

## Special Issue

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# What is Classroom Climate?

## A Mixed-Methods Analysis in Elementary Education in Vaud

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### Structured Abstract

**Background:** Classroom climate is vital for success and well-being at school. It represents a key element of current Vaud educational policies promoting inclusion and sustainability. However, few studies have documented what classroom climate is and how pupils feel and understand it in this context, especially using mixed methods.

**Objective:** This study aims to present the results of elementary school students' understanding of the classroom climate in the canton of Vaud (Switzerland).

**Sample:** The sample comprises two classes of elementary school levels 5-6H and 7-8H, tracked across four measurement points between January 2021 and December 2021.

**Methodology:** The study employs a mixed-methods approach, incorporating two distinct data collection strategies: quantitative data gathered through the School Environment Questionnaire (SEQ), administered at four time points, and qualitative data collected via focus groups with the same students at times T2 and T4. The theoretical framework for assessing classroom climate is based on five dimensions—relationships, education, safety, fairness, and belonging (Janosz et al., 1998). Quantitative data were analyzed using descriptive and correlational methods, while qualitative data were explored through a deliberative inductive logic categorization approach.

**Results:** The cross-analysis of quantitative and qualitative data uncovers novel associations related to the relational dimension, which emerges as highly influential in shaping students' school experiences. This dimension encompasses various sub-dimensions depending on the context: in the case of student-to-student relationships, it is linked to feelings of safety and belonging, while in the context of teacher-to-student relationships, it is connected to perceptions of fairness and the educational framework, particularly regarding rules.

**Conclusions:** These results highlight the importance of the issue of relationships in understanding classroom climate. They notably emphasize which teaching practices are relevant to students, particularly those relating to justice and to fostering relationships between peers. They highlight the need to strengthen the role of these objects in teaching-learning activities at school.

**Keywords:** *Classroom climate, relationships, justice, mixed method, inclusion, sustainability.*

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## 1 Introduction

Classroom climate is an essential factor in success and well-being at school and an issue in the fight against inequalities. It is part of the broader field of school climate, which is a subject of sustainability and inclusion policies currently being developed in the canton of Vaud, Switzerland. Nevertheless, few studies have examined how students in the canton de Vaud understand it. After a brief presentation of the political contextualization of the issues raised by the school climate and a state of the art referring to them, the theoretical reference model of Janosz and his colleagues (1998) will be presented. The mixed methodology will then be described using the instruments of the socio-educational Environment Questionnaire (QES) and the focus group. The results will finally be presented, leading to a synthesis proposing an adaptation of the initial theoretical model.

This study adopts an interpretative qualitative perspective (Savoie-Zajc, 2011). It aims to account for students' *understanding* of the school climate in the qualitative sense of the term, even though quantitative data evaluating the *perception* of the climate are also used.

## 2 Study Context

### 2.1 School climate at the heart of the challenges in educational policies for sustainability and inclusion in schools

School climate is not only an important educational issue for academic success and student well-being but also an issue linked to the educational policies recently implemented in French-speaking Switzerland. It lies at the crossroads of education policies for sustainable development (ESD) and school inclusion, embodied in the canton of Vaud, the context of our study, by the concepts of sustainability (Département de la Formation de la Jeunesse et de la Culture du Canton de Vaud, 2022) and school “with an inclusive aim” (DFJC, 2019). As a pedagogical approach that enables social, economic, and environmental issues to be taken into account as a whole in a sustainable manner (UNESCO, 2017a), Education for Sustainable Development (ESD) is based on various principles, in particular that of participation (Tilbury & Mulà, 2009). ESD aims to develop the power to act of all those involved in sustainability, in a logic of fair social transformation that respects socio-cultural diversity (CDIP, 2007; UNESCO, 2005, 2014, 2017a). ESD is inspired by UNESCO principles and Sustainable Development Goals (UNESCO, 2017a), which are also reflected in inclusive policies (UNESCO, 2017b). Indeed, inclusive education, which aims to make education systems fairer by making them accessible and relevant to all students, highlights issues and objectives shared with ESD, in terms of promoting social transformation and equity (UNESCO, 2020).

Justice and equity remain significant challenges in the canton of Vaud, which, like many regions, is not exempt from inequality. Local surveys highlight the impact of factors such as gender, migrant background, social class, and first language on academic performance (Consortium COFO, 2019). Additionally, there are ongoing accessibility challenges for students from migrant backgrounds (Bovey et al., 2022), reflecting broader trends observed across Switzerland (OCDE, 2023; Sahrai, 2015). In light of recent policy changes, addressing issues of justice and equity remains as crucial as ever.

### 2.2 School climate, classroom climate, and equity

School climate is one of the levers for developing sustainability and inclusion policies. It enables the values and principles set out in the references mentioned above to be practiced by showing what is done in the classroom and at school. In this respect, it offers a wide range of possible realizations, affecting many practices such as promoting living together, combating bullying, student participation, etc.. In this article, we adopt the proposal of Cohen et al. (2009, p.182):

School climate refers to the quality and character of school life. School climate is based on patterns of people's experiences of school life and reflects norms, goals, values, interpersonal relationships, teaching and learning practices, and organizational structures.

Moreover, abundant scientific literature has investigated school climate. Literature review and meta-studies (Blaya & Cohen, 2016; Cohen et al., 2009; Debarbieux et al., 2012; Janosz et al., 1998; Thapa et al., 2013) have emphasized the impact of school climate on students' learning, and thus their success, as well as on their well-being at school. School climate thus represents an essential lever for change and educational reform (Aldridge & McLure, 2023). It also impacts educational inequalities (CNESCO, 2016) as it is, in fact, more harmful in disadvantaged environments (Goussé & Le Donné, 2016), thus doubly penalizing already vulnerable areas twice. In particular, it is a major attrition factor. As

Ramos and Hughes show (2020), teachers often invoke the responsibility for managing a problematic school climate as a reason to leave the profession. It is not always easy for teachers to grasp what students expect from the school climate and to adapt their practices accordingly. Michaud and his colleagues highlight that students would like more participative, supportive practices and a greater emphasis on maintaining calm in the classroom (Michaud et al., 1990).

Moreover, some research shows particularly the challenges of school climate for students from minority groups (Archambault, Mc Andrew et al., 2019; Hunt et al., 2024; Khalfaoui et al., 2021; Watkins & Aber, 2009). This highlights the need to consider diversity and social justice (Fraser, 2005) in the reflection on school climate. From this perspective, it is a matter of considering the school experience of students from minority backgrounds and thus questioning the school climate in promoting school equity<sup>1</sup> so all students can succeed (UNESCO, 2020). Indeed, school environments can be more or less conducive to the success of minority students. For example, students who do not perform as well in school have a more negative perception of climate (CNESCO, 2016; Friant et al., 2008). Conversely, school climate can foster the legitimacy of the expression of languages and cultures of origin (Archambault, Audet et al., 2019) and the students' commitment to social justice (Pérez-Gualdrón & Helms, 2017). Justice is a critical component, and students are highly susceptible to it (Duru-Bellat & Meuret, 2009). These studies thus highlight the need always to consider the issue of equity when developing pedagogical practices that promote an “inclusive” and “sustainable” school climate.

Our research focuses specifically on classroom climate, representing a more limited (and less documented) scale of analysis. While the whole institution is concerned with school climate, class climate refers more specifically to the working environment under the responsibility of one or more teachers. Schweig and colleagues point out (2019) that classroom climate shares many characteristics with school climate regarding safety, commitment to work, and teaching-learning environment. Nevertheless, there is a significant variability from one class to another (Wang et al., 1993), the role of the teacher or teachers in charge being fundamental to the classroom climate quality (Hattie, 2003, 2008). In addition, students spend much more time in their classrooms than outside the classrooms (recess, cafeteria, etc.). We can, therefore, reasonably assume that the classroom is a significant place for students requiring specific study in the literature on school climate.

### 2.3 A theoretical model of school climate

Among the different theoretical frameworks circumscribing school climate, we chose to draw on the theory of the socio-educational environment as developed by Janosz and his colleagues (1998). Among the variety of existing models (Aldridge & Blackstock, 2024), this one had the advantage of being tested and translated into French (Janosz et al., 2007).

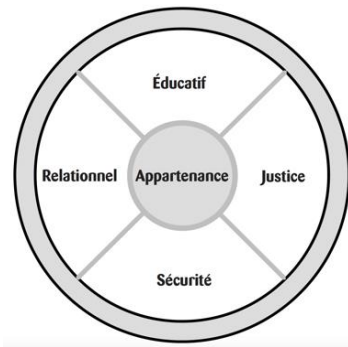
The theory of the socio-educational environment provides an understanding of the school environment in terms of three components: school climate, educational practices, and academic and social problems encountered by students (Janosz et al., 1998). In our study, we chose to focus solely on the school climate dimension, which refers to:

The prevailing values, attitudes, and feelings in the community. It gives a general indication of the prevailing tone and atmosphere in social relations, the value given to individuals, the educational mission of the school, and the institution as a living environment. (Janosz et al. 1998, p. 292)

The authors model school climate as follows<sup>2</sup>:

<sup>1</sup> We rely on the UNESCO Glossary (2017, p.7) to define these terms. Inclusion: “A process that helps overcome barriers that limit the presence, participation and success of learners.” Equity: “To ensure, in the interest of fairness, that the education of all learners is considered equally important”. We can thus clarify that the term inclusion is broader than that of equity. Inclusion is an educational paradigm that aims to achieve more justice at school and, to do so, it is based on the notion of equity, which refers to its operational dimension in school action (equitable practices, equity measurement, etc.).

<sup>2</sup> Here is a translation of the five dimensions in English: Education (“*éducatif*”) Justice (“*justice*”), Safety (“*sécurité*”), Relationships (“*relationnel*”) and Belonging (“*appartenance*”).



**Fig. 1.** The School Climate Model according to Janosz, Georges and Parent (1998)

Climate is made up of five dimensions. The relational climate highlights the social and emotional dimensions of relationships between individuals. The educational climate refers to the value placed on the school's formative and educational mission, as perceived by the actors involved in the school environment. A school with a good educational climate puts its students' learning and success at the center. The safety climate refers to "the order and tranquility of the environment" (Janosz et al. 1998, p. 294) and how this order provides a safe environment for learning. A climate of justice depends on the ability of the school system and its actors to treat its students fairly, whether this treatment refers to rules of life, evaluations, or sanctions. The final dimension is belonging. According to the authors, it develops once the other components are secured.

When individuals feel their environment is meaningful, that it fosters human contact, ensures their protection, and guarantees recognition of their rights and effort while punishing their transgressions to the norm fairly and equitably, they develop a sense of belonging. This sense of belonging guarantees respect for the institution and the people living there while facilitating adherence to the established standards. (Janosz et al. 1998, p. 294)

The model presented offers a reading of school climate built at the school's scale. Nevertheless, we felt it could be used at the classroom level as school experience mainly takes place in the classroom in the context of this study. In addition, the questionnaire used to assess this model (Janosz et al., 2007) also allows to investigate this level of analysis. Thus, the **research question** addressed in this article is as follows: How do elementary school students in Vaud understand the classroom climate?

### 3 Methods

The results presented in this article are part of an action/training research (Dolbec & Prud'Homme, 2009) aimed at documenting climate development in two elementary education classes in Vaud. Action/training research is especially relevant in education, as it aims not only to advance knowledge in the scientific field in question but also to increase the skills of participating professionals (Desgagné, 2001). As Guay and Prud'homme put it (2011, p. 188), it is a

methodological practice focused on solving a concrete problem experienced in an actual pedagogical situation to bring about beneficial changes, contribute to the professional development of the people involved, and improve knowledge about this situation.

This research involves a mixed methodology (Creswell & Plano Clark, 2017), summoning quantitative and qualitative data analyses (Boudreault & Cadieux, 2011) (Savoie-Zajc, 2011). It is part of a pragmatic research paradigm (Creswell, 2003), in the same way as action/training research. Crossing these analytical methods is a real strength of these mixed methods in the field of social sciences insofar as it allows for an increased understanding of a complex empirical phenomenon (Nagels, 2022; Onwuegbuzie & Leech, 2005). In our study, we, therefore, combined quantitative measures of class climate, assessing students' perceptions by questionnaire, with qualitative data from focus-group interviews with the same audience, namely the students of classes monitored during the action/training research.

Two teachers were accompanied for 12 months in implementing teaching-learning sequences to develop the classroom climate. This research had two components. The first component –*teacher*– documented how teachers built their pedagogical practice and gave meaning to it. The second component –*students*– aimed to know how the students understand the school climate of the classes monitored through two instruments: A quantitative measurement questionnaire, the QES (Janosz et al. 2009), and a focus group. This article reports on the second component, the *student* component.

The participants are the students in the teachers' classes monitored from January 2021 to December 2021. They were interviewed by questionnaire at four points (T1 to T4) and twice by focus group. The language used was French.

**Tab. 1.** Stages of the study

Measurement time	Date	Measurements performed	Teacher 1		Teacher 2	
			Level of education	Number of students (N)	Level of education	Number of students (N)
T1	January 2021	Questionnaire	5H	18	8H	16
T2	June 2021	Questionnaire + focus-group	5H	19	8H	15
T3	August 2021	Questionnaire	6H	20	7H	18
T4	December 2021	Questionnaire + focus-group	6H	20	7H	19

The Research Coordination Committee (RCC) validated the study on 1.12.2020. The free consent of the participants was obtained. The first names in the text are pseudonyms, and all the data has been anonymized.

### **Quantitative measurement instrument: The socio-educational environment questionnaire (QES)**

We used the socio-educational environment questionnaire developed and validated by Janosz and his colleagues (Janosz et al., 2007; Janosz et al., 1998). This tool measures climate in five areas: Relationships, education, safety, justice, and belonging. We adapted it on two levels. First, we kept only those questions that concern the class, not the establishment as a whole (cf. appendix). Second, we reformulated some statements to make them more accessible for the students to understand. The internal validity of the questionnaire was checked using Cronbach's alpha ( $\alpha = .872$ ).

### **Qualitative measuring tool: The focus group**

The focus group allows to collect data from a collective discussion. It is, therefore, an ideal tool for action research for three reasons: it facilitates spontaneous exchanges, the construction of a space for intersubjectivity, and individual and collective emancipation (Leclerc et al., 2011). It was used with students twice, in June 2021 and December 2021, corresponding to Q2 and Q4. Each focus group lasted between 30 and 45 minutes with small groups of five to eight students. They focused on the overall understanding of the classroom climate and its dimensions (cf. appendix). The research team or the participating teachers conducted all these focus groups. They were recorded by audio and transcribed in full.

### **Mixed methods for data analysis**

We combined two data collection methods, quantitative and qualitative, in a mixed research design with a predominantly qualitative interpretative approach. For the questionnaire data, we performed descriptive and correlational analyses. Analyses were carried out using Jamovi software. Specifically, we calculated the means and standard deviations by measurement time (T1, T2, T3, T4) and school grade (5-6H vs 7-8H). Pearson correlations were performed for all school grades at times 2 and 4 (T2 and T4).

Qualitative data analysis was based on the categorization method proposed by Miles and Huberman (2003), combining vertical and transversal reading. The units of meaning were created in a deliberative inductive logic (Savoie-Zajc, 2011), allowing the emergence of new categories of analysis from the theoretical model of the school climate (Janosz et al., 1998). The NVivo software was used for this purpose. Finally, the categories of analysis were validated by an inter-judge agreement.

Data cross-reference was carried out according to the principle of the concomitant triangulated estimate, as formulated by Creswell (2009) and adapted by Fortin and Gagnon (2016). The data were collected and analyzed independently before being compared. The comparison identified areas of convergences, complementarities, and tension points. As the study was predominantly qualitative interpretive, greater importance was given to qualitative results in understanding the phenomenon studied.

## 4 Results

### 4.1 Results of the school climate questionnaire

#### 4.1.1 Descriptive analyses

The descriptive analyses are reported in the five graphs below, showing the results for each of the dimensions of the class climate for all the measurements taken (T1 to T4). These results suggest that the perceived climate is high overall. In particular, the “justice” dimension appears to be the highest ( $m = 3.63$ ,  $s.d. = 0,473$  over the whole sample, all times combined), followed closely by the “educational” dimension ( $m = 3.57$ ,  $s.d. = 0,381$ ). By analyzing the results over time, the evaluations appear relatively stable. However, grade seems to induce variations in the reported climate levels. More specifically, the lower grade classes (5-6H) report very high levels of “educational” ( $m = [3.67-3.75]$ ) and “justice” ( $m = [3.46-3.78]$ ). The higher classes report lower levels in terms of the "relational" dimension ( $m = [3.05-3.32]$ ) and the "belonging" dimension ( $m = [3.02-3.44]$ ).

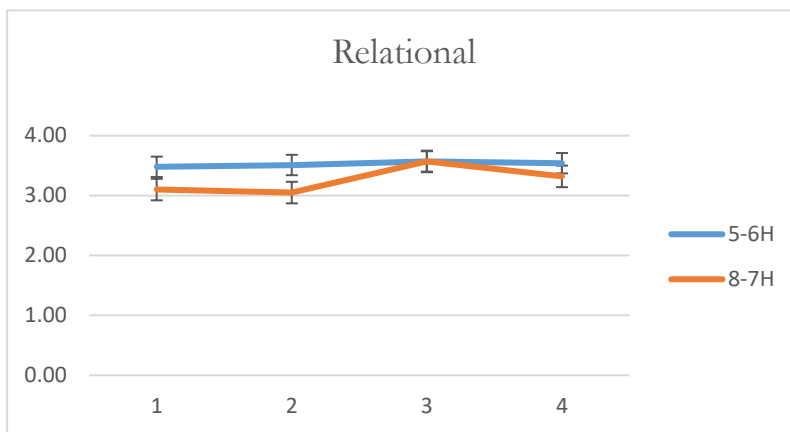


Fig. 2. "Relational" dimension score for both classes (T1 to T4)

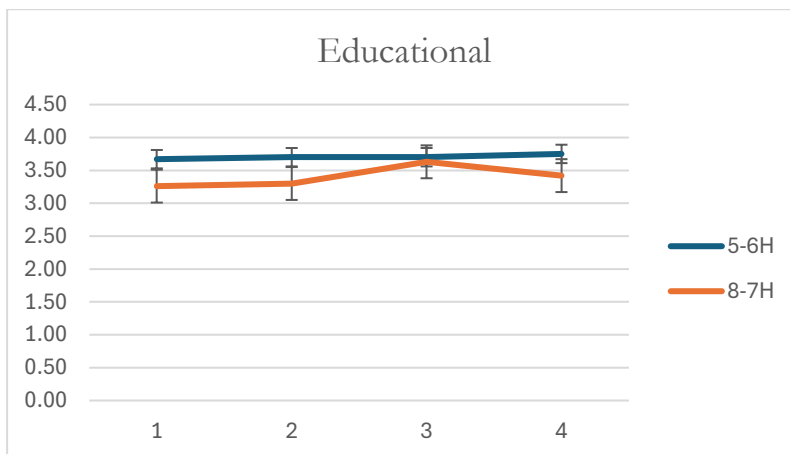


Fig. 3. "Educational" dimension score for both classes (T1 to T4)

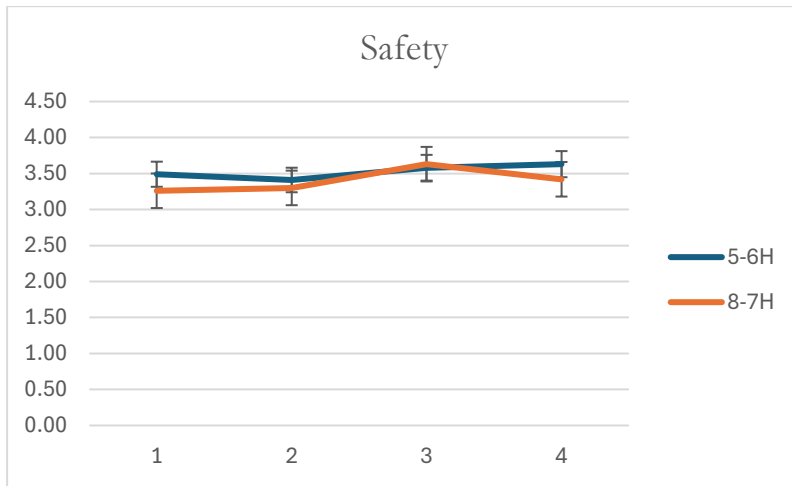


Fig. 4. "Safety" dimension score for both classes (T1 to T4)

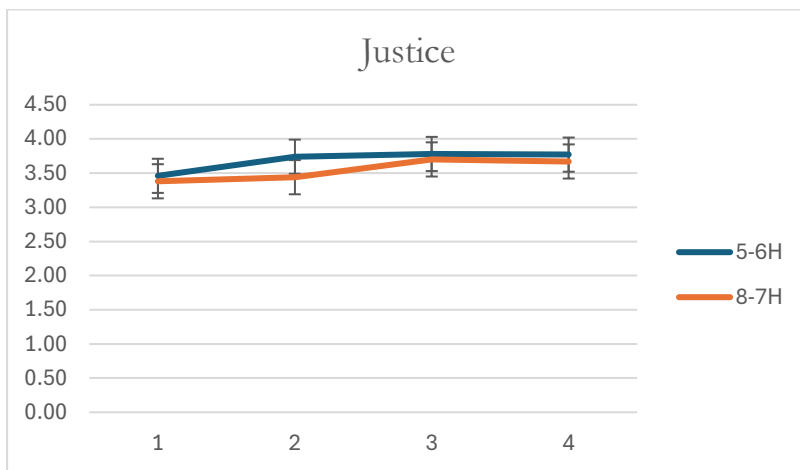


Fig 5. "Justice" dimension score for both classes (T1 to T4)

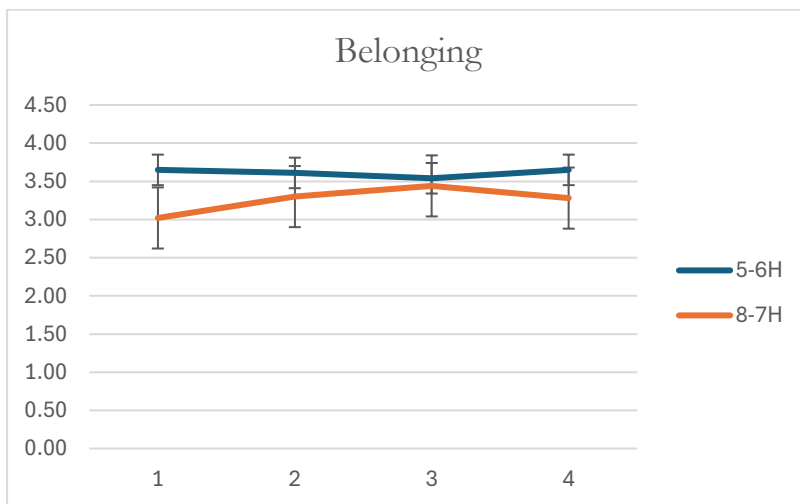


Fig. 6. "Belonging" dimension score for both classes (T1 to T4)

#### 4.1.2 Correlational analyses

Correlation analyses suggest that most climate dimensions are correlated, as shown in Table 2 below. More precisely, the "relational" dimension is strongly correlated with the "educational" dimension ( $r = .486, p < .001$ ) and the "belonging" dimension ( $r = .627, p < .001$ ). The latter is also strongly linked to the "educational" dimension ( $r = .519, p < .001$ ). The safety dimension correlates significantly with the "relational" dimension ( $r = .397, p < .001$ ) only. Finally, the "justice" dimension correlates positively with the "relational" dimension ( $r = .498, p < .001$ ), the "educational" dimension ( $r = .561, p < .001$ ), and the "safety" dimension ( $r = .248, p < .05$ ).

**Tab. 2.** General correlations between the dimensions of school climate at times 2 and 4

Pearson's -r correlation					
	RELATIONAL (teacher-student + student-student)	EDUCATIONAL (rules + motiva- tion)	SAFETY	JUSTICE	BELONGING
RELATIONAL (teacher-student + student-student)	-				
EDUCATIONAL (rules+ motivation)	0.486***	-			
SAFETY	0.397***	0.206	-		
JUSTICE	0.498***	0.561***	0.248*	-	
BELONGING	0.627***	0.519***	0.341**	0.352**	-
Remarque. * $p < .05$ , ** $p < .01$ , *** $p < .001$					

Secondly, we wanted to highlight the sub-dimensions "rules" (an integral part of the "educational" dimension<sup>3</sup>) and link it with the other dimensions and sub-dimensions of the questionnaire. It also seemed appropriate to distinguish between the relationship climate with the teachers and the relationship climate with peers (other students). The correlation table for these questions is shown in Table 3. This table shows that the educational dimension referring to the rules is positively linked with the relationship between students ( $r = .249, p < .01$ ), but also with the teacher ( $r = .420, p < .001$ ), justice ( $r = .595, p < .001$ ) and belonging ( $r = .362, p < .01$ ). Moreover, the two sub-dimensions of the relationship are positively related to the other dimensions of climate. However, the link with safety is more vital for the relationship with students ( $r = .368, p < .001$ ) than for the relationship with teachers ( $r = .268, p < .05$ ), while the opposite is true for justice: the latter has a stronger relationship with the teacher relationship ( $r = .554, p < .001$ ) than with the student relationship ( $r = .388, p < .05$ ).

<sup>3</sup> The "educational" dimension comprises two sub-dimensions: "rules" referring to the rules of operation in class (their knowledge and application by students and teachers) and "motivation" referring to more conative (desire to learn) and emotional (pleasure) aspects.



**Tab. 3.** Correlations between some sub-dimensions at time 2 and 4

Pearson's -r correlation						
	Teacher-student relationship	Student-student relationship	Educational_Rules	SAFETY	JUSTICE	BELONGING
Teacher-student relationship	-					
Student-student relationship	0.320**	-				
Educational_Rules	0.420***	0.249*	-			
SAFETY	0.268*	0.368**	0.128	-		
JUSTICE	0.554***	0.288*	0.595***	0.248*	-	
BELONGING	0.513***	0.509***	0.362***	0.341**	0.352**	-
Remarque. * $p < .05$ , ** $p < .01$ , *** $p < .001$						

#### 4.1.3 Results of student focus groups

Students were interviewed about their understanding of the classroom climate through two focus groups carried out twice, at the beginning and end of the intervention (June and December 2021). They were asked to comment on their general understanding of the classroom climate and the different dimensions that make it up (relational, educational, safety, justice, and belonging). The focus group results provide a better understanding of the meaning of this climate issue from an interpretative qualitative perspective. Finally, for the sake of authenticity, we chose to quote the student's original words as accurately as possible.

#### 4.1.4 General trends

The students express a generally positive understanding of the classroom climate across all dimensions. However, there are differences between degrees. The students in teacher 1's class (5-6H students) express a more positive view of the climate than those in teacher 2's class (students of 7-8H).

Generally speaking, the students' perception of the classroom climate was strongly linked to their teacher's, of their attitude and practices. Students commented on their relationship with others (especially their feelings of safety and belonging), but to a lesser extent. In their discussion of the school climate, they often used references to the "ideal type" (Weber, 1965)<sup>4</sup> of the "good teacher" or the "bad teacher" by comparing the attitudes and practices of their respective teachers.

#### 4.1.5 The nuances and clarifications brought to the dimensions of the classroom climate

Below, we highlight the nuances and clarifications brought by the students regarding the different dimensions of the classroom climate. The "justice" and "relationship" dimensions are the most frequently used categories of analysis.

##### Justice dimension

The students expressed themselves with reasonable ease on the justice issue in the classroom. They mainly associated it with their teacher's behavior, describing an ideal-typical figure of the "just" teacher. The qualifiers used referred to practices stemming from the "relational" dimension of the questionnaire (quality of the pedagogical link, a feeling of mutual appreciation, etc.), as well as from the "educational" dimension, in particular the management of the working environment and the application of sanctions. A fair teacher applies sanctions that are proportional to the wrongdoing,

<sup>4</sup> The ideal-type reflects a form of categorisation used and shared by the players. In our study, the teacher's ideal-type is used to characterize the attitudes and practices of a teacher responding to the ideals of the students, whether the teacher is "just" or "good".

constant and consistent over time, and reasonable in terms of required reparation. The students also reported other fair practices related to preventing sanctions, such as the right to make mistakes and granting a warning. They also highlighted the difficulty of keeping track of different sanction practices between teachers.

*So, I just find it's a shame it's not the same [...] way to sanction for everyone, it's a little hard to know. Some directly give a written warning, so sometimes you don't understand why he gave you a written warning. And it's... Sometimes it's a little unfair. But with the yellow card system, it's not bad because we know we have a warning, so we... we have to calm down. (Student of 7H)*

Still, regarding teaching practices, the students also linked the climate's "justice" dimension to the evaluation exercise. The students expressed their criteria for a fair marking: Systematic, clear, with a stated goal, an appropriate scale of success criteria, and tolerance for error for the maximum mark.

In addition to evaluation, students also associated justice with the more comprehensive pedagogical practices of the teacher. A fair-minded teacher offers work methods that are varied, fun, and adapted to the pace of learning.

*Me... well, for me, what is correct is that a teacher doesn't make us work nonstop in the morning and afternoon, and when we're done, we go straight to another exercise. It is, for me, also, it is... the way we do it. Sometimes, we stop for 10 minutes to watch a Daft Punk video. Or sometimes, we also read a little after the break and be like that. It's not that we work... five out of five, either. (Student of 5H)*

*A fair teacher is someone who respects us; they are someone who can teach us things; they are someone who can... help us... do a lot of things, and we learn better, and also, well... We sometimes have fun... and... that's a fair teacher. (Student of 6H)*

As the previous quote shows, students also associate a fair teacher with specific attitudes. The issue of respect came up quite frequently, especially regarding the "right to be different" and respect for diversity in the broadest sense, and equity, whether it be respect for learning rhythms and difficulties but also for non-discriminatory and non-racist attitudes and practices.

*They need patience... because we are still young, and if we have... we don't know... the answers and everything... it's good that they have a lot of patience, that they laugh a little with us, rather than... stay... a strict teacher and... give punishments for two... little things... not very cool... just little things... mostly calm and kind, who laughs with us. (Student of 7H)*

*Student: Fair means they... don't say... they don't do, for example, for people who find it harder at school... than... who does... things... I don't know. They help them less, and they are nicer with those who are better. They are nicer... with students who are better at school. Then mean with those who have a hard time.*

*Interviewer: So... they must also take into account... I try to explain again, eh... take into account the students' difficulties, then maybe help those who need it more?*

*Student: Yeab. (Student of 7H)*

The issue of racism was most visible in the comments of the 8H students and the 7H to a lesser extent and brought up by the racialized pupils.

*Student: Let them not do favoritism, let them not be... well, not racist, but like... let them not attack people of color more than people... who are white. And that... well, they don't... For example... I don't know if I can say, but, well, like... once we were three, we made were a group, and we were three talking, and the teacher, he put everything in my agenda [written warnings], even the disciplinary action all three of us had to do, he put nothing in the agendas of the other two, he put everything in mine. –*

*Interviewer: Why? –*

*Another student: Because she's still the darkest of the three*

*Interviewer: And you think it's... Is it because you have a darker skin color that you got punished?*

*Student: Yes. (Student of 8H)*

### **Relational and educational dimensions**

Another dimension, which was very much evidenced in the students' comments, was relationship. As with justice, the students described it through the archetypical figures of the "good" and "bad" teacher. In the Janosz et al. (1998) model, assessed in the questionnaire, the relationship dimension included a teacher-student relationship component and a student-student component. The teacher-student aspect was mainly discussed in the students' comments. The quality of this relationship was often expressed in terms of the teacher's ability to maintain a work environment conducive to learning. This ability referred to the use of fair sanctions (following from the justice dimension discussed

earlier) and also to communication, which we could describe as benevolent<sup>5</sup>. In the student's words, this communication highlighted the notions of calm and kindness:

*If you do something mildly stupid, they won't punish you directly and won't yell at you. They'll kindly say: "You can ask this person to forgive you..." See? (Student of 5H)*

This ability to maintain a working environment can be aligned with the educational dimension of the Janosz et al. (1998) model. It involves practices related to motivation and/or school order (rules, sanctions, etc). These practices ensure a working framework conducive to learning, whether pedagogical aspects of motivation for learning or maintaining school order (rule, sanction, etc.), which some authors call exercising authority. This educational dimension took a large place in the students' comments concerning the justice dimension described above. Correlational analyses (cf. table) reflect this association in the students' discourse. What the focus groups reveal, in addition, is how crucial benevolent communication is as a mediator in the pedagogical relationship.

The relational dimension also includes the student-student relationship sub-dimension. In the questionnaire, this dimension referred to the pleasure of being together, the knowledge of respect (kindness, politeness) and mutual assistance, and the presence or absence of conflict. The students' discourse highlighted that the issue of mutual assistance was particularly significant for them in their understanding of a good relationship between peers and a good working climate.

*What is "a good classroom climate" for you? What is "a good classroom atmosphere" for you? Yes? It is... it is that... it is not possible to avoid every conflict, so there will necessarily be minor conflicts, but, as soon as someone is alone... others come to help him, or that... or that we are all... well, that we are united, basically. No one should be left alone; even if issues will fatally appear because it is impossible they won't happen, we can settle these issues efficiently, and that ... well, there we are. (Student of 7H)*

This quote also shows a form of normalization of conflicts. This result was observed in all the comments, regardless of the class. Conflicts are part of class life. Students explained that they had tools to "manage" them, which may explain why they did not seem too problematic from the point of view of the classroom climate. One of the factors they felt contributed to establishing good peer relations and reduced conflict was interpersonal knowledge.

*So at first, we didn't know who the others were, and so we stayed with our friends. And now, well, we know the others. (Student of 6H)*

### Safety dimension

The students addressed briefly the safety dimension. They linked it to the relational dimension and the role of mutual aid in building a sense of safety. They have, however, raised the issue of mockery quite significantly as a barrier to safety.

*When some kids annoy some other, you never feel very well; I feel like when I say... the thing, or... whether it's wrong or... whether it's wrong, well... after... I'm afraid they'll insult me, or they'll say... "but you're stupid," or something like that. So I don't like it;"... there's Alexis<sup>6</sup>, uh... yeah, someone, he said... I didn't do well and could do better, but he laughed because he did better than me. (Student of 5H)*

In this quote, we see the inhibitory role mockery plays in participation. The student does not dare to raise his hand for fear of mockery. The students especially commented on the mockery of school performance (grade, relevance of answers, etc.). Moreover, some students euphemistically dismissed these mockeries as "humor," especially in the older classes (7-8H)

*But sometimes it's thirty seconds, and then we say: "But no! That was just for fun! ". Then the other one has fun with us, and that's it. (Student of 7H)*

While mockery is an obstacle to a sense of safety, students cite others that involve teaching practices and the school system's organization, particularly oral participation and evaluation.

*And that sometimes stresses me out and... sometimes, when I speak in front of everyone, it stresses me out, and if I feel like leaving... I can't. (Student of 7H)*

<sup>5</sup> Drawing on Rosenberg's work on non violent communication (2003) and the definition of benevolence proposed by Shankland and colleagues (2018), benevolent communication could be defined as an approach to interpersonal interaction that takes into account the social and emotional needs of students in order to foster a classroom climate conducive to well-being and learning.

<sup>6</sup> All data has been anonymized. The first and last names used in the text are fictitious.

*I have... sometimes I'm afraid that... sometimes the teacher said something at least a hundred times, and I'm afraid to raise my hand one last time and say: "I didn't understand a thing." And then I feel very bad because I never said, and that's the problem. Because I never say what I really need to learn (Student of 6H)*

*For example, with M. T., finally... if there is... there is Santiago, for example; he says: "Listen." Heo tries since he doesn't speak French very well, and then... he repeats, at least twice, M. T., then he... (...) He raises his hand and "I didn't understand very well," then him... He yells at him, "You had to listen" (Student of 6H)*

*But I don't feel well every time there are tests and all that. (Student of 7H)*

In addition to the pressure of evaluations, students find certain teaching practices unsafe, about the judgment given to their question and the insecurity the fear of this judgment creates. Some students censor themselves and no longer dare to raise their hands. Lastly, the unsafe practices related to the rejection of others were addressed, but to a somewhat limited extent.

### Belonging dimension

The last dimension of the model is that of **belonging**. In the model of Janosz and his colleagues (1998), the sense of belonging appears when the results of the other dimensions of the model are positive. Our interviews did not succeed in bringing out this relationship between the sense of belonging and all the other dimensions of the model. Students mainly mobilized the "student-student" relational sub-dimension to define what contributed to their feeling of identification with the class. They highlighted issues of inclusion and mutual support.

*Everyone is a bit part of this class because, for example, [the one who] is not part of the class is instead the one who stays aside and then is not... who is never there, that we forget all the time. But in fact, everyone has pretty much their part to play. Well, like, everyone helps each other and belongs to the class. There is no... no one who stays in their corner without saying anything. (Student of 6H)*

The students linked belonging to creating meaningful links between peers and feeling recognized by others as part of the group. These links played a motivating role in learning and coming to school.

*It is partly thanks to them that I manage to go to school since it makes me laugh as soon as I think of them, and I immediately want to go to school. (Student of 7H)*

#### 4.1.6 Synthesis of quantitative and qualitative results

By combining quantitative and qualitative analyses, we can advance specific findings. First, the two forms of analysis show good consistency. The positive perception of climate, measured in the questionnaire, is also present in the comments of students, who mostly report their school life as a positive experience.

In addition, the results of the focus groups reveal an association between dimensions, reinforcing the findings identified in the correlational matrices. This nuance is self-evident on the question of relations. While the latter is highly significant in the quantitative results, taken in the broad sense as a single dimension, this significance differs when we look at the sub-dimensions of this same dimension of relationship, namely teacher-student relationships or peer relationships. Students more easily associated the issue of belonging and safety with peer relationships, while justice and educational framework (related to rules) were more often described in terms of the teacher's idealized figure and the quality of the teacher's relationships with his students. The diagram below summarizes these findings in an adapted classroom climate model.

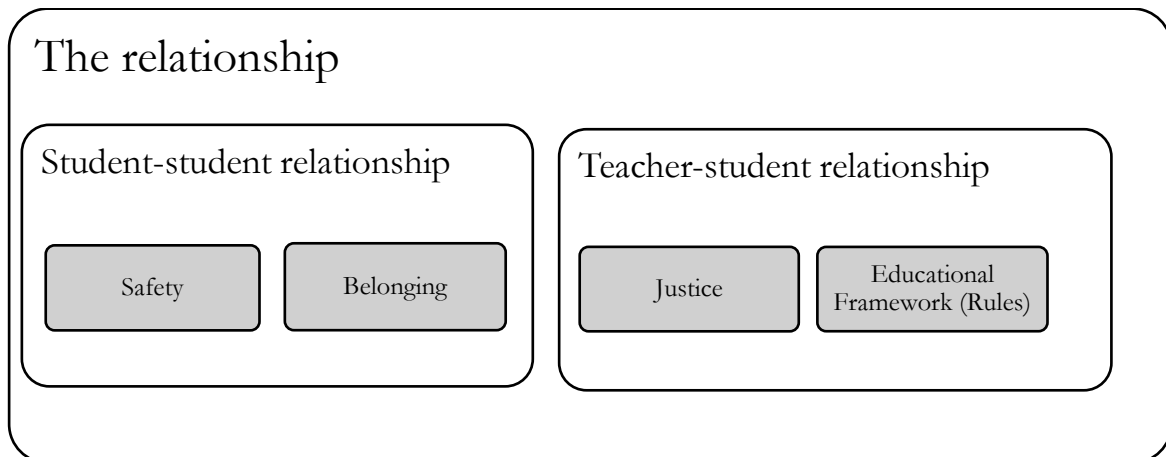


Fig. 2. Modelling the classroom climate based on the study's results

The classroom climate model, therefore, places the relationship at the center, whether it is the pedagogical relationship or the relationship between peers. The other dimensions are read through the prism of the relational axis that structures the understanding of climate. Furthermore, the results of the qualitative analysis show a close link between the dimensions of justice and the educational framework related to rules. Sanctioning practices made the exercise of justice manifest (thus affecting the educational framework in Janosz's model), evaluations, and the use of benevolent communication. Finally, the ideal type figure of the "good" or "bad" teacher was the vector describing the dimensions of the teacher's role, highlighting the importance of this pedagogical figure in reading the students' school experience.

## 5 Discussion and Conclusions

This article aimed to show what students understood about classroom climate by combining several data collection methods. The results showed good consistency between quantitative and qualitative results. The correlational analyses of the questionnaires showed stronger associations of specific school climate dimensions, according to Janosz's model (Janosz et al., 1998), in particular the relationship between the dimension of justice and that of the teacher-pupil relationship as well as that of the educational framework related to rules. These statistical links were examined with qualitative data, leading to the emergence of a new classroom climate model structured around the relational dimension (teacher-student and student-student). This result highlights the importance of the teaching relationship and peer relations in building a positive and meaningful classroom climate for students.

The results also highlighted specific nuances. First, the questionnaires show a more positive perception of students from 5-6H compared to their older counterparts from 7-8H. By summoning the structural characteristics of Vaud's system, and in particular the fact that degrees 7-8H have important educational orientation issues given the selection made there for secondary 1, we can bring in the hypothesis of the intense pressure made on these students subjected to frequent evaluations, an observation supported by the literature (Prokofieva et al., 2017). In addition, we can also highlight a difference in the number of teachers involved in these classes. Degrees 7-8H know more teachers, according to a model close to high school, organized according to a schedule by discipline (mathematics, French, etc.) than degrees 5-6H, which have the same teacher for most subjects. Our results show that it is not easy for students to work with several teachers with different expectations and practices and that the quality of the teacher-student trust relationship is thus diminished.

The importance of the relationship is linked to the importance of fair practices. Justice is an important issue for students (Duru-Bellat & Meuret, 2009). In our study, this takes the form of punishing bad behaviors and assessing learning. Students effectively highlight the importance of maintaining order and calm in the classroom (Michaud et al., 1990). Here, we can draw a parallel with the difficulties experienced by teachers in this aspect and the role these difficulties play in their leaving the profession (Karsenti et al., 2013). Work on classroom climate becomes a lever to promote teacher attrition.

Our results however emphasized discrepancies between the discourses and the correlations between students. The teacher-student relationship involved questions of justice and framework, while the student-student relationship referred to the dimensions of safety and belonging. This allows us to construct a model of classroom climate that highlights the components of the school experience according to the involved actors (students or teaching staff), while demonstrating the relative importance of these dimensions for each individual. This suggests several avenues for teacher training: Working on exercising justice in the classroom through evaluative practices (Mottier-Lopez, 2015) and proactive regulation of behaviors (Gaudreau, 2017) or developing the skills of benevolent communication (Rosenberg, 2003; Shankland et al., 2018) and pedagogical relationship (Marsollier, 2012). We can also identify levers for action regarding practices to build relationships between students: Activities to get to know oneself and others, cooperative pedagogy, and mutual assistance devices in the classroom (Connac, 2020; Johnson et al., 1993). These relationships impact the students' sense of safety and belonging, thus playing a pivotal role in the participatory abilities of minority students (Cohen, 2002).

In a Vaud school system that remains unequal, we believe it is essential to emphasize the importance of the safety issue in school climate and its role in school participation, in line with other works that have highlighted bias to equity in the classroom (Buchs et al., 2018; Cohen, 2002). We can further stress the need to strengthen the teaching and learning of transversal capacities in students. This may represent a way to empower students to act and participate in school and thus respond to the ambitions of current education policies for inclusion and sustainability. This study shows several ways of building the classroom climate with the students. In addition to the whole school approach, our results argue in favor of working in small steps, at the scale of the class, around the care given to relationships as a priority. Suppose the paradigms of inclusion and sustainability propose general models of a fairer school. In that case, our study shows concrete ways to put this value into practice, based on equitable practices promoting a fair and appropriate pedagogical relationship and working on constructing safe relations between peers.

Of course, this research's results would benefit from being put into perspective by other studies that fill the gaps left in this one. The lack of data is a significant limitation of our results, especially for the quantitative part. In addition, we could not carry out a cohort follow-up between T1 and T4 for teacher 2's class (degree 7-8H) since students changed between 8H and 7H. In addition, the "safety" item in the questionnaire did not work well, probably due to negative statements in the questions measuring it. Finally, the formulation of focus-group questions may have played a role in constructing students' comments, especially on the dimension of justice, for which it was sometimes necessary to examine how it related to teaching practices for the question to be understood. For future research, in addition to a larger amount of data, we could mobilize other instruments to measure school climate, such as the Intercultural Climate Questionnaire by Archambault and her colleagues (2019), which more explicitly addresses equity issues in the school experience. We could also replicate the study in socio-economically and culturally diverse environments to test the new climate model and its correlations between relational dimensions and possibly identify differences related to the classroom context.

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## Appendix

Attached is a table detailing the questions in the data collection instruments (questionnaire and focus group).

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