflecting a very good overall understanding of the content. This group is also the only one to have provided sufficient relevant insights into their initial question, although these could have been improved, as could the theoretical problematization. Finally, the required instrumented observation of a situation related to the research theme is very relevant, with an appropriate use of a theoretical framework to analyse it.

The report of the SEI+ group is well written in terms of form, but the content lacks depth. As a result, although the text is well written, it struggles to provide any real insight into the initial question (which is, incidentally, very ambitious), contributing to a lack of overall coherence. However, the text is well supported by the sources used, and this group demonstrates remarkable reflexivity and perspective in their conclusions.

4.2. Quantitative analysis of interventions

Table 1 below summarises the categorisation of interventions in each group during each of their meetings with the tutor. It shows the number of interventions, the total number of words transcribed and the ratio of the two to indicate the length of the interventions. Interventions are classified according to our three categories of regulation (epistemic, organisational and socio-affective). Their sum in each meeting does not equal 100% as we sometimes considered that certain interventions did not fall into any of these three categories.

Table 1 – Characteristics of interventions per group per meeting and totals for all meetings

		M1	M2	M3	M4	M5	TOTAL
SEI-Group	No. of interventions	769	2 014	1 095	1 266	441	5 585
	No. of words	10 791	29 345	21 194	21 566	11 877	94 773
	Mean no. of words / intervention	14	15	19	17	27	17
	% epistemic	26%	81%	66%	71%	42%	65.1%
	% organisational	42%	8%	17%	17%	18%	17.2%
	% socio-affective	14%	9%	12%	12%	4%	10.6%
ARE Group	No. of interventions	479	406	642	582	X	2 109
	No. of words	8 795	11 409	14 326	11 863		46 393
	Mean no. of words / intervention	18	28	22	20		22
	% epistemic	37%	51%	66%	64%		56.2%
	% organisational	55%	40%	3%	6%		22.8%
	% socio-affective	5%	8%	11%	4%		6.9%
SEI+ Group	No. of interventions	467	845	1 109	722	545	3 688
	No. of words	8 223	14 287	18 301	13 748	13 277	67 836
	Mean no. of words / intervention	18	17	17	19	24	18
	% epistemic	30%	72%	68%	53%	61%	60.1%
	% organisational	56%	25%	35%	38%	18%	33.3%

ISSN: 1984-6444 | <http://dx.doi.org/10.5902/1984644494444>

	% socio-affective	1%	3%	2%	8%	1%	3.1%
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Source: The authors

Table 2 below shows the percentage distribution of interventions from each member of the groups and the tutor in each meeting, and the percentage totals in all their meetings. It also shows the standard deviation for each group, excluding the tutor's contributions, as we considered that the nature of her interventions was qualitatively different from that of the tutees. From the standard deviations, we wished to identify whether a tighter dispersion may be an indicator that a form of leadership had emerged within the group.

Table 2 – Distribution of the participants' interventions in each group's meetings (%)

Profile	Tutee	% M1	% M2	% M3	% M4	% M5	% TOTAL	Standard deviation of tutees' interventions
SEI-Group	S ₁	25.39	28.77	26.64	32.0	24.88	28.37	7.94
	S ₂	11.27	17.86	12.32	11.4	3.62	13.36	
	S ₃	7.64	5.8	0.09	16.53	4.83	7.25	
	S ₄	12.18	14.24	17.52	11.81	3.62	13.29	
	S ₅	7.77	11.06	8.12	10.02	4.35	9.3	
	S ₆	1.04	3.22	6.48	0.49	2.42	2.9	
	S ₇	16.84	6.25	6.84	3.18	17.63	8.03	
	S ₈	2.59	2.78	6.2	5.37	14.25	4.88	
	Tutor	13.86	10.02	15.78	9.2	24.4	12.62	
ARE Group	S ₁	10.44	19.96	16.98	29.9		19.65	6.15
	S ₂	17.54	20.44	16.04	4.64		14.1	
	S ₃	1.46	17.24	30.38	1.72		13.38	
	S ₄	2.92	8.13	1.71	3.26		3.65	
	S ₅	17.96	8.37	3.89	0.69		7.07	
	S ₆	0	6.41	1.71	0		1.76	
	S ₇	16.49	4.68	9.19	27.15		14.95	
	S ₈	20.25	4.19	9.03	0		8.16	
	Tutor	12.53	10.59	10.9	36.25		17.23	
SEI+ group	S ₁	30.19	25.33	7.48	28.81	0	17.51	8.97
	S ₂	20.99	32.31	35.8	0	0	20.81	
	S ₃	4.49	3.2	12.35	6.51	15.96	8.65	
	S ₄	0	9.94	0	15.79	0.18	5.4	
	S ₅	18.2	4.14	21.73	31.02	45.32	22.56	
	S ₆	0	9.11	0.09	3.46	0	2.79	
	S ₇	5.35	0.36	3.79	1.25	0.37	2.2	
	S ₈	0.64	0	0.09	0.14	0.18	0.16	
	Tutor	19.7	15.38	18.67	13.02	37.98	19.79	

Source: The authors.

4.3. SEI- group work profile

When analysing the results presented in Table 1, one salient point concerning the SEI- group is their greater number of interventions, which were also markedly shorter on average than those in the other two groups. The total number of interventions in the SEI- group was almost double that in the ARE group. The distribution of the nature of their interventions also differs markedly from that in the other two groups: socio-affective regulation was greatest in the SEI- group, with a peak of 14% during the first meeting and a total of 10.6% across all meetings. By contrast, socio-affective regulation accounted for only 3.1% of interventions in the SEI+ group and 6.9% in the ARE group across all meetings.

Beyond the quantitative findings, we also observe that the socio-affective interventions in the SEI- group often reflect episodes of acute tension or relaxation marked by a great deal of humour (sometimes dark). The meeting excerpts belowⁱⁱ illustrate these emotionally charged episodes.

564. S₇: *He's really going to ask us questions [the assistant during the oral presentation], we're just going to look at him [without being able to answer him].*
565. S₅: *No, but him.*
566. S₇: *We're going to cry.*
567. S₂: *No one's going to cry, right? No one's going to cry.*
568. S₁: *Sarah... [S₄, name changed].*
569. S₄: *We're not crying, we're not crying. We're crying here.*

Excerpt No. 1 – SEI- group meeting No. 4

406. S₃: *Jonas [S₁, name changed], you're being difficult today.*
407. S₁: *Clara [S₃, name changed], you...*
408. S₅: *No, but it's really better to say research question than initial question.*
409. S₈: *Initial question. There you go, shut up.*

Excerpt No. 2 – SEI- group meeting No. 4

1146. S₁: *Guys, I feel like crying. "How the education system would impact..." We're not going to say black people and Arabs.*
1147. S₄: *We're not going to say "victims of racism" because that's also a value judgement.*
1148. S₁: *Because they are "victims"...*
1149. S₂: *It's seriously not funny.*

ISSN: 1984-6444 | <http://dx.doi.org/10.5902/1984644494444>

1150. S₅: *We're all laughing...*

1151. S₁: *People are laughing at us.*

1152. S₃: *It pisses me off.*

1153. S₂: *I feel like breaking something.*

Excerpt No. 3 – SEI- group meeting No. 2

The total percentage of interventions involving organisational regulation in the SEI- group (17.2%) is the lowest of the three groups, although it is relatively closer to that in the ARE group (22.8%). The difference is particularly marked with the SEI+ group, in which this type of intervention occurred almost twice as often (a total of 33.3%).

On the other hand, with regard to epistemic regulation – and this result surprised us – the differences are much less marked between the three groups. Even more surprising is that, albeit close, the ranking is in reverse order to the quality of the written reports produced. Thus, of the three groups, although the SEI- group devoted the highest total percentage (65.1%) of interventions to epistemic regulation, it produced the lowest-scoring written report (5.5/40). Conversely, the ARE group devoted the lowest percentage (56.2%) of interventions to epistemic regulation but produced the highest-rated written report (30.5/40). Beyond the mere percentage of interventions devoted to epistemic issues, the quality of the interventions should also be taken into account. In particular, the students in the SEI- group devoted most of their interventions relating to epistemic regulation to discussions focused on understanding the instructions (e.g. what is a theoretical framework? How can it be distinguished from a concept?), as illustrated in the following excerpt:

452. S₂: *I'm going to kill myself. What exactly is a theoretical framework?*

453. S₆: *He says it's a concept.*

454. S₇: *This is the basis of an idea that will help other people to research the subject.*

Excerpt No. 4 – SEI- group meeting No. 2

Admittedly, epistemic regulation is important in terms of learning, since the course aims to introduce students to epistemological and methodological aspects of psychological and educational sciences. Nevertheless, it is quite surprising that this group devoted so little discussion to the substantive content of the research work, and in particular to the content of the scientific articles read.

Table 2 shows that the standard deviation of the percentage of interventions of each member of the SEI- group across all meetings (7.94 points) lies between that of the ARE group (6.15 points) and that of the SEI+ group (8.97 points). Thus, in the SEI- group, a slightly greater potential for a form of leadership seemed to emerge compared

to the ARE group. Indeed, a single student (S_1) in the SEI- group accounted for more than a quarter of all the interventions (including those of the tutor) in that group's meetings, and for almost a third during their fourth meeting. Conversely, in that same meeting, two students (S_6 and S_8) each accounted for less than 5% of the speaking timeⁱⁱⁱ.

Additionally, the total percentage of the tutor's interventions in this group (12.62%) is lower than that in both the ARE group (17.23%) and the SEI+ group (19.79%). It is as if the SEI- group gave her the least opportunity to express herself and help them (quantitatively, at least), even though it is potentially the group with the greatest need for guidance and support. It must be said that relational and emotional issues seemed to play a substantial role in this group, perhaps betraying – at least this is our hypothesis – a negative image of themselves and difficulties in projecting themselves positively towards success (the extracts quoted above illustrate this well^{iv}). In any case, it is very clear that these students experienced several emotionally intense episodes, which probably left less opportunity for the tutor to intervene effectively. Tutoring, which was initially designed to help students in the greatest difficulty, did not seem to be achieving its objective in this group. Rather, the group seemed to experience a “Matthew effect” (ROSSITER, 1993), named after the Gospel of Matthew, which states, “Whoever has will be given more, and they will have an abundance. Whoever does not have, even what they have will be taken from them.”^v

If we seek to characterise this group work dynamic with reference to the production-oriented and learning-oriented categories we defined earlier, it seems to us that the SEI- group is the most difficult to place. Admittedly, the concentration of interventions indicates that decision-making and collective work were directed by the leadership of a small subgroup of people. In our view, the markedly high proportion of epistemic exchanges reflects above all the group's poor understanding of the task instructions, which were discussed at length and regularly. The content of the scientific articles was discussed very little (although more so during the second meeting). As for the division of labour, which is an essential point in our theorisation of group dynamics, it does not seem to be as high as might have been expected. However, this does not seem to be due to deliberate choices made by the group, but rather the consequence of weaknesses in the organisation of the work. We interpret the low level of organisational regulation in this group in this way. At the second meeting, for example, the students left without really organising the next steps of the work. At the third meeting, it was clear that they did not really have an overview of the work and were proceeding step by step without anticipating the next stages, only discovering them as deadlines approached (notably thanks to the tutor). While the division of labour seems relatively limited compared to the SEI+ group (see SEI+ group work profile further below) – they work collectively on formulating their initial question and choosing their theoretical framework for the problematization –, the SEI- group members are poorly informed or misinformed about the work done by others outside of meetings, as shown by the following exchange on the theoretical frameworks identified by the group members:

159. S₄: *So what's social reproduction?*

160. S₁: *Yeah, yeah, well, I see what you mean, but the thing is, it goes back to the idea that... students from immigrant backgrounds are reproducing... patterns or professions that aren't necessarily highly valued in society, but in our texts, I think the theory in Marie's text [S₅, name changed] would be the most coherent.*

161. S₄: *What is she talking about?*

162. S₅: *But I would have to look it up [the concept in question] because I don't know...*

163. S₁: *Well, maybe we should all read the thing [the scientific article where the concept appears], but then again, if the text is 90 billion pages long... It's not...*

Excerpt No. 5 – SEI- group meeting No. 3

They often discover each other's work during meetings, which leads to lengthy and often confusing discussions before they can agree on what should be retained. In our view, this could explain why there are markedly more total interventions compared to the other two groups (see Table 1).

Based on all these characteristics, we believe that the work dynamics of the SEI- group are somewhat closer to production-oriented cooperation, while falling between the dynamics that we will characterise below within the other two groups.

4.4. ARE group work profile

In contrast to the SEI- group, the ARE group experienced more peaceful interactions on a socio-affective level, which took up less time in the overall exchanges. Planning and anticipation of the work to be done were also given more thought in advance; for example, from the very first meeting, the students in this group discussed one of the final stages of the work (the instrumented observation) and its link to the stage they were currently working on (the theoretical problematization); by the third meeting, they had already started writing the report, which contrasts sharply with the progress made by the other groups. In general, their understanding of the expectations went well beyond this first-year work (which stops at the theoretical problematization stage; the collection and analysis of empirical material being addressed in subsequent years) and they are able to situate it within the curriculum as a whole, as the following exchange shows:

301. S₈: *Yes, Chédia [S₁, name changed] had questions [for someone on duty]. She was afraid that the question was too broad, so I think what she suggested was to use OCD [obsessive-compulsive disorder]. And he [the person on duty] thought it was too specific and told us, "Be careful. This isn't a PhD thesis, it's not a master's dissertation. You don't have to answer the question." But it's just a first-year assignment where we're just asked to come up with a problem.*

302. S₂: *Yes, it's to force us to question ourselves and develop a critical mind, to search, to ask ourselves whether the article answers... in fact, to prepare us, but we're going to be prepared over the next five years, so step one is the preparation we're being asked to do. What we already see is the end result, when in fact it's just the first step.*

Excerpt No. 6 – ARE group meeting No. 1

Furthermore, the ARE group's mastery of the task instructions was also much better than that of the other two groups. They therefore spent much less time discussing them among themselves and with the tutor and devoted more time to exchanges on the substantive content of the topic being addressed and the scientific texts they had read (this is particularly evident during their second and third meetings). This distinctive feature of their interactions probably explains why, despite having the lowest total percentage of epistemic interventions of the three groups (56.2% compared to 60.1% and 65.1%), their interventions actually led to qualitatively richer discussions. This observation is reinforced by the fact that the students in this group were also much better prepared for the meetings: not only did they work ahead of time before meeting, they also often familiarised themselves with the work of others in the group, typically by reading the reading notes written by each member, which we did not observe in the other groups. Thus, during the second meeting, when the group had begun a verbal presentation by each member on the content of their scientific article, one student interrupted the process, indicating that it was of limited interest:

160. S₁: [...]. *Shouldn't we reschedule a meeting because I read Myriam's reading notes [S₇, name changed]? I don't need to do that work again [presenting the content of her article to the others], we've already done it. What's great is brainstorming around it and being able to ask questions and try to get to the bottom of things [...]*

Excerpt No. 7 – ARE group meeting No. 2

For this student, it was more interesting to explore and develop the content of the articles once they had already read them. And even though the group ultimately decided to continue presenting all their sources to go beyond simply reading the summaries, they approved of this student's intention. We see this as a stance corresponding to entering into a collective process of "secondarisation" (JAUBERT, 2007, ch. 7) where it is no longer a question of developing "primary" content (which belongs to a primary genre of discourse^{vi}), but of constructing new content (which belongs to a secondary genre) based on it. This mode of cooperative work in the ARE group was made possible by a much less marked division of labour than in the other two groups. Members of the SEI- and SEI+ groups tended to be content with mastering the content only of their own source, which hinders the production of a high-quality collective synthesis of the scientific literature consulted, capable of going beyond the individual understanding of each member. This lack of interest in the content worked on by other group members is evident from the early stages of the research work, when

selecting the articles to be used for the work. Whereas students in the SEI- and SEI+ groups chose their scientific articles individually, those in the ARE group consulted each other on their choices, as indicated in this excerpt:

277. S₂: *So, I don't think we're going to drop any articles because, in the end, they all respond in part. They all deal with the same theme, which was the goal because that's how we searched for our articles. We agreed on a theme and searched for them that way, so even if there's a sentence in your article that sets out a theoretical framework and deals with our subject, that's fine, you see? We're not going to say goodbye to the article and take another one because...*

Excerpt No. 8 – ARE group meeting No. 2

As a result, there was less need for leadership within the ARE group, in which variation in the total percentage of individual interventions is less marked than in the other two groups (see the standard deviation values in Table 2). All these characteristics point to a greater intrinsic interest in the epistemic content itself and a less instrumental view of the work to be done. This was very explicit, for example, during the third meeting, when one of the students (S₁), who had read additional sources, discovered that content would not ultimately be included in the work:

244. S₁: *So there you go, disregard my comments.*

245. S₃: *But that's okay, because you know what? You're going to be super knowledgeable about bilingualism [the topic of their research project].*

246. S₅: *Yes.*

247. S₁: *I am very pleased.*

Excerpt No. 9 – ARE group meeting No. 3

However, students in this group remained clear-headed about the fact that, for a variety of reasons, particularly those related to busy schedules and significant family responsibilities, it was necessary to divide the work up to a minimum extent, even though this may be detrimental to the quality of the work, as illustrated by the following intervention:

426. S₁: *[...] I still found it interesting. It's true that I think it's a great job. But then it's complicated because not everyone does everything, so in fact, that's what's complicated: knowing exactly what we're talking about all the time. And the organisation.*

Excerpt No. 10 – ARE group meeting No. 4

Overall, the ARE group is closest to learning-oriented cooperation. The fact that its members already had academic and/or professional experience (some with a master's degree) gave them undeniable extra resources, particularly in terms of organisation

(especially in that an effective meeting was prepared in advance). Above all, it is likely that this is linked to a greater interest in the content of the work itself, beyond the instrumental dimension of the task.

4.5. SEI+ group work profile

Table 1 shows that within this group the total percentage of interventions relating to organisational regulation was the highest (33.3%) of the three.

We can see from Table 2 that the standard deviation of the distribution of interventions by this group's members is the highest of the three (8.97). However, unlike in the SEI-group, no single leader emerged in the group, but rather a group of three leaders (S₁, S₂ and S₅) who together account for nearly two-thirds of the interventions (including those of the tutor). The relative importance of the individual members of this subgroup of leaders nevertheless varied greatly from meeting to meeting (particularly due to their absences). Furthermore, the total percentage of the tutor's interventions in this group is also the highest of the three. It is likely that these last two observations can be explained largely by the unique characteristics of their final meeting, in which tutees S₃ and S₅ and the tutor accounted for almost all of the exchanges (15.96%, 45.32%, and 37.98% respectively). Three students in the group (S₄, S₇ and S₈) hardly spoke at all and S₁, S₂ and S₆ were absent. The course of this meeting easily explains this observation: the group members learned at that point from the tutor that they had been mistaken about the deadline for submitting the written report and that they actually only had three days left, while nothing had yet been written at that stage.

57. S₇: *It's this Friday* [it was Tuesday].
58. S₅: *Oh my god!*
59. Tutor: *It is 3 May.*
60. S₃: *Oh dear.*
61. Tutor: *That's why I...*
62. S₃: *I thought it was the 19th.*
63. Tutor: *No no.*
64. S₃: *It's a complete mess.*
65. S₅: *Oh, okay. I thought it was for the 5th. Okay. Let's take a breath. It'll be fine.*

Excerpt No. 11 – SEI+ group meeting No. 5

Realising how little time they had left, the students in this group quickly organised themselves to try to write the report within the allotted time. During this meeting, they asked the tutor many questions, which explains why she spoke more than usual. Given

the limited time they had left and their lack of understanding of the task instructions, student S₅ took the lead and strongly structured the discussions to obtain as much useful information as possible.

As a result, this meeting saw a very clear division of labour within the group. Given the very tight deadlines, the tutor also encouraged them to work this way in order to move forward as efficiently as possible and get the work done on time. Co-constructing knowledge is a time-consuming process, but in this case, there was no time left. The following exchange illustrates this division of labour well through the metaphor of a puzzle used by one of the students in the group:

399. S₅: [...] *I feel like the written version is like putting a puzzle together. We already have the pieces of the puzzle. We just need to put them together.*

400. S₃: *It can be complicated sometimes. And even then, there are pieces you can't put in until you've assembled the others.*

Excerpt No. 12 – SEI+ group meeting No. 5

Even though another student added a nuance, reflecting the difficulties of carrying out work in a fragmented manner, this was indeed the approach taken by the group. In fact, the sharp division of their work was not limited to this meeting but was also evident throughout the entire work process. This was not for lack of trying to work more collectively, particularly during the first three meetings, when some members of the group suggested that everyone present the content of their scientific article to the others, read all the reading notes that had been written by the group, or prepare the content of the oral presentation together. However, these intentions remained unfulfilled each time, which is reflected in particular in the content of the epistemic exchanges that, as in the SEI- group, focused mainly on the instructions. As a result, very little substantive content was discussed (except for a little during the second meeting), particularly with regard to the scientific texts to be used. It was during the SEI+ group's fourth meeting, a few days before the group's oral presentation, that the sharp division of labour became most apparent. The three students responsible for giving the presentation repeatedly expressed their difficulties in presenting content that they did not actually understand. For example, S₁ indicated that he would simply name the theoretical frameworks encountered in the various sources, as he would be unable to explain them.

56. S₁: *So what, am I just going to list all the theories? I won't be able to explain them all.*

57. S₅: *I think you need to give a quick summary of the most important points in each theory.*

58. S₁: *Wait, I'll tell you what I wrote. I wrote: [...].*

59. S₅: *Actually, with what I said, I think it's okay because I quickly explained what all the theories had in common and everything.*

60. S₁: *I won't dwell on this slide for long, but I don't really see what there is to say. If, during the presentation, he [the assistant] tells me to "explain everything", then no. Each of you will explain your theory. That's out of the question.*

Excerpt No. 13 – SEI+ group meeting No. 4

Similarly, he was unable to describe the methodological content of the three empirical articles and needed the people who had read each of the texts to tell him what needed to be said. However, one of the three students in question was on holiday. In our opinion, this situation illustrates to the extreme the high degree of interdependence within this group, which was a consequence of the sharp division of labour. Even student S₄, who was one of the few to have read the summary of each article, expressed difficulties, which can be explained by the lack of collective discussion about the content of the texts. Moreover, even the preparation of the content of the oral presentation by the three students was done separately, with each discovering the content prepared by the other two at the time of the meeting. This inevitably led to difficulties in articulating the different parts of the presentation. For example, not only was the source comparison table created by a single student (S₁), he was also the only one in possession of it, even though he was absent from one of the meetings where it was discussed. The corresponding exchange again illustrates the difficulties associated with a high degree of interdependence in collective work:

815. S₂: *Okay. The comparison table needs to be updated with all the details and everything. There you go.*

816. S₇: *It could be Irène [name changed, S₁] as she's the one who has the Excel spreadsheet.*

Excerpt No. 14 – SEI+ group meeting No. 3

Similarly, with regard to the choice of theory for developing their theoretical problematization, it was a single student (S₅) who took charge of this alone, and with noticeable difficulty. However, this choice resulted from a comparison of all the theories encountered in the various scientific texts that had been read and should therefore have been the outcome of a collective discussion.

In the light of these observations, it seems to us that the group work dynamics in the SEI+ group point to production-oriented cooperation. In some respects, the functioning of this group is similar to that of the SEI- group, particularly as regards the lack of an overall view of the work to be done and the lack of anticipation of subsequent stages. However, although the division of labour was greater in this group, it seemed to be better managed, with a larger total percentage of interventions devoted to organisational regulation (33.3% compared with 17.2% in the SEI- group). Another key difference with the SEI- group concerns the SEI+ group's ability to project success. This was particularly evident when the group realised that they only had a few days left

to write the report: they did not panic but quickly activated all the resources at their disposal to achieve their objective. It should be noted that, in addition to the resources common to all the groups, such as the tutor, they also had specific extra resources derived from their additional cultural and social capital. Analysis of the meetings tells us that some members of the group had completed a high school graduation project^{vii} that was similar in certain respects to the work required for their task in hand (this was the case for S₁ and S₅ in particular), or that others had parents or relatives who were psychologists – including a university professor – whom they called on, for example, to carry out the required interview with a professional in the field. Even more surprisingly, at the fourth meeting, one of the students (S₄) was even envisioning a possible academic career. These extra resources may well have played an important role in differentiating the group work dynamics of the SEI- and SEI+ groups.

5. Conclusions

This research is limited to a small case study of three, socially differentiated groups, in the particular context of a first-year course in the field of psychological and educational sciences in a French-speaking Belgian university. Any generalisations are therefore clearly excluded. Nonetheless, by relating the groups studied to the context in which they make sense, it might still be possible to theorise mechanisms (BECKER, 2014) that would allow us to better understand – through group dynamics – the effect of social background on learning outcomes from group work. Another important limitation concerns the work involved in counting and categorising the students' interventions, which sometimes led to difficulties in interpreting the results obtained. In particular, the number of interventions involving epistemic regulation within the groups sometimes led us down questionable paths, which we were able to compensate for in part thanks to the qualitative analysis of the interventions. It would, however, have been wiser to differentiate between episodes (as defined earlier as a coherent sequence of interventions) relating to the task instructions (even if they have a relevant epistemic dimension) and those relating to the substantive content of the topic covered. We feel that the former are more a matter of compliance with perceived formal expectations, whereas the latter reflect an intrinsic interest in the work to be accomplished.

With these precautionary comments in mind, and in light of the results highlighted by the analysis of the empirical material, we can attempt to shed some light on the potential for socially unequal learning outcomes from the practice of group work. In our study of group work, for which students had received little prior methodological preparation, those from lower social classes seemed to benefit least in terms of learning outcomes. For these students, simply being directed to work in a group seems not to have compensated for their initial disadvantages: less relevant professional and academic experience, less access to academically relevant support from their social environment, and less confidence in their ability to succeed. Caught in a somewhat

chaotic group dynamic, they seemed not to benefit either from the effectiveness of more instrumental cooperation or from the expected learning outcomes of cooperation more focused on content. One point we did not mention at the outset corroborates this hypothesis: if we “neutralise” the individual level of the students, the SEI- group was not in fact inherently weaker. To provide a measure of this level, we present in Table 3 below, alongside the groups’ written report scores, the results of the 24 students observed for two individual assessments that took place several months before the group’s final written report: the scores for the written examination – which covered the lecture content of the same teaching unit as project –, and the scores for the reading note of one of the scientific articles used in the group work.

Table 3 – Comparison of scores for the groups’ written reports (WR), and individual written examination and article reading notes scores (RS)

Group	Results WR /40	Exam results /20	Av. exam	RS results /20	Av. RS
SEI-	5.5	10.5	10.9	16	16.3
		10.5		14.5	
		9.5		14.5	
		12.5		17	
		12		19.5	
		9.5		17.5	
		12.5		14.5	
		10		17	
ARE	30.5	14.5	13.4	19	15.9
		16.5		17	
		16		19	
		16		15.5	
		8		16.5	
		14.5		12.5	
		13.5		19	
		8.5		8.5	
SEI+	23	12.5	10.4	17	16.7
		8.5		15.5	
		6.5		10	
		13.5		19	
		10		16.5	
		14		18	
		8		18	
		10		19.5	

Source: The authors.

Although the ARE group clearly stands out in terms of individual results (particularly in the written examination, which is much more difficult than reading a scientific article), the SEI- group has, based on the average scores for their individual assessments, a similar level of mastery of the content to that of the SEI+ group^{viii}. Moreover, the difference in quality between the written reports of the SEI- group and the SEI+ group is not as great as the figures would suggest, as it was the lack of compliance with certain formal instructions that so negatively impacted the score for the SEI- group. Nonetheless, it was as if the SEI- group was least well suited to the practice of group

work (in a situation of social homogeneity, it should be underlined), which seemed to drag them down.

To conclude, we offer a few avenues to follow up this research. We envision that new investigations should be undertaken to study the effects of group work on the scale of an entire year cohort, so as to permit more robust results based on statistical tests. In addition to studying a much larger number of groups, the robustness of the results obtained could also be enhanced by diversifying the groups studied to include those with less homogeneous profiles. From a pedagogical point of view, students need to be better prepared in advance for cooperative working methods. Indeed, to assume that putting students together is enough to create the conditions for spontaneously generating the desired cooperative learning is not corroborated by the observation of the groups we studied. Rational means therefore need to be implemented to enable all students to achieve the learning objectives targeted through the practice of group work. In particular, the work organisation tools and methods to be recommended to students should be such as to avoid excessive fragmentation of tasks and favour the co-construction of an overall vision of the work to be done, which would be shared by all the members of the group. Because over and above formal academic success – the importance of which we obviously do not reject –, the ultimate aim of group work is above all to enable students to appropriate knowledge so that they have the means to develop greater intellectual autonomy more effectively.

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Endnotes

ⁱ All quotations from sources written in French have been translated by the authors.

ⁱⁱ All meeting excerpts reported in this article have been translated into English.

ⁱⁱⁱ Here, we are equating the quantity of speaking with speaking time, although the two are not perfectly correlated in reality.

^{iv} We could also mention the student (S₁) who repeatedly tells the other members of his group that he failed the examination related to the work discussed in this article, and that he is counting on them to do well on this assignment to make up for his failure.

^v <https://biblehub.com/matthew/13-12.htm>

^{vi} The concept of secundarisation that we have borrowed from Martine Jaubert (2007), which is inspired by the work of Mikhail Bakhtin, involves a process of shifting from one type of discourse to another, without it being possible to categorise one as primary and the other as secondary in absolute terms, but in a relative sense in relation to each other.

^{vii} This teaching practice is not widespread in all secondary schools in French-speaking Belgium.

^{viii} However, there are differences in the extreme values within the two groups.