



Undergraduate and Graduate Nursing Students' Perceptions of the Educational Environment: A Cross-Sectional Study

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Abstract

Background: The Educational Environment (EE) is crucial in supporting the development of nursing students and improving their skills, precision, independence, intellectual confidence, and self-assurance. This study aimed to assess and compare nursing students' perceptions of the educational environment at both undergraduate (bachelor's, BA) and graduate (master's, MSc) levels.

Methods: This cross-sectional study involved 200 nursing students, who were selected using convenience sampling. The data were collected through a demographic questionnaire and the Dundee Ready Educational Environment Measure (DREEM).

Results: 103 undergraduate and 97 graduate nursing students participated in the study. The total scores for the perception of the EE in BA and MSc nursing students were 109.67 and 122.12, respectively ($P=0.001$). The average scores reflecting students' perceptions of learning and social conditions in education are higher among MSc students over 30 years old. Additionally, at the BA level, female students exhibit the highest average score in their perception of learning compared to other dimensions, and this difference is statistically significant.

Conclusion: Focusing on enhancing students' overall well-being by highlighting their strengths and prioritizing extracurricular and life skills courses can be viewed as a key aspect of improving educational quality. Organizing workshops on life skills and extracurricular activities—particularly those that teach crisis management and stress reduction can foster positive experiences for learners within academic environments, enabling students to learn calmly and securely.

Keywords: Education, Environment, Nursing, Graduate, Undergraduate

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Introduction

Students' perceptions regarding their Educational Environment (EE) have been a central concern throughout all levels of the education system, ranging from primary education to higher education and universities (1). In this context, the EE encompassing all activities within the classroom, department, college, or university, plays a crucial role in achieving the educational success of students (2). The EE plays a crucial role in the promotion of efficient studies (3).

The concept of EE can be referred to as "Educational Atmosphere," and the "Educational Climate" encompasses everything that occurs within the realm of education, such as classroom dynamics, college atmosphere, and university environment (4, 5). The World Federation

for Medical Education (WFME) emphasized the significance of the EE as a crucial factor in assessing medical education (6). The faculty atmosphere is shaped by collective experiences of academic life, influenced by goals, values, organizational structures, teaching methods, and interpersonal relationships (7). Medical educators widely agree that the EE significantly impacts students' attitudes, knowledge, skills, and progress (8, 9). By considering students' perceptions of this environment for its assessment, implementation, adjustment, reform, and development, the EE can be optimized (5, 10).

In a conducive learning environment, teaching and learning are closely interconnected, reflecting the frameworks and values that motivate students to thrive (11). In addition to educational aspects, the competence of



healthcare providers is fundamental to enhancing patient health and safety (12). Understanding the EE is crucial for fostering positive changes in attitudes, advancements, skills, and academic achievements of nursing students (13). A supportive learning environment enhances patient well-being through interactive teaching and learning experiences. Students' learning and behavior are significantly influenced by the learning environment (14).

In an effective educational setting, nurses are motivated to enhance their competencies, skills, and practices, ultimately leading to improved patient care standards (15, 16). Therefore, the EE is essential in promoting the development, skills, autonomy, intellectual health, and confidence of nursing students (17).

Nursing educators aim to provide a student-centered environment that promotes learning, enhances student knowledge, and improves overall academic performance (18). Considering the influence of the EE on student education, the knowledge of students' perceptions about the educational environment is needed by those responsible for educational planning, because it also affects the quality of education, and it is needed for the evaluation of educational programs and the necessary reforms. Given the lack of studies comparing undergraduate (bachelor's (BA)) and graduate (master's (MSc)) perceptions of the EE in nursing, researchers aimed to investigate the perceptions of the EE and academic performance, comparing differences between BA and MSc students. The study sought to compare the perceptions of BA and MSc students within the same educational environment.

Methods

The present study is a cross-sectional design, conducted between January 2020 and February 2021. The study population in this study includes all Persian-speaking BA and MSc students (except for first-semester students) studying at Shahid Beheshti School of Nursing and Midwifery, Iran.

Participants were selected using a convenience sampling method. Written informed consent was obtained from the students, and the objectives of the study and confidentiality of the information were explained to them. The questionnaires were given to the students in person by the researcher and returned after 30 minutes.

The sample size was calculated by considering the known score in the GPower 3.1.5 program. The sample size was calculated as 100 students for each group (100 BA students and 100 MSc students), considering a probability of type I error of 0.05, type II error of 0.1, and power of 90%, and considering a 20% drop in samples.

Data collection tools

The data collection tools include 2 questionnaires:

The demographic questionnaire (Table 1) and the

Table 1. Demographic details of the study population

Parameters		Total	BA* (N = 103)	MSc* (N = 97)
Sex	Female	119(59.5%)	56(54.4%)	63(64.9%)
	Male	81(40.5%)	47(45.6%)	34(35.1%)
Age, years	18-23	96(48.0%)	94(91.3%)	2(2.1%)
	24-29	90(45.0%)	9(8.7%)	81(83.5%)
	> 30	14(7.0%)	0%	14(14.4%)
Admission	Tuition	48(24.0%)	24(23.3%)	24(24.7%)
	Free	152(76.0%)	79(76.7%)	73(75.3%)
Semester	Second	66(33.0%)	15(14.6%)	51(52.6%)
	Third	14(7.0%)	14(13.6%)	0(0%)
	Fourth	60(30.0%)	14(13.6%)	46(47.4%)
	Fifth	14(7.0%)	14(13.6%)	0(0%)
	Sixth	15(7.5%)	15(14.6%)	0(0%)
	Seventh	17(8.5%)	17(16.5%)	0(0%)
	Eight	14(7.0%)	14(13.6%)	0(0%)
Marital status	Single	168(84.0%)	97(94.2%)	71(73.2%)
	Married	30(15.0%)	4(3.9%)	26(26.8%)
	Divorced	1(0.5%)	1(1.0%)	0%
	Deceased spouse	1(0.5%)	1(1.0%)	0%
Residence	Urban	190(95.0%)	98(95.1%)	92(94.8%)
	Rural	10(5.0%)	5(4.9%)	5(5.2%)
Living	Private house	101(50.5%)	54(52.4%)	47(48.5%)
	Rented house	23(11.5%)	9(8.7%)	14(14.4%)
	Dormitory	76(38.0%)	40(38.8%)	36(37.1%)

Data are presented as numbers (%).

* BA: Bachelor, MSc: Master.

Descriptive analysis was used.

Dundee Ready Educational Environment Measure (DREEM).

DREEM Questionnaire:

This tool can be used specifically to evaluate the EE in medical schools and has been evaluated and eventually used in various communities to date (19). It includes 50 items related to measuring students' perceptions and expectations of the university learning and teaching environment, which is on a five-point Likert scale (0 = Strongly Disagree and 4 = Strongly Agree). It is divided into five domains that include students' perception of learning (SPL), students' perception of teachers (SPT), students' academic self-perception (SASP), students' perception of atmosphere (SPA), and students' social self-perceptions (SSSP). Finally, the maximum total score is equal to 200; the higher the score, the more positive and favorable the perception of an educational environment. This tool has been used in numerous studies in Iran, and has good reliability and validity (Cronbach's alpha = 0.933) (20-22).

In this research, the reliability of the present study tool was determined through the analysis of Cronbach's

Alpha. The reliability coefficient was counted to be 0.85, which was acceptable.

Interpretation of the questionnaire scores

SPL: Very poor (0-12), negative view of learning (13-24), positive view of learning (25-36), satisfaction of learning (37-48).

SPT: Unfavorable (0-11), needing limited training (12-22), moving in the right direction (13-33), favorable model (34-44).

SASP: Feeling of complete failure (0-8), high negative dimensions (9-18), satisfactory (17-24), confident and encouraging (25-32).

SPA: Horrible and scary environment (0-12), many things need to be changed (13-24), more positive tendencies (24-36), generally good view (37-48).

SSSP: Very bad conditions (0-7), bad place (8-14), not too bad (15-21), very good (22-28).

Total Score: Unfavorable or very bad (0-50), semi-favorable or with many problems (51-100), somewhat favorable or more positive than negative (101-150), and favorable or excellent (151-200).

Data Analysis

SPSS version 19 was used to analyze the data. Inferential statistical techniques, including the independent t-test, Mann-Whitney test, and Kruskal-Wallis test, were employed. A p-value below 0.05 was considered to indicate statistical significance.

Result

Out of 200 students, 103 were BA students, and 97 were MSc students. The majority of the BA participants (91.3%) were aged between 18 and 23 years, whereas the majority of the MSc participants (83.5%) fell within the 24 to 29-year age range. The demographic characteristics are shown in Table 1.

Regarding the perception of learning, both BA and MSc students held positive views, with MSc students expressing a significantly more favorable outlook (25.06 vs. 29.5) ($P = .001$). In terms of perceptions of teachers, both groups scored similarly, indicating they are "moving in the right direction" (23.73 vs. 24.01), with no significant difference between them ($P = 0.58$). When it comes to perceptions of the atmosphere, both groups fell within the "more positive attitude" category (26.33 vs. 30.12), although the MSc students exhibited a more positive perception, and this difference was statistically significant ($P = 0.001$).

Concerning the overall score, the perceived dimensions of the EE were described as "somewhat favorable" at both the BA and MSc levels, with MSc students exhibiting a more positive perception (122.12 compared to 109.67). This difference was statistically significant ($P = 0.001$). Additionally, the average scores across all perception dimensions in various domains are higher among MSc

students than BA students (Table 2).

The mean scores for the dimensions assessing students' perceptions of learning and social conditions of education were higher among MSc students aged over 30 years. Additionally, at the BA level, female students scored higher in their perception of learning compared to other dimensions, and this difference was statistically significant (Table 3).

Discussion

The specific aim of the study was to assess the perception scores of BA and MSc students regarding the EE at the School of Nursing and Midwifery. The findings indicated that perceptions of learning were rated as "positive," perceptions of teachers were "progressing in the right direction," students' academic self-perceptions were deemed "satisfactory," and overall perceptions of the EE were "somewhat favorable." Across all areas, MSc students scored higher than BA students, with the highest scores in both groups relating to perceptions of the educational atmosphere. Conversely, the lowest scores for students at both levels were found in the domain of social self-perceptions.

In a study of senior interns in the neurology and ENT departments at Rasoul-e-Akram Hospital, which utilized the DREEM Questionnaire, it was found that the interns rated the EE as favorable, with an average score of 122. All domains except for "academic self-perception" were also deemed favorable, and the interns viewed their scientific skills as particularly commendable (23).

Jafari et al. (2021) carried out research to show the connection between nursing students' perceptions of the EE and their level of academic engagement. The students' overall perception score of the EE averaged 125.26 ± 2.81 . According to the questionnaire score interpretation, students viewed the positive features of the EE more favorably than the negative aspects (24). In this study, students' perception of social conditions was relatively moderate, though still not ideal. Conversely, Jafari's research found that the domain of students' social self-perceptions was notably low, or negative, in comparison to other areas. This aspect reflects students' social environment and overall quality of life, which can be affected by factors such as stressors, insufficient support systems, fatigue, and other challenges (24). One of the reasons in Iran is the economic pressure and social responsibilities that students must endure in addition to studying.

Regrettably, most of the studies reviewed indicated that students' perceptions of social conditions were generally low, with this dimension being consistently evaluated as unfavorable across various student groups. For instance, Daryazadeh et al. conducted a study assessing the clinical environment from medical interns' perspectives using the Dream model, and found this aspect to be particularly very

Table 2. Dimensional and total scores of perceptions of educational environment in the BA and MSc nursing students

Dimensions	Academic Level		P value**
	BA* (N=103)	MSc* (N=97)	
Students' Perception of Learning (SPL)	25.06±6.71	29.50±7.87	0.001
Students' Perception of Teachers (SPT)	23.73±4.69	24.10±4.79	0.058
Students' Academic Self Perception (SASP)	19.51±4.46	20.90±5.34	0.048
Students' Perception of Atmosphere (SPA)	26.33±5.67	30.12±6.08	0.001
Students' Social Self Perceptions (SSSP)	15.0±4.00	17.48±3.98	0.001
Total Score	109.67±17.96	122.12±22.7	0.001

Data are presented as mean (SD).

* BA: Bachelor's, MSc: Master's.

** Independent t-test.

Table 3. Relationship between the demographic variables and perception scores in the undergraduate and graduate nursing students

Variables		N	Statistical Analysis	Perception Scores				
BA				SPL	SPT	SASP	SPA	SSSP
Sex	Female	56	Independent t-test	26.67±5.8	24.55±4.8	19.58±4.0	26.78±5.5	14.75±3.8
	Male	47		23.14±7.1	22.16±4.3	19.10±4.9	25.80±5.8	15.27±4.2
P-value				0.00	0.06	0.40	0.39	0.54
Age, years	18-23	94	Mann-Whitney test	24.73±6.8	23.59±4.7	19.55±4.5	26.36±5.7	14.93±4.0
	24-29	9		28.55±3.8	25.22±3.5	19.11±3.9	26.11±4.5	15.77±3.8
	>30	0		0	0	0	0	0
P-value				0.06	0.29	0.87	0.73	0.52
Admission	Tuition	24	Independent t-test	24.79±7.4	23.25±4.6	19.83±4.8	27.16±4.8	15.8±4.0
	free	79		25.15±6.5	23.88±4.7	19.41±4.3	26.08±5.9	14.74±3.6
P-value				0.82	0.56	0.69	0.42	0.23
Living	Private house	54	Kruskal-Wallis test	23.8±6.8	23.6±5.1	19.01±4.8	26.01±5.4	15.46±3.7
	Rented house	9		27.22±4.5	23.7±4.9	19.00±4.7	25.00±6.7	13.00±4.4
	Dormitory	40		26.20±6.7	23.9±4.0	20.30±3.8	27.07±5.7	14.85±4.1
P-value				0.03	0.96	0.56	0.47	0.20
MSc								
Sex	Female	63	Independent t-test	28.52±7.5	23.50±4.5	20.58±5.1	29.15±6.5	17.28±3.7
	Male	34		31.32±8.1	25.20±5.0	21.50±5.69	31.91±4.7	17.85±4.4
P-value				0.10	0.10	0.42	0.03	0.51
Age (years)	18-23	2	Mann-Whitney test	29.02±4.8	23.31±7.1	22.48±3.5	30.85±5.8	17.65±3.6
	24-29	81		28.70±7.1	23.40±3.9	20.53±5.5	29.55±5.8	16.90±3.5
	>30	14		34.28±10.2	27.42±6.7	23.00±4.0	32.92±6.5	20.85±4.8
P-value				0.02	0.10	0.23	0.10	0.02
Admission	Tuition	24	Independent t-test	34.08±7.4	26.50±5.6	22.12±4.3	31.62±6.68	19.62±4.9
	free	73		28.00±7.4	23.31±4.2	20.50±5.6	29.63±5.8	16.78±3.38
P-value				0.001	0.004	0.20	0.16	0.01
Living	Private house	47	Kruskal-Wallis test	28.48±8.1	23.48±4.7	20.61±5.4	30.04±5.8	17.23±4.5
	Rented house	14		35.00±8.2	28.00±5.4	22.57±3.39	33.35±6.7	19.71±4.1
	Dormitory	36		28.69±6.6	23.38±3.9	20.63±5.8	28.97±5.8	16.91±2.7
P-value				0.03	0.02	0.39	0.08	0.07

N: Number. **SPL**: Students' Perception of Learning. **SPT**: Students' Perception of Teachers. **SASP**: Students' Academic Self Perception. **SPA**: Students' Perception of Atmosphere. **SSSP**: Students' Social Self Perceptions. **BA**: Bachelor's. **MSc**: Master's.

unfavorable (25). Additional research appears necessary to better understand students' social circumstances and overall well-being, along with the factors that influence

these aspects.

The findings indicated that students' perceptions of the EE in both the BA and MSc groups scored higher in the

domain related to the educational atmosphere compared to other areas. Several factors influence the EE, such as the relationship between teachers and students, students' freedom to express themselves, opportunities for personal development, student engagement, as well as issues like racism and ethnocentrism. Additionally, a study focusing on nursing students' views of the EE revealed that they considered the nursing school's environment to be favorable and held a positive outlook towards it (26).

In the present study, some new demographic variables, such as type of housing and type of admission (paying tuition/tuition-free), have been measured that have not been reported in other studies. Therefore, it is necessary to conduct more studies in this regard to be able to discuss the generalizability of the results. In one of the studies, perception scores were reported significantly higher in the students living in dormitories than in others (27). The result of this study is consistent with the results of the present study.

Conclusion

This study suggests that students' overall evaluations of the EE are somewhat acceptable, yet still fall notably short of an optimal standard. Consequently, focusing on improving existing strengths and highlighting extracurricular activities and life skills should be prioritized to elevate educational quality. This approach can help students engage in the learning process with calmness, comfort, and a sense of security.

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Authors' Contribution

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Competing Interests

The authors declare that they have no conflict of interest.

Data Availability Statement

The data that supports the findings of this study are available in this article.

Ethical Approval

The study was registered by the Ethics Committee of Shahid Beheshti University of Medical Sciences (Ethical code: IR.SBMU.PHARMACY.REC.1399.360).

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References

1. Vasli P, Asadiparvar-Masouleh H. Self-directed learning and clinical competence: the mediating role of the clinical learning environment. *J Taibah Univ Med Sci.* 2024;19(2):221-32. doi: [10.1016/j.jtumed.2023.11.004](https://doi.org/10.1016/j.jtumed.2023.11.004)
2. Kassab SE, Rathan R, Taylor DCM, Hamdy H. The impact of the educational environment on student engagement and academic performance in health professions education. *BMC Med Educ.* 2024;24(1):1278. doi: [10.1186/s12909-024-06270-9](https://doi.org/10.1186/s12909-024-06270-9)
3. Mukherjee P. Integrating environmental education: developing concepts and necessity in school curriculum. In: *Voices for Change: Role of Education in Addressing Social Issues. Archives The Journal of the British Records Association*; 2025. p. 237. doi: [10.25215/1300495081.26](https://doi.org/10.25215/1300495081.26)
4. Roff S. Education environment: a bibliography. *Med Teach.* 2005;27(4):353-7. doi: [10.1080/01421590500151039](https://doi.org/10.1080/01421590500151039)
5. Roff S, McAleer S, Skinner A. Development and validation of an instrument to measure the postgraduate clinical learning and teaching educational environment for hospital-based junior doctors in the UK. *Med Teach.* 2005;27(4):326-31. doi: [10.1080/01421590500150874](https://doi.org/10.1080/01421590500150874)
6. Bakhshialiabad H, Bakhshi M, Hassanshahi G. Students' perceptions of the academic learning environment in seven medical sciences courses based on DREEM. *Adv Med Educ Pract.* 2015;6:195-203. doi: [10.2147/amep.S60570](https://doi.org/10.2147/amep.S60570)
7. Alshehri A, Abdulhaleem E, Khan A. Correlating English language proficiency levels and perceptions of educational experience among Saudi EFL learners in preparatory year programs using Dundee Ready Education Environment Measure (DREEM). *Cogent Educ.* 2024;11(1):2439163. doi: [10.1080/2331186x.2024.2439163](https://doi.org/10.1080/2331186x.2024.2439163)
8. Zawawi AH, Elzubeir M. Using DREEM to compare graduating students' perceptions of learning environments at medical schools adopting contrasting educational strategies. *Med Teach.* 2012;34 Suppl 1:S25-31. doi: [10.3109/0142159x.2012.656747](https://doi.org/10.3109/0142159x.2012.656747)
9. WFME office, MEDLINE Quality Assurance Task Force. WFME Global Standards for Quality Improvement in Medical Education: European Specifications. 2007. Available from: <https://wfme.org/wp-content/uploads/2007/01/European-Specifications-for-Global-Standards-in-Medical-Education.pdf>.
10. Mpungose CB. Emergent transition from face-to-face to online learning in a South African University in the context of the coronavirus pandemic. *Humanit Soc Sci Commun.* 2020;7(1):113. doi: [10.1057/s41599-020-00603-x](https://doi.org/10.1057/s41599-020-00603-x)
11. Aryuwat P, Holmgren J, Asp M, Radabutr M, Lövenmark A. Experiences of nursing students regarding challenges and support for resilience during clinical education: a qualitative study. *Nurs Rep.* 2024;14(3):1604-20. doi: [10.3390/nursrep14030120](https://doi.org/10.3390/nursrep14030120)
12. Brasaite I, Kaunonen M, Martinkenas A, Mockienė V, Suominen T. Health Care Professionals' Knowledge and Attitudes Regarding Patient Safety and Skills for Safe Patient Care. Tampere: University of Tampere; 2016.
13. Zenani NE, Sehularo LA, Gause G, Chukwuere PC. The contribution of interprofessional education in developing competent undergraduate nursing students: integrative literature review. *BMC Nurs.* 2023;22(1):315. doi: [10.1186/s12912-023-01482-8](https://doi.org/10.1186/s12912-023-01482-8)
14. Fairhurst N, Koul R, Sheffield R. Students' perceptions

- of their STEM learning environment. *Learn Environ Res*. 2023;26(3):977-98. doi: [10.1007/s10984-023-09463-z](https://doi.org/10.1007/s10984-023-09463-z)
15. Khatiban M, Pazargadi M, Ashktorab T. Comparative study of the performance appraisal systems for academic members performance appraisal systems in the various universities in around the world according to the diagnostic model: a qualitative research. *Stride Dev Med Educ*. 2014;11(1):23-34.
 16. Müller FH, Louw J. Learning environment, motivation and interest: perspectives on self-determination theory. *S Afr J Psychol*. 2004;34(2):169-90. doi: [10.1177/008124630403400201](https://doi.org/10.1177/008124630403400201)
 17. Bates AW. *Teaching in a Digital Age: Guidelines for Designing Teaching and Learning*. BCcampus; 2015.
 18. Tuychiyeвна RL. Development of creative thinking of students in an innovative educational environment. *European Journal of Modern Medicine and Practice*. 2024;4(3):22-5.
 19. Roff S. The Dundee Ready Educational Environment Measure (DREEM)--a generic instrument for measuring students' perceptions of undergraduate health professions curricula. *Med Teach*. 2005;27(4):322-5. doi: [10.1080/01421590500151054](https://doi.org/10.1080/01421590500151054)
 20. Fallah kheiri Langroudi SE, Badsar AR, Hosseini Z, Rouhi M. Validation of the Persian version of the Dundee Ready Educational Environment Measure (DREEM). *Res Med Educ*. 2012;4(2):24-33. doi: [10.18869/acadpub.rme.4.2.24](https://doi.org/10.18869/acadpub.rme.4.2.24)
 21. Wójcik D, Szalewski L, Bęben A, Ordyniec-Kwaśnica I, Roff S. Validation of the Polish version of the DREEM questionnaire - a confirmatory factor analysis. *BMC Med Educ*. 2023;23(1):573. doi: [10.1186/s12909-023-04539-z](https://doi.org/10.1186/s12909-023-04539-z)
 22. Algotar GN, Chauhan VN, Mehta SJ. Evaluating the perception of undergraduate medical students about the educational environment by using the Dundee Ready Educational Environment Measure (DREEM) Questionnaire. *Cureus*. 2024;16(3):e57245. doi: [10.7759/cureus.57245](https://doi.org/10.7759/cureus.57245)
 23. Mohseni R, Sandoughdar N, Bradaran HR, Kouhpayezadeh J. Educational environment of Rasoul-e-Akram hospital; viewpoints of speech-therapy learners. *Education Strategies in Medical Sciences*. 2016;8(6):43-8.
 24. Jafari Z, Moshtaghi S, Zarea K. Investigating the relationship between nursing students' perception of the instructional environment on the level of their academic engagement at the Ahvaz Jundishapur University of Medical Sciences in 2018-19. *J Med Educ Dev*. 2021;13(39):64-72. doi: [10.29252/edcj.13.39.69](https://doi.org/10.29252/edcj.13.39.69)
 25. Daryazadeh S, Yavari M, Sharif MR, Azadchehr MJ, Rezvani A, Akbari H. Evaluation of clinical environment from the perspective of medical learners of Kashan University of Medical Sciences based on DREEM model in 2018. *Horizon of Medical Education Development*. 2020;11(3):33-43.
 26. Farooq S, Rehman R, Hussain M, Dias JM. Perceptions of nursing students of educational environment at a private undergraduate school of nursing in Karachi. *J Pak Med Assoc*. 2018;68(2):216-23.
 27. Bascia N. *The School Context Model: How School Environments Shape Students' Opportunities to Learn*. Toronto: Measuring What Matters, People for Education; 2014.