education sciences

MDPI

Article

Unknown Is Not Chosen: University Student Voices on Group Formation for Collaborative Writing

Karen Putzeys *, Hilde Van Keer and Bram De Wever

Department of Educational Studies, Faculty of Psychology and Educational Sciences, Ghent University, 9000 Ghent, Belgium; hilde.vankeer@ugent.be (H.V.K.); bram.dewever@ugent.be (B.D.W.)
* Correspondence: karen.putzeys@ugent.be

Abstract: University students are frequently required to collaborate, often in the form of collaborative writing tasks. The process as well as the outcomes of the collaboration depend on choices made during the group formation phase. Studies on why students select partners for collaborative writing tasks are, however, lacking. Therefore, the present study aims to gain insights into (1) university students' preferences with regard to teacher-assigned and self-selected group formation, (2) which motives they take into account when self-selecting a partner, and (3) the degree to which students select a partner similar to themselves. Sixteen dyads collaboratively wrote a research paper. Prior to the collaboration, 30 students individually completed questionnaires and 28 students were individually interviewed. The findings show that most students have mixed opinions regarding teacher-assigned or self-selected group formation (n = 18), while the others bar one prefer to self-select a partner (n = 9). Students' main motive for self-selecting is familiarity, and, more in particular, prior collaboration experience with a specific partner. Other motives include friendship, ability, convenience, and attitude. Furthermore, students tend to select a partner with a similar attitude, ability, task approach, and perspective towards the content of the task. Predictability seems to be the most important driver for self-selection.

Keywords: group formation; self-selected groups; teacher-assigned groups; collaborative learning; university students; group composition; predictability; familiarity; ability; attitude

Citation: Putzeys, K.; Van Keer, H.; De Wever, B. Unknown Is Not Chosen: University Student Voices on Group Formation for Collaborative Writing. *Educ. Sci.* **2024**, *14*, 31. https://doi.org/10.3390/educsci14010031

Academic Editor: David Arendale

Received: 31 August 2023
Revised: 19 December 2023
Accepted: 25 December 2023
Published: 27 December 2023

1. Introduction

Collaborative learning has been extensively documented in the last few decades [1,2] and it is quite common that university teachers assign collaborative tasks in higher education [3]. Collaborative tasks contribute to the development of collaboration and communication skills [4,5]. Moreover, students also acquire domain-specific knowledge [3,6] through several cognitive activities that are taking place during collaboration, such as collecting and sharing information, creating explanations for concepts, negotiating ideas, and building common ground [7].

One specific collaborative task, often implemented at university, is collaboratively writing papers [8,9]. Besides the abovementioned general benefits of collaborative learning, collaborative writing aids students in learning to select relevant and reliable information, integrate information from various sources, and to distribute their own ideas to a broader audience [9–11]. Collaborative writing is nowadays often computer-supported. For example, students use collaborative writing tools such as Google Docs or Etherpad to collaboratively produce texts [12–14], and can use online meetings to interact and provide feedback while working remotely [15,16].

Notwithstanding the consensus in the literature regarding the many benefits of collaborative learning [17–19], difficulties and issues are also reported. Common issues include interpersonal conflicts, free-riding [1,20], and the imbalanced skills and knowledge of collaborating students [21]. These issues obviously impact the collaborative process

and subsequently the group product. Taking this into account, it can be said that group formation, as a first step in collaborative learning [22], is crucial.

Several approaches can be followed in forming groups. Groups can be assembled by university teachers, deliberately or at random, or by students themselves [23,24]. When not forming groups randomly, university teachers often depart from a cognitive perspective [21,25–27]. However, university students' perspectives on group formation are less clear.

The aim of the present study is to investigate university students' preferences regarding teacher-assigned and self-selected group formation, and with respect to the latter, which motives are guiding their decisions. We will show that students prefer self-selection over teacher-assigned group formation and that predictability is the main motive for selecting a partner. Students consider familiarity with potential partners, their ability, attitude towards the task, and convenience as important motives for choosing partners for collaborative writing. Students show similarities with their partner in terms of ability, attitude, task approach, and task content.

2. Theoretical and Empirical Background

2.1. Collaborative Writing in Groups

Collaborative writing is a specific type of collaborative learning. While collaborative learning entails "all instructional arrangements that involve two or more students working together on a shared learning goal" (p. 71) [28], collaborative writing can be defined as "the coauthoring of a single text by two or more writers, where the coauthors are involved in all stages of the composing process and have a shared ownership of the text produced" (p. 1) [29]. Collaborative writing tasks are very specific and complex, requiring extensive knowledge on vocabulary, grammar, content, sourcing, information selection, and writing [9,30]. The contribution of individual group members heavily determines the outcome. Well-composed texts can result from unequal participation [31] as each member brings in other competencies and knowledge [32].

A group consists of at least two students collaborating on the same product. The optimal group size may vary according to the goal and the type of the task [33–35]. The composition of a group greatly impacts the interactions between the group members and consequently students' learning or task quality [33]. Group composition has been well-documented during the last few decades [26,33] and refers to the homogeneity or heterogeneity of a group in terms of, for example, gender [36] or competence level [26], or the degree to which group members are familiar with each other [37,38].

The process leading to group composition is called the group formation, which is a critical phase within collaborative learning [22]. When strategically employed, it can improve group performance [39,40].

2.2. Group Formation

Two main questions can be put forward with regard to the group formation process: (1) who is forming the groups and (2) what is considered when they are formed. Regarding the first question, a distinction can be made between teacher-assigned and student-selected groups. The term student-selected group formation is used interchangeably with self-selected group formation. Prior research is inconclusive regarding which of these two methods is best. Several studies have shown that students who are allowed to select their own collaboration partner(s) indicate that this method leads to a fairer group composition than being assigned to a group [41,42], as students perceive themselves as being more able than their teachers to select appropriate group members [41]. In particular, when teachers do not know their students very well, teacher-assigned group formation might not be the favorable group formation method, according to Lambić et al. [43].

Regarding the impact of student-selected versus teacher-assigned group formation on the collaborative process, students are more positive when collaborating with self-selected group partners as opposed to teacher-assigned group partners. More specifically, several

studies have elicited that students experience more enjoyment, supportive behavior, and at-ease communications [23,40,44]. However, in other studies, students in self-selected groups realized that their partner, despite being a good friend, was not a good collaboration partner [41,45]. Meanwhile, whilst some scholars have indicated a greater extent of equal participation and a fairer task division in self-selected groups [23,40], others have established no differences [24], or contradictory findings, i.e., student-selection leading to lower levels of participation and more off-task talk [20,24,42].

Concerning group outcomes, some studies have shown higher quality writing tasks in teacher-assigned dyads in comparison to student-selected dyads [24,46]. In contrast, other researchers have concluded that student-selected groups outperform randomly assigned groups [47,48] and teacher-assigned groups that were based on self-reported ability [48]. Tsoi and Aubrey [44] found no general difference in language learning between teacher-assigned or student-selected group formation. However, when studying perceived performance, student-selected groups report higher scores which do not necessarily correspond to their actual grades [23]. Mitchell et al. [40] suggest that the appropriate group formation method depends on the task and that especially for tasks requiring much collaborative effort, self-selection might be eligible.

In summary, there are contradictory findings regarding the impact of student-selected or teacher-assigned group formation on both the collaborative process and outcomes. Some of these differences may be related to the way teachers or students actually form their groups [49], which brings us to the second question concerning group formation: what is considered when groups are formed?

The literature shows that teachers assign groups either at random [24] or purposefully homogeneously and/or heterogeneously based on student characteristics such as gender [36], ability [25,26], personality [50], and prior knowledge [6,27].

Regarding student-selected group formation, the research literature consistently points to group familiarity, and more in particular friendship, as the main determining motive for self-selecting a partner for collaboration [24,40–42,44,48]. Group familiarity is defined as the extent to which students know each other prior to the collaborative task [38]. The more familiar members are with each other, the quicker they can advance to the core of the collaborative task, as they need less time for regulating their collaborative process [23,38]. Furthermore, group familiarity in general is positively related to teamwork satisfaction [23,37]. In addition, choosing someone familiar decreases uncertainty about the course of the collaborative process, and students tend to prioritize certainty and predictability for academic tasks [49].

Given that students collaborate to perform a particular learning task for which specific skills are needed [49], one could expect that they take their peer's specific ability into consideration when selecting a partner for collaboration. Several studies indicate the benefits of grouping students based on ability [26,43]. Although ability is one of the main characteristics that university teachers take into account in teacher-assigned group formation, limited research focuses on whether students consider a partner's ability when forming groups. Ideally, students should consider peers with complementary skills [49]. According to Chen and Gong [48], students heavily rely on friendship for group formation, thereby ignoring the specific abilities of their group members. Fischer et al. [47] analyzed the group formation behavior of 672 higher education students and observed that student-selected groups were significantly more homogeneous than randomly assigned groups in terms of ability, gender, and pro-sociality (i.e., voluntary behavior aimed at benefiting others) [51]. In their study, it is unclear, however, whether students deliberately chose a partner of the same ability.

Students tend to rely on someone's willingness to contribute to the task. In particular, reputational information on a student's ability, work ethic, or task approach is considered independent of their actual ability [49]. Objective information is most often unavailable; hence, they rely on either their own experience from collaborating with a particular group member or on information from someone else [49].

In general, as people tend to be attracted to others with similar characteristics, attitudes, or beliefs [52], it can be hypothesized that students, whether consciously or not, self-select peers who share the same characteristics, attitudes, or beliefs for academic collaboration. Student-selected group members quickly recognize similarities in their chosen partners and perceive these as positive. Teacher-assigned group members, on the other hand, rather see differences, regardless of being randomly or purposefully heterogeneously assigned [23]. Collaborating with students similar to oneself can result in easier communication and increases the predictability of others' behavior and values [49]; hence, improving the predictability of the collaborative process. However, choosing similar students for group formation results in low-diversity-groups [49].

In summary, there is ample research on how university teachers form groups and which student characteristics they take into account. However, while there are studies available on the aspects on which students are focusing in view of selecting group members, detailed information on students' reasoning to actually select a partner is lacking. This is particularly the case for collaborative writing tasks.

2.3. Research Questions

As illustrated above, group formation is an overlooked phase within collaborative learning [22,39,47,49]. Many studies on collaboration in general elicit friendship as the main motive when self-selecting a partner, while our literature review indicates ability and similarity between group members to also be of importance. However, the literature on ability and similarity is scarce. As the literature on students' perceptions towards teacher-assigned versus student-selected groups is also scarce and inconclusive, we include this in our study. Consequently, the following research questions guide our study:

1. What are university students' preferences regarding teacher-assigned versus student-selected group formation for collaborative writing and why?
2. Which motives do university students consider when self-selecting a specific group partner for a collaborative writing task?

As previous research [40] has shown that students tend to select a partner similar to them, the third research question is added:

3. To what extent do students select a partner similar to themselves and what are the types of similarities among the groups?

3. Materials and Methods

3.1. Participants and Data Collection

A total of 30 students (age: M = 22.03, SD = 1.34) in their 1st year of their master's degree in educational studies at a university in Flanders (the Dutch-speaking part of Belgium) participated in the current study. Students were required to write a literature review [8] in self-selected dyads within the context of a compulsory course. Whereas participation in the course was compulsory, participation in this research was in no way obligatory and students were informed that (non-)participation in this study would not affect their score for the course. The research was conducted according to the ethical rules presented in the General Ethical Protocol of the Faculty of Psychology and Educational Sciences of Ghent University. Data from students who did not sign the informed consent were deleted. Data from students who signed the informed consent were pseudonymized. An overview of the participants with their background information can be found in Table 1. This background information was obtained from individual questionnaires filled in immediately after they formed dyads and before the actual beginning of the task. The questions covered the age, prior education, prior collaboration, degree of familiarity with their partner, and the perceived ability of their partner. More specifically, the education prior to the master's degree differed between the students: either they completed an academic bachelor's degree or they followed a bridging program, which is the case for students who first obtained a professional bachelor's degree. Prior collaboration refers to the absolute number of academic papers students have written before with this specific partner. The degree of

familiarity with their partner shows how well students knew each other prior to this task. Students indicated this on a Likert-scale ranging from 'not at all', 'by name', 'a little', 'well' to 'very well, we are friends'. The perceived ability reflects students' answers to the question: "To what extent do you think your fellow student is good at writing an academic paper?". Students indicated this on a Likert-scale ranging from 'Not well at all', 'Not well', 'Average', 'Well' to 'Very well' and 'I do not know'.

Table 1. Overview of participants.

Group No.	Student No.	Name [1]	Age	Prior Education [2]	Prior Collaboration	Degree of Familiarity	Perceived Ability
1	1a	N/A [3]	N/A	N/A	0	N/A	N/A
	1b	Robin	23	BP	0	A little	I do not know
2	2a	Matthew	22	BP	5	Friends	Well
	2b	Olivia	23	BP	5	Friends	Well
3	3a	Ella	22	AB	0	A little	Well
	3b	Victoria	21	AB	0	By name	I do not know
4	4a	N/A	N/A	N/A	1	N/A	N/A
	4b	Scarlett	22	BP	1	Well	Well
5	5a	Zoey	22	BP	0	A little	Very well
	5b	Michael	22	BP	0	A little	I don't know
6	6a	Lauren	22	BP	3	Friends	Average
	6b	Nicole	24	BP	3	Friends	Very well
7	7a	Grace	21	AB	15	Well	Well
	7b	Rachel	21	AB	15	Friends	Very well
8	8a	Emily	21	AB	5	Friends	Very well
	8b	Jenna	21	AB	5	Friends	Very well
9	9a	Alex [4]	23	AB	0	A little	I do not know
	9b	Sophia	21	AB	0	A little	I do not know
10	10a	Jasmine	21	AB	2	Friends	Very well
	10b	Chloe	24	BP	2	Friends	Very well
11	11a	Emma	21	AB	4	Friends	Well
	11b	Alyssa	21	AB	4	Friends	Well
12	12a	Natalie	21	AB	2	Friends	Very well
	12b	Jessica	21	AB	2	Friends	Very well
13	13a	Miley	21	AB	3	Friends	Very well
	13b	Lily	21	AB	3	Friends	Well
14	14a	Sam	22	BP	1	Friends	Very well
	14b	Nicholas	23	BP	1	Friends	Very well
15	15a	Elizabeth	22	BP	3	Friends	Well
	15b	Megan	22	BP	3	Friends	Well
16	16a	Jacob	23	AB	0	A little	I do not know
	16b	Joshua [4]	22	AB	0	A little	I do not know

Note. [1] Pseudonyms. [2] AB = academic bachelor's degree, BP = bridging program, [3] N/A = not available due to no informed consent form. [4] Did not participate in the interview study.

After they formed dyads, 28 participants were interviewed separately. The semi-structured interviews took place during the first week of the task. At that point, most students had not yet started. Some students had already brainstormed but had not taken any further action. Interview questions concerned students' preferences with regard to student-selected or teacher-assigned group formation, the motives students had for selecting a partner for their collaborative writing task, and the perceived similarities and

differences between themselves and their partner. The translated version of the semi-structured interview protocol can be found in Appendix A.

3.2. Data Analysis

The interview data were thematically analyzed following six phases, as identified by Braun and Clarke [53]. An overview of our analysis process is presented in Table 2.

Table 2. Overview of our thematic analysis process, based on Braun and Clarke [53].

	Phases of Braun and Clarke [53]	Detailed Phases of Our Thematic Analysis Process
1	Familiarizing yourself with your data	All interviews were systematically transcribed, data were read and re-read, and initial notes were taken.
2	Generating initial codes	Using Nvivo (version 12), initial categories (or main codes) were created based on the interview protocol. Each interview was coded based on these categories. For the first research question, initial categories were "teacher-assigned" and "student-selection". For the second research question, two categories were pre-defined based on the literature review, i.e., "familiarity" and "ability", for the third research question the categories "similarities" and "differences" were created. Within these broad categories, subcodes were created based on the data.
3	Searching for themes	Overarching themes were created. The overall main codes remained as themes. Subcategories were sometimes merged or disaggregated.
4	Reviewing themes	The themes were iteratively reviewed and revised until the themes formed a coherent pattern.
5	Defining and naming themes	All codes were named and defined in detail.
6	Producing the report	An outline for the results was created.

Data from the questionnaires were used for the background information in Table 1.

4. Results

4.1. RQ1: Preferences for Student-Selected or Teacher-Assigned Group Formation and Reasons

Figure 1 presents students' preferences for either self-selecting a partner or being assigned to a group by the teacher. Nine students expressed a strong preference for self-selecting a partner. One student preferred teacher-assignment over self-selection. Eighteen students had no preference in particular and expressed mixed opinions about both group formation methods.

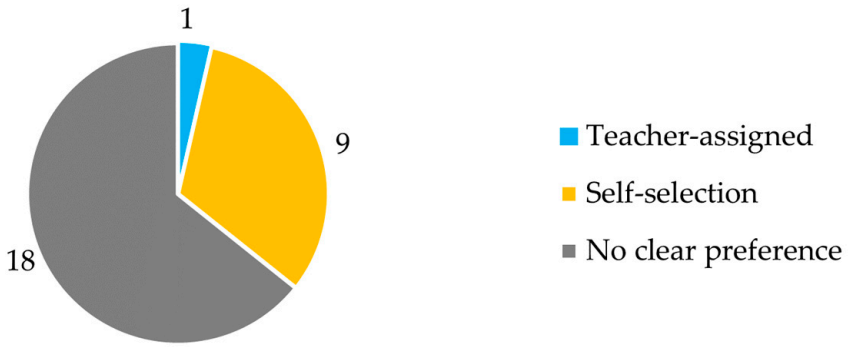

Figure 1. Students' preferences for teacher-assigned or self-selected group formation.

> *"On one side, I find it [i.e., student-selection] important, because I can somehow predict how I can collaborate with that person. But if I would be assigned to a group, I would not mind. In the end, that could also be someone I like".—Nicholas, group 14*

Students were asked why they did or did not prefer a particular group formation method in general. Fourteen students (50%) mentioned a reason related to predictability or lack thereof. Student-selection allows for self-determination of the degree of predictability, whereas being assigned to a group creates uncertainty about the potential partner and thus about the process.

> *"Then I just know for sure how the task will be executed, and that it will also be fun to call each other. I always look forward to chat once in a while. Otherwise it would be very formal, if you don't know someone well. And I do think that everyone in our class has good results, but it's more fun with someone you already have some sort of relationship with, I think".—Megan, group 15*

> *"Last year we couldn't choose our partner for a task, and that way, it was a very difficult paper to write. Because you can't judge that person very well. You don't know if they take their study seriously or not and you don't know if they tend to procrastinate or not [. . .] Does our writing style match a little or not. . ."—Scarlett, group 4*

In addition, two students (7%) pointed out the practical aspect. When students have the freedom to select their own partner, they can opt for the same partner in multiple group tasks, simplifying making appointments.

On the other hand, students who do not know anyone in the group could encounter more difficulties in finding a partner, according to two (7%) participants. One of the participants was new in the group and partially confirmed this:

> *"For me, it was a little bit frightening not knowing if I would be able to end up in a dyad. Is the student number even or odd. . . But actually, I do not mind that much [i.e., self-selecting a partner or being assigned to a group]".—Robin, group 1*

The risk of not finding a suitable partner is increased by the tendency of students to frequently select the same partner, or one from a limited pool of peers. Ten students (36%) acknowledged this phenomenon. Consequently, the pool of available partners decreases. Lauren (group 6) sometimes perceives a lack of choice, feeling compelled to collaborate with someone from their circle of friends.

> *"I've been in a specific circle of friends since last year and I notice that when we are allowed to choose, we always divide it among that circle of friends, [. . .] but. . . some of the other people in my circle I like as a person, but I find it more difficult to work with them. And we can say that to each other but even then we choose a partner within our circle".—Lauren, group 6*

Therefore, some students mention reasons in favor of a teacher-assigned group formation, which are clustered into two categories: learning from each other (n = 18, 64%), and getting to know a possible new friend (n = 16, 57%). All students who see benefits in the teacher-assigned group formation reported only having positive experiences with being assigned to a group.

4.2. RQ2: Motives Considered during Self-Selection

In the current study, students were asked to self-select their partner. Their motives could all be assigned to four categories: familiarity (consisting of friendship and prior experience through former collaboration, see later), ability, attitude, and convenience. In Figure 2, we provide a visual overview of the motives reported in the interviews. Table 3 details this information and shows a summary of the motives for each individual student.

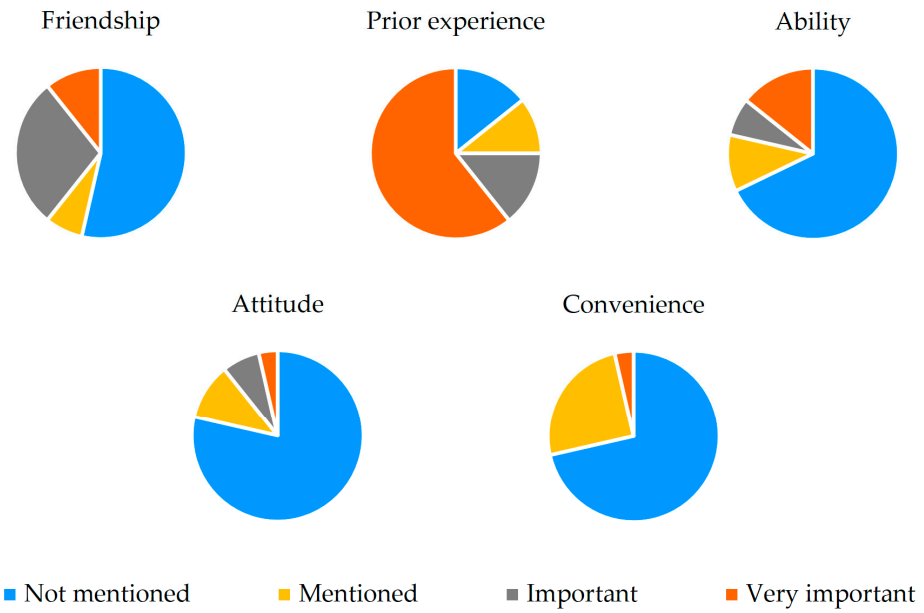

Figure 2. General overview of the motives considered during self-selection.

Table 3. Detailed summary of motives in student-selection per student in each group.

Group	1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16	
Student	**a**	**b**	**a**	**b**	**a**	**b**	**a**	**b**	**a**	**b**	**a**	**b**	**a**	**b**	**a**	**b**	**a**	**b**	**a**	**b**	**a**	**b**	**a**	**b**	**a**	**b**	**a**	**b**	**a**	**b**	**a**	**b**
Friendship	*			❷			*	❶		❶		❸	❸	❷	❷		*			❷		❷		❷			❸		❷	❷		*
Prior experience	*		❸	❸		❶	*	❸	❶	❸	❸		❸	❸	❸	❷	*		❸	❸	❸	❸	❸	❸	❷	❸	❷	❸	❸	❷	❶	*
Ability	*	❸		❶			*		❸	❷			❷				*							❶	❸				❶	❸		*
Attitude	*				❸		*	❶			❷						*			❶										❷	❶	*
Convenience	*	❶			❸		*					❶	❶			❶	*	❶								❶					❶	*

Note: Numbers indicate the importance of each motive according to each student. ❶ = mentioned, but student adds 'a little'; ❷ = mentioned as important; ❸ = mentioned as very important motives. The same numbers in the same column reflect the same degree of importance. Asterisks: no data due to no informed consent.

4.2.1. Familiarity

Twenty-five (n = 25, 89%) participants prefer a collaboration partner with whom they are familiar, mostly because the process and outcome of the collaboration with an unfamiliar person are unpredictable. Familiarity can be categorized into two main types, i.e., familiarity based on "former collaboration" or based on "friendship". The majority of students prefer a partner with whom they are familiar due to former collaboration (n = 24, 86%), while others also mention preferring a partner with whom they are friends (n = 13, 46%). Only one student prioritized friendship over any other motive. A positive prior experience fosters a willingness to collaborate again with the same person, while a negative prior experience makes students reluctant to engage in future collaboration.

> *"It is not my opinion that being friends is necessary for collaboration".—Emily, group 1*

> *"Especially if you have positive experiences with someone, you're going to choose that person. If last time the collaboration process was not so smooth, I'm more likely to choose someone else".—Rachel, group 7*

> *"I had a friend and I thought she was really cool, and we went out and I really liked her personality. But she never delivered the results by the time we agreed on. And I recognized myself a little bit in this procrastination and could tolerate that up to a certain point. Then the night before the final deadline for the task, I wanted to put our parts together and saw: "Wow, there is still so much work left". And then I had to completely rewrite it. She did not put the same effort into it. But I was her friend, so I rewrote it. At*

a certain point I decided for myself that I do not want to work with her anymore".—Ella, group 3

The students revealed many benefits of collaborating with someone familiar. These can be clustered into three categories: "interpersonal benefits", "benefits regarding the collaboration process", and "benefits regarding the outcome", as elaborated below.

The interpersonal benefits include easier and more open communication (n = 14, 50%), easier arrangements to meet up or make an appointment with each other (n = 5, 18%), a more fun atmosphere (n = 10, 36%), and a higher degree of tolerance towards their group partner (n = 7, 25%), as illustrated in the following quotes.

"I can express my opinion, my partner will not be offended. You have to think less before you give your feedback".—Olivia, group 2

"You can talk about something else in the middle of the task, that is nice. With people you do not really know, you would not do that so much".—Sophia, group 9

"There is less of a barrier to meet up at each other's dormitories or make a phone call to each other".—Robin, group 1

"I know that my partner procrastinates. I know that I have to keep reminding her to deadlines, but I am used to that, I know how she is. Should this be someone else, then it would annoy me. But I know this about her and we still get along".—Megan, group 15

The reported benefits associated with the collaborative process of working with a familiar peer encompass reasons related to the task division (n = 12, 43%) and the overall approach to tackling the task. Students anticipate a more seamless collaborative process (n = 10, 36%) when collaborating with someone with whom they have collaborated previously.

"You know which one of you is better at time-management, who tends to forget things (. . .) You know what you can outsource to your partner and you can trust that. You know for example: the content of their writing will be impeccable, but there will be a lot of grammar mistakes".—Michael, group 5

"I think the first phase of the collaboration will go faster, there is no more need to make agreements on who does what when".—Rachel, group 7

"After a while, you know the writing style and the way they approach this type of tasks, and you can anticipate or build further upon them, I find that efficiently".—Sam, group 14

Finally, as to the reported benefits regarding the "outcome", three students (11%) mentioned that they assumed a predictable good end result.

"You can predict, or at least know that you will deliver a good end result".—Emily, group 8

While students provided numerous benefits of collaborating with someone familiar, they also highlighted associated pitfalls, predominantly situated on an interpersonal level. Four interpersonal pitfalls have been identified.

The first pitfall involves the potential transfer of task-related conflicts to the personal sphere (n = 11, 39%). Collaborating with a friend increases the likelihood that issues emerging within the task context may adversely affect the friendship.

The second pitfall concerns a reluctance to give negative feedback on their partner's work or, conversely, feeling free to express an opinion in a less supportive manner (n = 6, 21%).

"Of course you will not say as quickly that you do not like something that they have written, and you will accept more of their writing, just because you know them".—Victoria, group 3

"If you know somebody well, for me at least, it is easier to be very honest but I would bring the message in a less nuanced way".—Chloe, group 10

The third pitfall is encountering difficulties in establishing boundaries (n = 6, 21%). Specifically, three students (11%) explicitly stated that they would let a friend get away with free-riding for the sake of maintaining the friendship, despite recognizing that it is not the appropriate course of action. Furthermore, four students expressed the feeling of social

pressure to collaborate with a familiar person solely because of their acquaintance, even if they are convinced that such collaboration may not yield an efficient process or satisfactory outcomes. The students added that they would guard their boundaries more strongly if they were collaborating with an unfamiliar partner. Social pressure manifests differently when collaborating with someone unfamiliar, i.e., students feel compelled to exert genuine effort, so as to avoid a bad image (n = 2, 7%).

> *"In case I collaborate with someone I know well, and I know that that person has a lot on their plate, then I would take over more of their responsibilities. In that case I would not report somewhere that she did not sufficiently contribute to the task".—Emma, group 11*

> *"If you do not know your partner that well, then I do not want them to say "I've worked with this person and they have not finished any of their work on time" or something like that. So you feel obligated to do the best you can".—Ella, group 3*

The fourth pitfall is a higher amount of non-task-related talk (n = 5, 18%). Many students reported chatting about their personal lives with someone familiar more often, whereas communication with a non-familiar partner is almost exclusively aimed at the task itself (n = 4, 14%).

In addition to pitfalls on the interpersonal level, students also acknowledged that iterative collaboration with the same person could lead to working by routine, missing out on opportunities to learn new ways of tackling a task, or gaining new insights (n = 4, 14%). Students mentioned that collaborating with an unfamiliar partner would enable them to expand their academic vocabulary and gain insights from potentially opposing viewpoints on both the content and the approach of the task (n = 18, 64%).

> *"You always tend to work in the same way, because you know it works well, but that has a downside as well. Because by always doing the same, your knowledge and skills will not be broadened".—Natalie, group 12*

> *"You take on a different role, maybe. Or you learn to start a project in a different manner. And you would need to push your own boundaries and learn to put yourself into a new role".—Elizabeth, group 15*

4.2.2. Ability

Another motive that influences students' choice for a specific collaboration partner, is the perceived ability of that partner (n = 9, 32%). Students want to collaborate with someone who is good at the task, or even outperforms them. In practice, this is intertwined with familiarity, given that such information is usually not available about an unfamiliar person.

> *"I am not necessarily going for the most fun option. If possible, I always try to consider with whom I could collaborate best to gain more insights into the task".—Matthew, group 2*

> *"I prefer to know someone is good at writing, or supports me in what I am less good at".—Grace, group 7*

> *"For me it is important to work with someone who is just a little better than I am, who can lift me up".—Lauren, group 6*

4.2.3. Attitude

With regard to the third motive, attitude, students look for disciplined workers on the one hand, and value the informal aspect of collaboration on the other hand (n = 6, 21%).

> *"I might also work with someone I do not like as much, because I know they put work into the task. So it's important to me that people are not lazy, so to speak".—Natalie, group 12*

> *"I pay attention to who makes a good impression and who seems more like a sloppy worker".—Ella, group 3*

> *"I find it very important not only to see each other and only talk about the task. The informal aspect, to be able to laugh about something, to put things into perspective once*

> *in a while… even if the task is important for your education, I sometimes just need someone who can say "Look, it is not going to get any better than this, we will let it rest for a while" and spend some free time, a dinner or whatever, without talking about the task".—Michael, group 5*

In summary, in an ideal situation, students prefer a partner with whom they have already gone through a successful collaborative process. In this respect, they take into account their potential partner's abilities and attitude. If students cannot rely on prior experiences, they opt for collaboration based on convenience, which is discussed underneath.

4.2.4. Convenience

The last motive reported by the students is convenience (n = 8, 29%). It sometimes appeared as the main motive and was at other times combined with the motive of familiarity, the (perceived) ability, or the attitude of a partner.

> *"I actually knew my partner's friend. My partner and I were not friends per se. But our mutual friend does not take this course, and so we ended up together".—Ella, group 3*

> *"We just sat next to each other in the classroom when the task was explained. And I already collaborated before with my partner, so it was a logical choice".—Jenna, group 8*

> *"I did not have a partner yet, and I knew my partner did not team up yet with someone, so that is how it went, nothing special".—Jacob, group 16*

4.3. RQ 3: Similarities and Differences

To answer the third research question, students were asked during their interview about the perceived similarities and differences between themselves and the partner they collaborated with in the writing assignment of the present study. Four final codes emerged from the data, which run parallel for the reported similarities and differences: attitude, task approach, ability, and content. Figure 3 provides a visual overview of the reported similarities and differences. These are detailed in Table 4, providing an overview of the similarities and differences mentioned by the group members.

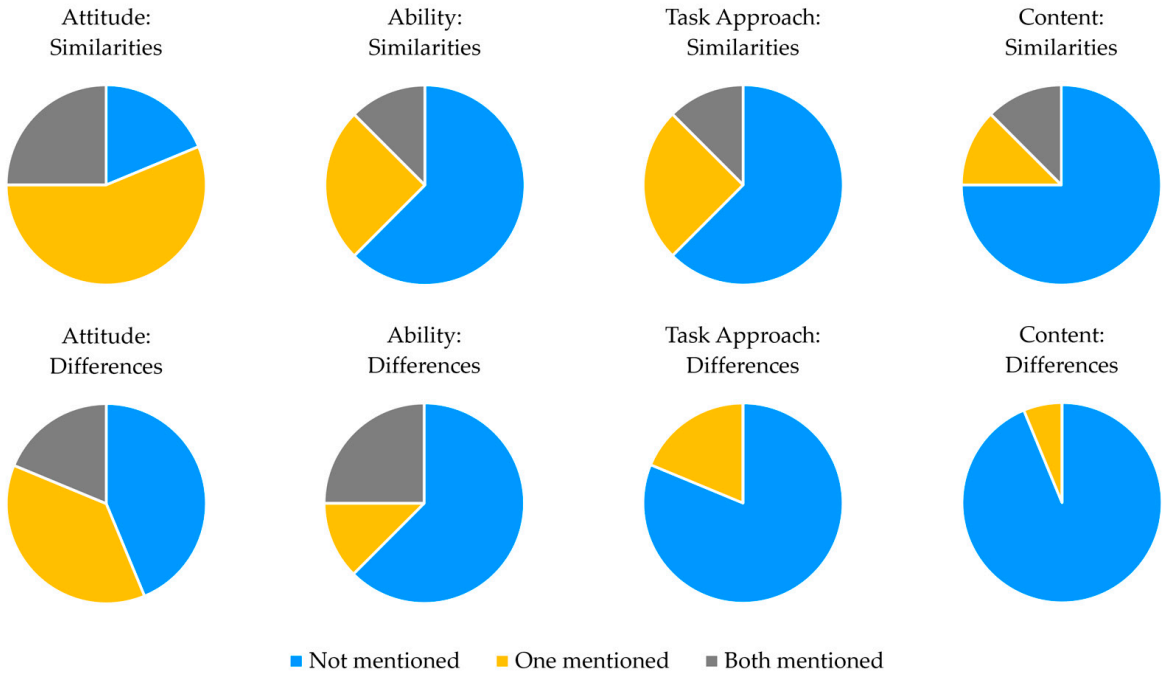

Figure 3. General overview of the mentioned similarities and differences in the full sample, and whether both students in a group mentioned it (both mentioned), one student mentioned it (one mentioned), or no one mentioned it (not mentioned).

Table 4. Detailed overview of similarities and differences within groups.

Group No.	Attitude		Ability		Task Approach		Content	
1								
2	✓	×	✓	×		×	✓✓	
3	✓	××						
4	✓							
5	✓			×				
6	✓✓	××	✓			×		
7	✓✓	×	✓	××				
8	✓				✓			×
9					✓			
10	✓	×	✓✓	×	✓✓		✓	
11	✓✓	×			✓			
12	✓	×			✓✓	×		
13			✓	××				
14	✓	××		××	✓		✓	
15	✓✓	×	✓✓				✓✓	
16								

Note. '✓'—symbols represent reported similarities, '✗'—symbols represent reported differences. Double symbols mean that both group members mentioned this similarity or difference, single symbols stand for only one group member. Students working in group 16 were not familiar, had not met in view of the assignment, and therefore could not discuss similarities and differences.

The first category is "attitude", covering the most commonly mentioned similarities (n = 17, 61%), as well as the most commonly mentioned differences (n = 12, 43%). Concerning the similarities, many answers point in the direction of both students not being procrastinators. There were no dyads in which both partners reported being procrastinators, except for group 16. From this group, one student was interviewed. This student mentioned that they were both procrastinators. This group teamed up due to convenience. Other answers include being equally willing to help each other, being equally flexible towards each other, and being equally motivated. The attitudinal differences predominantly concern dyads comprising one procrastinator and one non-procrastinator. Furthermore, students reported differences in punctuality, decisiveness and initiative-taking.

The second category is "ability". In terms of similarities, eight students (29%) specified equal writing skills or similar prior knowledge. For example, the latter is the case when students have the same prior education. All reported differences in ability (n = 9, 32%), some were language-related, such as being better able to read sources in a foreign language, some related to being a more skilled academic writer, or being a more creative writer.

The third category is "task approach". Regarding similarities, eight students (29%) mentioned preferring profoundly planning the entire process, and following the same broad steps, for example: searching for sources, summarizing, planning out the text, and writing or using the same task division as previously applied in other collaborations. Three students (11%) noticed differences concerning the task approach. These differences were all related to the way each member usually plans a writing process. Examples are the number of self-imposed deadlines or whether the text needs to be planned before writing or not.

The fourth category is "content". Six students (21%) mentioned the content of the task, mostly related to the same interests, main ideas, and vision about the content of the text to be written. One student stated a content-related difference, which is illustrated in the quote below:

> *"Mostly, our vision of what we want to write differs. Yet, this is always negotiable, so when our opinions do not collide, it is a positive thing. (. . .) And when we have a different idea, we compromise, so we always get along very well".—Natalie, group 12*

Finally, students were asked about the value of similarities and differences between group members. While many students mention advantages of having similarities, some students point out the disadvantages. For example, students who reported not being resilient, would rather not collaborate with someone who is equally easily stressed out. Students who are prone to procrastinate would rather avoid procrastinators. Both partners having strong opinions would allegedly lead to frustration.

In general, students mentioned more similarities than differences, which could point to a preference for a similar partner. The most mentioned differences related to procrastination and academic language use.

5. Discussion

While group formation is the first step of a collaborative writing process, it is often overlooked. However, it is important for researchers, university teachers, and students themselves to understand students' preferences for self-selected rather than teacher assigned groups and students' motives for self-selecting a partner. This research aimed to gain insight into the perceptions of students towards group formation in the context of collaborative writing and the specific motives students have for self-selecting a group partner.

Notwithstanding the fact that some students report not minding working with a teacher-assigned partner, the students in the present study generally preferred self-selected group formation. The main reason they referred to in this respect is predictability. Given their ample experiences with collaboration in the context of their study, both positive and negative, and taking into account that the collaborative writing outcomes were graded, they expressed a clear preference to have a good idea in advance of what to expect from a partner, in terms of their ability, input into the collaborative process, and attitude when collaborating in the context of academic writing assignments. This finding is in line with that of Mitchell et al. [41], who showed students preferring knowing what to expect in terms of task approach and students' ability.

The second research question addressed the motives students take into account during self-selection of group partners. In particular, familiarity was explored in more detail. The previous research demonstrates friendship to be the main motive considered in student-selected group formation [24,40–42,44,48]. However, distinguishing familiarity based on friendship from familiarity based on prior collaboration experience, our study paints a more nuanced picture. Familiarity indeed is the most important motive, yet prior experience is valued more strongly in comparison to friendship. Several benefits were highlighted in this respect, related to the interpersonal atmosphere, the collaborative process, and the writing outcome, corroborating findings of previous research [23,44,47,54]. However, the current study also elicits drawbacks of collaborating with someone familiar. Many of these reported pitfalls are situated on an interpersonal level, such as the risk of conflicts being transferred to the friendship sphere, encountering difficulties setting boundaries, the reluctance to provide negative feedback, and a higher amount of non-task-related talk. This reluctance to provide negative feedback in self-selected groups contradicts the study of Su et al. [54], that showed more direct peer critique in self-selected groups in comparison to teacher-assigned groups. The researchers assigned this to a higher degree of familiarity, implying a greater feeling of comfort. In their research, students in teacher-assigned groups actively avoided giving offensive critique. The higher amount of non-task-related talk was in line with the research by Le et al. [20], but not in line with Su et al. [54], who established more non-task-related talk in teacher-assigned groups, without further possible explanation. Another disadvantage reported on working with a familiar peer is getting caught up in routine working. Repeating the same process with the same person is not necessarily productive nor efficient [55]. Students rightly stated that they were missing out on learning opportunities this way. Also, the role of social pressure cannot be neglected in

self-selected group formation. Some students acknowledged that they felt obliged to choose a friend, because they wanted to comply with what they thought was socially desirable, although being very well aware that their friend was not the perfect partner in view of the assignment. This result corroborates the findings of Mitchell et al. [41]. Students in our study pointed out that they actually wanted to meet new people, but felt pressured to collaborate with their friends.

Whilst Chen and Gong's [48] study showed students favoring friendship and even neglecting ability, students in our study did take into account the ability of their partner, in the sense that they either prefer an equally performing partner or even a better performing partner, who is disciplined yet open for the right amount of informal talk during collaboration. As such, our study refutes that students—as opposed to university teachers—do not take on a cognitive perspective when forming groups.

The third research question addressed the extent to which students report having similarities or dissimilarities in comparison to their partner. Students cited more similarities than differences [47,52]. Mozaffari [24] warned that self-selection often leads to the formation of academically homogeneous groups. Although we did not measure students' ability level, the self-reported data seemed at least to confirm this. Furthermore, students in homogeneous groups are likely to share the same ideas and perspectives. This prevents students from broadening their individual ideas and perspectives [55]. This way, the collaborative learning activity cannot reach its full potential.

As argued at the beginning of this paper, group formation, when strategically employed, impacts the collaborative process and the outcome of collaboration. Our students tend to make strategic decisions. However, predictability appears to continue to take the upper hand, despite the risk of missing out on learning opportunities and meeting new people. Earlier research showed that part of the power of collaborative learning lies in resolving cognitive conflict between group partners [56]. Therefore, students ideally select a partner with contrasting ideas and knowledge. However, this is at odds with the finding that students lapse into choosing a partner similar to themselves.

This study has some limitations. First, our study is based on dyads. It is plausible that students would have other motives when selecting multiple partners for collaboration in larger groups. Second, whereas interviewing students yields first-hand information on this research topic, it could be interesting to consider additional research methods in follow-up studies, such as testing students' abilities, or observing similarities. Follow-up studies may include larger-scale studies, since our findings cannot be generalized given the sample size and the nature of this qualitative study. In this respect, it should be noticed that the sole purpose of including the number and percentage of students reporting issues in the results section is informing the reader. The numbers represent students who mentioned the aspect. However, it is possible that other students share this view but have not named it. Therefore, these numbers should not be generalized. Third, the current study involved a collaborative writing task. It is possible that the type of task impacts students' motives.

Taking into account the findings and limitations, three recommendations for practice were formulated. First, university teachers could alternate between assigning students to groups themselves, or allowing students to self-select partners. When opting for the latter, university teachers should inform their students about the benefits and drawbacks of their choices. Second, the way in which collaborative tasks are graded should be well-considered. If the passing or failing of a course depends on the success or failure of a collaborative task, it is not illogical for students to opt for predictability and therefore to choose someone familiar. If, on the other hand, no grades are linked to the outcome of that task, students might more easily select someone unfamiliar. Third, the group size could be of impact. Collaborating with one unfamiliar partner in a larger group of familiar people is less unpredictable than collaborating with one unfamiliar partner in a dyad.

Future research needs to focus on students' motives for selecting partners for collaborative learning in a wider variety of contexts. For example, research could explore and compare students' motives for self-selecting a partner for collaboration in various group

sizes. Furthermore, the differential impact on students' motives for self-selection in graded and not-graded assignments should be examined. Additionally, the type of task might play a role. Therefore, our study could be replicated using different task types.

Nevertheless, the present study shed light on students' preferences towards "who" does the group formation, "why" students select a specific partner, and to which extent students in a dyad are similar to each other. This study showed that forming groups is not a straightforward task and that students take a lot of information into account, such as familiarity based on friendship and earlier collaboration, but not neglecting other aspects. Yet, we can conclude that in this study, predictability is the most important motive for selecting a partner.

Author Contributions: Conceptualization, K.P. and B.D.W.; data curation, K.P.; formal analysis, K.P.; investigation, K.P.; methodology, K.P., H.V.K. and B.D.W.; supervision, H.V.K. and B.D.W.; visualization, K.P. and B.D.W.; writing—original draft, K.P.; writing—review and editing, K.P., H.V.K. and B.D.W. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: This research was conducted in accordance with the Declaration of Helsinki and in accordance with the ethical rules presented in the General Ethical Protocol of the Faculty of Psychology and Educational Sciences of Ghent University.

Informed Consent Statement: Active informed consent was obtained from all subjects involved in this study.

Data Availability Statement: The data presented in this study are available on request from the corresponding author. Adherence to ethical guidelines obtained for the study prohibits its public accessibility in order to uphold confidentiality between the author and participants. This approach ensures the protection of all communication during the study and maintains compliance with the established rules of engagement between the parties involved.

Conflicts of Interest: The authors declare no conflicts of interest.

Appendix A

Interview protocol for semi-structured interviews.

RQ 1: Preferences student-selection or teacher-assigned

1. For this task, you were asked to choose your own partner. What do you think of that? Why?
2. Do you prefer this method, or would you rather have your teacher assign you to a group? Why? (What are benefits and drawbacks?)

RQ 2: Motives during student-selection

3. You collaborate with X (i.e., the partner). How did you two end up together? What made you choose this partner for this task?
4. How well do you know each other? To what extent does that matter to you?
5. From the questionnaire, I could draw that you two collaborated before. To what extent is that important to you?
6. Should you have never collaborated before with this partner, would you still have chosen this partner? Why (not)?
7. What are the benefits of collaborating with someone you know well?
8. What are the drawbacks of collaborating with someone you know well?
9. What are the benefits of collaborating with someone you do not know so well?
10. What are the drawbacks of collaborating with someone you do not know so well?
11. Could you please summarize in your own words how you select a specific partner for this task?

RQ 3: Similarities and differences

12. In which ways are you similar to your partner?

13. In which way do you differ from your partner?
14. You summed up quite a lot of differences/similarities. Are these similarities and differences important to you? Why? (Would you explicitly choose someone different to you? Rather someone similar to you? Or did you not consider these differences and similarities beforehand?)

References

1. Johnson, D.W.; Johnson, R.T.; Smith, K. The State of Cooperative Learning in Postsecondary and Professional Settings. *Educ. Psychol. Rev.* **2007**, *19*, 15–29. [CrossRef]
2. Lu, J.; Chen, X.; Wang, X.; Zhong, R.; Wang, H. Research on the Influence of Socially Regulated Learning on Online Collaborative Knowledge Building in the Post COVID-19 Period. *Sustainability* **2022**, *14*, 15345. [CrossRef]
3. Damsa, C.; Muukkonen, H. Conceptualising Pedagogical Designs for Learning through Object-Oriented Collaboration in Higher Education. *Res. Pap. Educ.* **2019**, *35*, 82–104. [CrossRef]
4. Kolm, A.; de Nooijer, J.; Vanherle, K.; Werkman, A.; Wewerka-Kreimel, D.; Rachman-Elbaum, S.; van Merriënboer, J.J.G. International Online Collaboration Competencies in Higher Education Students: A Systematic Review. *J. Stud. Int. Educ.* **2021**, *26*, 183–201. [CrossRef]
5. Kreijns, K.; Kirschner, P.A.; Vermeulen, M. Social Aspects of CSCL Environments: A Research Framework. *Educ. Psychol.* **2013**, *48*, 229–242. [CrossRef]
6. Erkens, M.; Manske, S.; Hoppe, H.U.; Bodemer, D. Awareness of Complementary Knowledge in Cscl: Impact on Learners' Knowledge Exchange in Small Groups. In Proceedings of the Collaboration Technologies and Social Computing, Kyoto, Japan, 4–6 September 2019; Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics). Springer: Cham, Switzerland, 2019; Volume 11677, pp. 3–16.
7. Damşa, C.I.; Ludvigsen, S. Learning through Interaction and Co-Construction of Knowledge Objects in Teacher Education. *Learn. Cult. Soc. Interact.* **2016**, *11*, 1–18. [CrossRef]
8. Nelson, N.; King, J.R. *Discourse Synthesis: Textual Transformations in Writing from Sources*; Springer: Dordrecht, The Netherlands, 2022; Volume 36, ISBN 0123456789.
9. van Ockenburg, L.; van Weijen, D.; Rijlaarsdam, G. Learning to Write Synthesis Texts: A Review of Intervention Studies. *J. Writ. Res.* **2019**, *10*, 402–4028. [CrossRef]
10. Mateos, M.; Solé, I. Synthesising Information from Various Texts: A Study of Procedures and Products at Different Educational Levels. *Eur. J. Psychol. Educ.* **2009**, *24*, 435–451. [CrossRef]
11. Spivey, N.N.; King, J.R. Readers as Writers Composing from Sources. *Read. Res. Q.* **1989**, *24*, 7–26. [CrossRef]
12. Han, M.; Li, Y. The Effect of Face-to-Face and Non-Face-to-Face Synchronously Collaborative Writing Environment on Student Engagement and Academic Performance. *J. Educ. Innov. Commun.* **2019**, *1*, 65–74. [CrossRef]
13. Zhou, W.; Simpson, E.; Domizi, D.P. Google Docs in an Out-of-Class Collaborative Writing Activity. *Int. J. Teach. Learn. High. Educ.* **2012**, *24*, 359–375.
14. Pymm, B.; Hay, L. Using Etherpads as Platforms for Collaborative Learning in a Distance Education LIS Course. *J. Educ. Libr. Inf. Sci.* **2014**, *55*, 133–149. [CrossRef]
15. Ertl, B.; Fischer, F.; Mandl, H. Conceptual and Socio-Cognitive Support for Collaborative Learning in Videoconferencing Environments. *Comput. Educ.* **2006**, *47*, 298–315. [CrossRef]
16. Putzeys, K.; De Wever, B. How University Students Collaboratively Write a Synthesis Text. A Case Study Exploring Small Groups of Students' Overall Approach, Their Interactions and the Group Atmosphere. In Proceedings of the EDULEARN21 Proceedings 13th International Conference on Education and New Learning Technologies, Online, 5–6 July 2021.
17. Qureshi, M.A.; Khaskheli, A.; Qureshi, J.A.; Raza, S.A.; Yousufi, S.Q. Factors Affecting Students' Learning Performance through Collaborative Learning and Engagement. *Interact. Learn. Environ.* **2021**, *31*, 2371–2391. [CrossRef]
18. Paavola, S.; Hakkarainen, K. Trialogical Learning and Object-Oriented Collaboration. In *International Handbook of Computer-Supported Collaborative Learning*; Springer: Cham, Switzerland, 2021; Volume 19, pp. 241–259.
19. Hernández-Sellés, N.; Muñoz-Carril, P.-C.; González-Sanmamed, M. Computer-Supported Collaborative Learning: An Analysis of the Relationship between Interaction, Emotional Support and Online Collaborative Tools. *Comput. Educ.* **2019**, *138*, 1–12. [CrossRef]
20. Le, H.; Janssen, J.; Wubbels, T. Collaborative Learning Practices: Teacher and Student Perceived Obstacles to Effective Student Collaboration. *Camb. J. Educ.* **2018**, *48*, 103–122. [CrossRef]
21. Erkens, M.; Bodemer, D. Improving Collaborative Learning: Guiding Knowledge Exchange through the Provision of Information about Learning Partners and Learning Contents. *Comput. Educ.* **2019**, *128*, 452–472. [CrossRef]
22. Dillenbourg, P. Over-Scripting CSCL: The Risks of Blending Collaborative Learning with Instructional Design. In *Three Worlds of CSCL: Can We Support CSCL?* Open Universiteit Nederland: Heerlen, The Nederland, 2002; pp. 61–91. [CrossRef]
23. Hilton, S.; Phillips, F. Instructor-Assigned and Student-Selected Groups: A View from Inside. *Issues Account. Educ.* **2008**, *25*, 15–33. [CrossRef]

24. Mozaffari, S.H. Comparing Student-Selected and Teacher-Assigned Pairs on Collaborative Writing. *Lang. Teach. Res.* **2016**, *21*, 496–516. [CrossRef]
25. Cohen, E.G. Restructuring the Classroom: Conditions for Productive Small Groups. *Rev. Educ. Res.* **1994**, *64*, 1–35. [CrossRef]
26. Schuitema, J.; Palha, S.; Van Boxtel, C.; Peetsma, T. Effects of Task Structure and Group Composition on Elaboration and Metacognitive Activities of High-Ability Students during Collaborative Learning. *Pedagog. Stud.* **2019**, *2019*, 136–151.
27. Slof, B.; van Leeuwen, A.; Janssen, J.; Kirschner, P.A. Mine, Ours and Yours, Whose Engagement and Prior Knowledge Affects Individual Achievement from Online Collaborative Learning? *J. Comput. Assist. Learn.* **2020**, *37*, 39–50. [CrossRef]
28. Van Leeuwen, A.; Janssen, J. A Systematic Review of Teacher Guidance during Collaborative Learning in Primary and Secondary Education. *Educ. Res. Rev.* **2019**, *27*, 71–89. [CrossRef]
29. Storch, N. Collaborative Writing. In *The TESOL Encyclopedia of English Language Teaching*; Liontas, J.I., DelliCarpini, M., Eds.; John Wiley & Sons: Hoboken, NJ, USA, 2018; pp. 1–6, ISBN 9781118784235.
30. Wigglesworth, G.; Storch, N. Pair versus Individual Writing: Effects on Fluency, Complexity and Accuracy. *Lang. Test.* **2009**, *26*, 445–466. [CrossRef]
31. Fernández Dobao, A. Collaborative Writing Tasks in the L2 Classroom: Comparing Group, Pair, and Individual Work. *J. Second Lang. Writ.* **2012**, *21*, 40–58. [CrossRef]
32. Marttunen, M.; Laurinen, L. Participant Profiles during Collaborative Writing. *J. Writ. Res.* **2012**, *4*, 53–79. [CrossRef]
33. Yang, T.; Luo, H.; Sun, D. Investigating the Combined Effects of Group Size and Group Composition in Online Discussion. *Act. Learn. High. Educ.* **2022**, *23*, 115–128. [CrossRef]
34. Sugai, M.; Horita, T.; Wada, Y. Identifying Optimal Group Size for Collaborative Argumentation Using SNS for Educational Purposes. In Proceedings of the 2018 7th International Congress on Advanced Applied Informatics, IIAI-AAI, Yonago, Japan, 8–13 July 2018; IEEE: Piscataway, NJ, USA, 2018; pp. 226–231.
35. Abuseileek, A.F. The Effect of Computer-Assisted Cooperative Learning Methods and Group Size on the EFL Learners' Achievement in Communication Skills. *Comput. Educ.* **2012**, *58*, 231–239. [CrossRef]
36. Takeda, S.; Homberg, F. The Effects of Gender on Group Work Process and Achievement: An Analysis through Self- and Peer-Assessment. *Br. Educ. Res. J.* **2014**, *40*, 373–396. [CrossRef]
37. Zhang, S.; Che, S.; Nan, D.; Li, Y.; Kim, J.H. I Know My Teammates: The Role of Group Member Familiarity in Computer-Supported and Face-to-Face Collaborative Learning. *Educ. Inf. Technol.* **2023**, *28*, 12615–12631. [CrossRef]
38. Janssen, J.; Erkens, G.; Kirschner, P.A.; Kanselaar, G. Influence of Group Member Familiarity on Online Collaborative Learning. *Comput. Human. Behav.* **2009**, *25*, 161–170. [CrossRef]
39. Slavin, R.E. When Does Cooperative Learning Increase Student Achievement? *Psychol. Bull.* **1983**, *94*, 429. [CrossRef]
40. Fischer, M.; Rilke, R.M.; Yurtoglu, B.B. Two Field Experiments on Self-Selection, Collaboration Intensity, and Team Performance; IZA Discussion Paper No. 13201. Available online: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3590900# (accessed on 30 August 2023).
41. Mitchell, S.N.; Reilly, R.; Bramwell, F.G.; Solnosky, A.; Lilly, F. Friendship and Choosing Groupmates: Preferences for Teacher-Selected vs. Student-Selected Groupings in High School Science Classes. *J. Instr. Psychol.* **2004**, *31*, 20–32.
42. Post, M.L.; Barrett, A.; Scharff, L. Impact of Team Formation Method on Student Performance, Attitudes, and Behaviors. *J. Scholarsh. Teach. Learn.* **2020**, *20*, 1–21. [CrossRef]
43. Lambić, D.; Lazović, B.; Djenić, A.; Marić, M. A Novel Metaheuristic Approach for Collaborative Learning Group Formation. *J. Comput. Assist. Learn.* **2018**, *34*, 907–916. [CrossRef]
44. Tsoi, S.C.; Aubrey, S. Impact of Student-Selected Pairing on Collaborative Task Engagement. *ELT J.* **2023**, *5*, 1–12. [CrossRef]
45. Sadeghi, H.; Kardan, A.A. A Novel Justice-Based Linear Model for Optimal Learner Group Formation in Computer-Supported Collaborative Learning Environments. *Comput. Hum. Behav.* **2015**, *48*, 436–447. [CrossRef]
46. Hassaskhah, J.; Mozaffari, H. The Impact of Group Formation Method (Student-Selected vs. Teacher-Assigned) on Group Dynamics and Group Outcome in EFL Creative Writing. *J. Lang. Teach. Res.* **2015**, *6*, 147. [CrossRef]
47. Fischer, M.; Rilke, R.M.; Yurtoglu, B.B. When, and Why, Do Teams Benefit from Self-Selection? *Exp. Econ.* **2023**, *26*, 749–774. [CrossRef]
48. Chen, R.; Gong, J. Can Self Selection Create High-Performing Teams? *J. Econ. Behav. Organ.* **2018**, *148*, 20–33. [CrossRef]
49. Hinds, P.J.; Carley, K.M.; Krackhardt, D.; Wholey, D. Choosing Work Group Members: Balancing Similarity, Competence, and Familiarity. *Organ. Behav. Hum. Decis. Process* **2000**, *81*, 226–251. [CrossRef] [PubMed]
50. Stadler, M.; Herborn, K.; Mustafić, M.; Greiff, S. Computer-Based Collaborative Problem Solving in PISA 2015 and the Role of Personality. *J. Intell.* **2019**, *7*, 15. [CrossRef] [PubMed]
51. Eisenberg, N.; Fabes, R.A.; Spinrad, T.L. Prosocial Development. In *Handbook of Child Psychology and Developmental Science*; Damon, W., Lerner, R.M., Eisenberg, N., Eds.; Wiley: Hoboken, NJ, USA, 2007.
52. Lazarsfeld, P.F.; Merton, R.K. Friendship as a Social Process: A Substantive and Methodological Analysis. In *Freedom and Control in Modern Society*; Berger, M., Abel, T., Page, C.H., Eds.; Van Nostrand: New York, NY, USA, 1954.
53. Braun, V.; Clarke, V. Using Thematic Analysis in Psychology. *Qual. Res. Psychol.* **2006**, *3*, 77–101. [CrossRef]
54. Su, F.; Zou, D.; Xie, H. Integrating Different Group Patterns into Collaborative Argumentative Writing in the Shimo Platform. *Technol. Knowl. Learn.* **2022**, 1–22. [CrossRef]

55. Poort, I.; Jansen, E.; Hofman, A. Does the Group Matter? Effects of Trust, Cultural Diversity, and Group Formation on Engagement in Group Work in Higher Education. *High. Educ. Res. Dev.* **2022**, *41*, 511–526. [CrossRef]
56. Weinberger, A.; Marttunen, M.; Laurinen, L.; Stegmann, K. Inducing Socio-Cognitive Conflict in Finnish and German Groups of Online Learners by CSCL Script. *Int. J. Comput. Support. Collab. Learn.* **2013**, *8*, 333–349. [CrossRef]