TRANSITION TO SENIOR PHASE – S4 students' voices about curriculum and curricular work in schools

Summary of findings

Ana Cristina Torres, Mark Priestley

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Introduction

Students' transitions throughout schooling have been broadly discussed within several research fields and theoretical orientations, as well as being the focus of political interest in several countries. The transition to upper secondary education frequently enfolds a series of important choices, decisions and expectations towards further academic and professional paths that more or less impact on the students' integration and success through this schooling stage. Furthermore, upper secondary education curriculum is often oriented more as a preparation for future options than as a final stage of school education.

In Scotland, this has been complicated due to substantial changes experienced in schools with the development of Curriculum for Excellence (CfE), which presently emphasizes senior phase pathways and support for the new national qualifications (Education Scotland, 2016a). While its explicit visions of student-centred teaching and of teachers as autonomous agents of curriculum enactment have caused much excitement and created high expectations, its development has been hindered by the constraints of vagueness and lack of clarity in the policy documents, misunderstandings of the curriculum purposes and principles and tensions with established teaching practices and beliefs about education (Priestley & Minty, 2013). Concerning senior phase, problems of excessive assessment-related workload and inappropriate use of the flexibility in curriculum design and development have already been recognized (Education Scotland, 2016b). Moreover, even though the student is at the heart of this ambitious curriculum reform, the students' voices about curriculum and school in senior phase have not yet been sufficiently heard.

The research reported in this briefing addresses the issue of transition, by exploring S4 students' views about course choices, experienced difficulties and first impressions of the curriculum in upper secondary education, after the transition to this schooling stage (approximately age 16).

The research aimed to:

1. Identify strengths and difficulties of integration that students experience when entering senior phase in Scotland.

2. Compare the experience of students in different courses, curricular structures and school organizations.

3. Characterize the perceptions of students about the experienced curriculum and its assessment in the transition stage to the senior phase.

4. Analyse the relationships between the students' school and course choices and expectations and the difficulties they experience in the transition stage as well as with their perceptions of the experienced curriculum in senior phase.

Furthermore, this study also aims to establish comparative analysis of two educational systems (Portugal and Scotland), linking the voices of students in their transition experiences with curriculum policies and actions carried out in both countries, at the national, local and school level.

This study is a part of the post-doctoral project of Ana Cristina Torres, ongoing in the Faculty of Psychology and Education Sciences of the University of Porto (Portugal) and the Faculty of Social Sciences of the University of Stirling (Scotland), with a fellowship from the Portuguese Foundation for Science and Technology (FCT/SFRH/BPD/108950/2015). The study is being supervised by Professor Helena C. Araújo (Portugal), Ana Mouraz, Ph.D (Portugal) and Professor Mark Priestley (Scotland).

The briefing starts by introducing the study and the participants. It then goes to an executive summary of the findings from all the participant schools, which can be used for monitoring or institutional self-evaluation purposes. Tables and graphs of analysed data are available in annex.

Background

This study originated in Portugal, where transition to upper secondary education is problematic due to the extensive gap between Basic (until grade 9) and Secondary education in terms of curriculum demands. This has persistently been conditioning high rates of school failure in the beginning of upper secondary education. In the previous decade, Portugal has been experiencing substantial changes in terms of school organization and management, which include the offer of both academic and vocational courses in schools, the clustering of schools and the enlargement of compulsory schooling to 12 years (or until the age of 18). Nevertheless, the structure of upper secondary education is still rather closed and rigid, with profound differences between academic and vocational tracks, and even across subjects of the same track. On the other hand, in Scotland, the structure and curriculum of upper secondary education was designed bearing in mind (at least in theory) principles of flexibility, personalization and choice, including the choice of staying in school or not after the age of 16. These immense contrasts between the structure of upper secondary education in these two countries motivated a comparative study of the two country's realities from the students' perspectives.

Research methods outline

The project utilised mixed methodologies, combining a qualitative approach through focus group discussions, with a quantitative approach via a survey (online and paper).

Qualitative study

The qualitative study had an exploratory and interpretative nature. A total of seven focus group discussions were organized in five public high schools from four local authorities and one further education college. Two schools were located in small towns, one in a large urban area, one in a medium urban area and one in a rural area. The further education college was located in a medium urban area. Three focus group discussions comprised students attending a mix of academic and vocational courses (one further education colleges, one medium urban high school and one small town high school), whereas the other four included students attending only academic courses.

A first contact was made to request permission from the local authorities to undertake the study. The local authorities facilitated the necessary contacts with the school senior leadership teams, inviting them to participate. Due to different timings within the involved local authorities and schools, the focus group discussion dates spanned February to June 2017. In the focus group discussions, students were asked about how they made their course choices into S4 and the main difficulties they experienced throughout S4, as well as their first impressions of the senior phase curriculum.

Quantitative study

The quantitative study was descriptive. A questionnaire was administered to anonymously collect data and statistically validate scales, to measure the students' perceptions regarding: (1) the difficulties experienced in the transition to senior phase; (2) the experienced curriculum in the set of courses of senior phase; and (3) the experienced curriculum in one course classes (English or Math). Moreover, data regarding the students' family and personal introduction, school trajectory and course choices was also collected.

The questionnaire was administered in the same 5 high schools in which the focus group discussions were organized. Paper questionnaires were administered in 3 schools, without the researcher presence. Online questionnaires were administered in the other 2 high schools.

Participants

The participants in the qualitative study were all S4 students, aged from 15 to 18 years old, with the distribution described in Table 1.

Table 1 - Focus groups participants according to type of institution where data was collected, its territorial context, types of course and sex.

School	Territorial context	ACADEMIC only		ACADEMIC and VOCATIONAL	
		girls	boys	girls	boys
(1) college	med urban			6	1
(2) high	small town	4	3		
(3) high	large urban	9			
(4) high	rural area	4	2		
(5) academy	med urban	5	3		4
(6) high	small town			5	3
total per gender		22	8	11	8
total per courses		30		19	

The participants were selected by the school's head management teams according to their weekly schedule availability and in order to comprise students from all the S4 courses offered by each school.

Regarding the quantitative study, 186 completed questionnaires were collected from students of all the above mentioned schools except the further education college. Only questionnaires in which the students gave an explicit consent to participate in the study and that were completed in at least 50% of the proposed questions (at least one scale) were considered.

The global sample (all schools and FE college) comprised 98 girls (52.7%) and 86 boys (46.2%), with mainly 15 (61.3%) or 16 (36.6%) years' old.

The main caregiver was predominantly the Mother (58.6%) who, in most cases, was graduated with some Higher Education level (42.2%). Sometimes, the students did not know or did not want to answer about their mother's level of education (20.2%), and others referred to her having the 5th (13.8%) or 6th (10.1%) level of education. At least 50 students mentioned that both Mother and Father were their main caregivers (26.9%) and 22 identified the Father as the main caregiver (11.8%).

Most participants mentioned having one brother or sister (49.5%) or two brothers or sisters (25.8%), who most frequently were aged between 11 and 20 years' old. 51.6% had at least one brother or sister older than them who, most likely, were attending or had already attended senior phase. In most cases they lived with all or some of their brothers or sisters (69.6%).

Most students completed S3 with the 4th level in both English (83.3%) and Math (75.8%). Only a few mentioned to have completed the 3rd level, especially in Math (14.0%), but also in English (6.5%).

Very rarely, they had to change school when moving on to senior phase (only 3.2%, six students), stating reasons that ranged from moving with their friends (two), moving closer to home (one), moving closer to relatives' work (one), for bullying reasons (one) and for money reasons (one).

Tables 2 and 3 present the distribution of participant students according to type of institution where data was collected, its territorial context, education provision, subject area and sex.

Table 2 - Participant students according to type of institution where data was collected, its territorial context, education provision and sex.

School	Territorial context	SCHOOL Only		SCHOOL and COLLEGE*	
		girls	boys	girls	boys
(1) college	med urban			0	0
(2) high	small town	8	16		
(3) high	large urban	45	33		
(4) high	rural area	32	26	1	
(5) academy	med urban	10	6		
(6) high	small town			1	6
total per gender		95	81	2	6
total per courses		176		8	

Only seven students mentioned attending courses taught by FE college teachers and only two of these students mentioned leaving their school to attend those FE college courses. Among the courses that were identified as being taught by FE college teachers were Childcare, Construction, Creative Digital Media, Hairdressing, Maritime Studies, Sports and Recreation and a special programme of a partnership between an FE college and a council.

Most schools offer mainly Sciences and Technologies courses, as well as Modern Languages and Humanities courses. These have small differences in attendance across sex. Though Sciences and Technologies courses are quite popular, girls still incline more than boys to Modern Languages and Humanities courses and

boys tend more than girls to choose Sciences and Technologies courses. There are broadly also more girls than boys attending Creative and Performance Arts courses.

Table 3 - Participant students according to number of attended courses in each subject area and sex.

SUBJECT AREA	No of courses students attend	SEX	
		girls	boys
SCIENCES AND TECHNOLOGIES	0	10	7
	1	34	15
	2	37	26
	3	16	30
	4	1	8
MODERN LANGUAGES AND HUMANITIES	0	9	18
	1	32	29
	2	48	36
	3	9	3
SOCIAL AND BUSINESS	0	45	49
	1	39	28
	2	12	9
	3	2	0
CREATIVE AND PERFORMATIVE ARTS	0	45	53
	1	40	29
	2	12	4
	3	1	0
VOCATIONAL	0	93	81
	1	4	2
	2	1	3
HEALTH AND WELLBEING	0	68	60
	1	27	22
	2	3	4

Some important differences can be found in terms of territorial context also as illustrated in Figure 1.

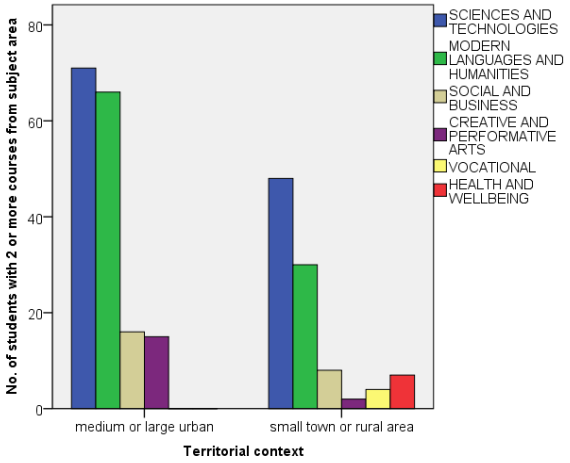

Figure 1 – Number of students with 2 or more courses from each subject area, per territorial context.

For the case of schools were the survey was held, students in medium or large urban territorial contexts were more likely to attend two or more courses of Arts, Social and Business subjects than students in small towns or rural areas. But Sciences, Technologies, Modern Languages and Humanities courses were equally popular across all territorial contexts.

Executive summary

1. Reasons and influences in course choices

1.1. In the focus group discussions, students were asked about the **main reasons for their course choices**. The almost unanimously cited reason was that the courses best suited their interests or addressed topics they enjoyed. Quite often this was associated with two other sets of reasons. The first was that the subjects were thought to be easier or more likely for them to be good at, specifically when they had a formed idea about the subject after having tried it out in BGE. The second was wanting to try out subjects to have a clear idea of what to choose in 5th Year. Clearly the students appreciated the fact that they could change their courses from 4th to 5th Year stating, for instance, "*I don't regret taking subjects. I just know I don't want to take them to higher*" (5J) or "*it's good not having to be stuck with something that annoyed me*" (4E). Some students also justified being able to choose and try out subjects as a factor that improved their attitude towards school: "*you being able to choose kind of gets you to enjoy the courses more*" (4R) and "*there are some subjects I didn't enjoy and I liked to be able pick the subjects I had to do. Made my attitude to school better*" (2E).

1.2 In the focus groups, students were also asked about **influences or assistance they had in their course choices**. Some mentioned having been presented the courses' content during S3, in classes, in briefing sessions or through brochures along with the course selection form. Though students tended to have a continuity of some subjects from S3 to S4, there were some mentions in focus groups of having little time to decide their 4th Year courses. Many said they would have appreciated more time to decide. Some stated that more information about the courses would also have been helpful, since the feeling was that "*basically you are blind, right? See, if you choose the subject, you have no idea what to expect.*"

(5M). The feeling of little time to decide often came with an experience of too much pressure to pick subjects, especially from specific teachers. Career advising seems to be much more focused on out of school possibilities after 4th Year and less on where they could get to with specific qualifications and Highers. A positive note came in references from students in several groups of having experienced crash courses in Modern Languages to help them to decide whether they wanted to move on to studying one of them, and if so which. Students from two of the more academic groups also mentioned some pressure from parents. Though not being a negative pressure, some students commented that parents sometimes pushed specific subjects by role modelling or specific expectations for their children.

1.3 In the survey, participant students tended mostly to agree with the option that "anything affected me because I knew for myself what I wanted" (34.4%) when asked about the **main factors that influenced their course choices**. This aligns with findings in Portugal (Torres, Mouraz & Araújo, 2016; Vieira, Melo & Pappámikail, 2016), being often explained with adolescents' tendency to pass an image of emancipation, authenticity and self-sufficiency to decide their own future. When students admitted being influenced, more frequently they referred to having resorted to information searches on the Internet (16.1%), or to the need for specific courses due to interests, access to university or to a job (12.9%), or to relatives' influences (9.7%). There were significant differences between the influences admitted by students in medium or large urban contexts and those of students in small towns or rural areas (X^2 = 25.10 for 10 df and p = .004 < .01). While students in urban contexts tended more to admit influences from relatives (12.5%) or from the requirements of accessing a job or a specific course in university (17.7%), students from small towns or rural areas tended much more to admit influences from searching the Internet (24.7%).

1.4. The question related to the **main reasons for course choice** was an open question. Only 155 of the 186 students answered it. After a content analysis of the answers, we verified that most students choose the courses they enjoyed the most or had an interest in (43.9%), and frequently this enjoyment aligned with the thinking about future options at university or a job (15.5%). Many students also stated only that they were the subjects they needed for future options at university or a job (14.8%). Less frequently they just referred to wanting to try out subjects, choices being the best options in the form columns or being the subjects they were good at. When analyzing across groups, differences were found between girls' and boys' answers (X^2 = 21.16 for 14 df and p = .01 < .05) and also between students attending none or one course of Modern Languages and Humanities and students attending two or three courses (X^2 = 16.47 for 7 df and p = .01 < .05). Girls tended more than boys to combine a bigger variety of reasons (interest, need for future options and being good at). Boys tended more to answer only with one specific reason. Students who had none or only one Modern Language or Humanities course tended much more to mention that they selected subjects they would need in future options (uni or job) (26.1%), while students who were attending two or three Modern Languages or Humanities courses referred much more that they enjoyed (45.3%), were good at (14.0%) or were trying out the subjects (12.8%).

2. Experienced difficulties in integrating senior phase

2.1 When asked in the focus group discussions about **experienced difficulties in the transition to senior phase**, in all groups there were mentions of increased workload, whether it was class or homework, but also to an increase in the demands of the work. Besides the difference between the demands of the coursework done in 3rd Year and 4th Year, students with a mix of academic and vocational (college) courses also experienced a huge difference between the demands of these two types of courses. The other main difficulty was the experience of high pressure, due to overlap of unit test dates and assignment deadlines, and especially due to prelims and qualification exams. Examination through the prelims and exams also pushed some teachers to a faster teaching pace in order to finish the courses syllabus earlier and help students to prepare for exams. But in turn, some students ended up struggling with the

feeling of having too much content to memorize and content harder to understand. The best students qualified it as "more challenging" and the students with previous difficulties felt that they were pushed and did not have the needed support from teachers. On a positive note, some students tended to support each other in group work or in study groups to keep up with course content and work they had to grasp to do the assignments and unit tests. When asked about competition among peers, most of the time they mentioned that there was a healthy competition that did not compromise classes or relationships. Another positive note was that the fact that students had flexible and diverse courses of their own choosing, which made them meet new friends while also keep meeting their previous friends in the subjects that were continuing from S3. In fact, continuing the courses from S3 to S4 was viewed as one of the circumstances that eased the transition, though in courses like English in Math they also felt the demands increased in 4th Year. This articulation was not as effective in cases of school change or change of teacher as illustrated as following:

«*Changing teachers is also difficult. When we finally get used to a teacher, we move on to the next school session and all the teachers change*» (1E)

«*When I moved [to the present school] I didn't knew any of the teachers and I was behind in most of the courses because my old school taught the courses differently and in a different order, so I was behind in the majority of my subjects, so my teachers had to work with me and catch me up, in every single subject. Some teachers really, really helped me, especially the ones I was behind in, and then others, just kind of helped me, not just to get on with it, but they just understood that I needed to work a lit bit more.*» (2A)

When asked about personal relationships with teachers, though students felt naturally that there were several differences among teachers, in most groups, students tended to confirm that they always had at least one teacher they felt that they could go to if they had a problem or difficulty.

Finally, when asked in the focus groups about a word or expression that summarized the students experience in senior phase, the analysis of the stated words resulted in the following word cloud.

Figure 2 – Terms proposed by students to sum up their experience in senior phase.

2.2 Considering the global sample of answers in the survey (N=186), since most answers tend to fell under the "Disagree" degree of concordance, it's safe to say that these students experienced little difficulties in the transition to senior phase among the participant students. The only items in which there was a slight tendency to agreement - median of 3 corresponding to "neither disagree, nor agree" -, were items 6, 7 and 13, reflecting moderate difficulties from some of the students with the study/word load demands, with the increased rigor in the study and with some contents in the more academic courses. These ideas have been similarly expressed by some students in the focus groups.

2.3 Looking partially to the data, no group had median answers in any degree of agreement ("Agree" or "Strongly agree"), confirming the global experience of an easy transition to senior phase. The tested groups were sex, age (until 15, 16 or more), main caregivers (mother and father; or other, including mother only of father only), having older brothers/sisters or not, school's territorial context (mid or large urban; small town or rural area), number of attended courses in Sciences or Technologies (none or one; two or more) and number of attended courses in Modern Languages and Humanities (none or one; two or more).

2.4 Some significant differences were found when applying non-parametric statistical tests to these participant students' answers. Apparently, some girls and some students with only mother or only

father or other relative as main caregiver had more tendency to sacrifice some extracurricular activities in which they were previously involved to be able to cope with increasing demands in senior phase. Students with older brothers or sisters seemed to struggle a bit more with the new class schedules than those without brothers or sisters or with younger ones. In respect of curriculum features, students who reported having none or only one course in the field of Sciences and Technologies seemed to have a slight inclination to agree with difficulties of solving practical issues in everyday life, with pressure to meet what was prescribed in courses specifications and with competition between classmates. Agreement with difficulties of competition between classmates and pressure to keep up with the courses specifications, adding up to a bigger sense of insufficient learning in current courses, was also reported slightly more frequently by students enrolled in none or only one Modern Languages and Humanities course when compared with their colleagues attending two or three courses of this subject area. A possible explanation for this might be the fact that these students may have selected some courses on S4 from other subject areas that had no precedent from S3, thus, having no continuity. This seems the case for some students who have none or one course in Sciences and Technologies, who tend to add to their S4 studies a combination of one or two Modern Languages and Humanities with subjects from Social, Business, Arts and Health and Wellbeing.

3. Perceptions about the experienced curriculum in their set of courses of senior phase

3.1 In the focus group discussions, students were not asked about specific courses and content, and most of the issues of first impressions of the curriculum ended up being covered while discussing experienced difficulties in the transition phase. Nevertheless, it is important to note that quite often students recognized the mandatory courses of English and Math as being the best examples of courses were they experienced a huge difference between the demands and teaching pace between 3rd and 4th Year. They also agreed these to be essential subjects, thus being open to its mandatory attendance, though often students wished to skip them in 5th Year. In several groups, students were asked if they participated in projects with interdisciplinary connections, to which they replied that there was overlapping of some topics between some courses (best example being Chemistry and Physics), but never in senior phase had they experienced partnered teaching or interdisciplinary projects. It is important also to note how students with a mix of academic and vocational or college courses experienced a huge difference between the teaching paces in these two types of courses.

«*College courses are more laid-back and less demanding. They are more chilled out. It's good to have a mixture of subjects because more academic subjects can be stressful due to the assignment deadlines. College course teachers are often more relaxed*» (6H)

3.2 A set of perceptions was organized from ideas gathered in focus group discussions with high school students (Torres, Mouraz, Araújo, 2016) and also from research projects developed with high school students as co-researchers (Torres, 2017). These perceptions were the base of the designed scale used in the survey. The perceptions about the experienced curriculum in senior phase courses, which the students of this sample were attending (N=186) and which garnered agreement with greater consensus (median of 4), were the wish to be able to contact professionals in their fields of study and a sense of usefulness for the future of the courses they were enrolled in. Also, a global disagreement with items 1 and 5 (median of 2) is an indicator that these students feel they have a good number of courses and that no other subject besides English and Math should be mandatory.

3.3 Some statistically significant differences were found in perceptions of groups with different sexes, ages, territorial contexts and family features. Girls tended to agree more (mostly with significances of 99.9%) with the need of more time to study with the support of the teachers, with the overload of content in some courses, with the usefulness for their future of some courses and with the wish to have more say in the design of their classes' timetables. Older students seemed to have a bigger willingness to be able to change their courses. Students in schools in medium or

large urban territories tended to agree more with having too many courses, with needing more time to study with the support of their teachers, with the overload of course content and with the wish to be able to build their classes' timetables. Students without older brothers or sisters seemed to feel a bigger need to contact professionals in the fields they were studying. Students who did not state having both the mother and the father as main caregivers were more inclined to agree with having the possibility of building their own timetable.

4. Perceptions about the course/classes of English

4.1 Looking at the survey's findings, the perceptions about the course/classes of English of students from the overall sample (N=186) that manifested higher frequencies (median of 4 corresponding to "Many times") were the sense of having enough previous learning to understand contents and of being able to connect the content in English with other fields of knowledge; trying to listen and analyse classmate's ideas; and perceptions related with learning assessment (being assessed by tests, oral tasks and written tasks). All other items had a global set of answers that scored the frequency of "Sometimes" (median of 3).

4.2 Students who were enrolled in two or more Sciences or Technologies courses reported much higher frequencies than their colleagues with none or one course of this subject area of all the above mentioned perceptions about the classes of English except being assessed by oral tasks. These students also tended to score higher frequencies than their colleagues with none or one course for perceptions of understanding the connections between the contents and familiar contexts or situations; feeling motivated to learn; and knowing how to study and fulfil assigned tasks to get good grades. On the other hand, students with none or only one Science or Technology course and, consequently, with more courses from other subject areas, tended to signal higher frequencies for using other spaces beside the classroom in their classes of English.

5. Perceptions about the course/classes of Mathematics

5.1 Concerning the survey's findings, the only perception about the course/classes of Math of students from the overall sample (N=186) that manifested higher frequencies (median of 4 corresponding to "Many times") was being assessed by tests. On the other hand, engaging in simulations and role playing in the classes of Math was a perception scored with lower frequencies in the overall sample (median of 2 corresponding to "Few times"). All other perceptions about the classes of Math had a set of answers that scored the frequency of "Sometimes" (median of 3).

5.2 Looking partially at the data, most of the statistical significant differences found were between scores from students with none or one course in the Sciences or Technologies subject area and those with two or more subjects in this area. This was the case of several perceptions that were significantly reported to happen more frequently in the classes of Math by students with two or more Sciences and Technologies courses: understanding the connections between the contents and familiar contexts or situations; feeling of having enough knowledge to understand the contents; understanding the connections between the contents and other fields of knowledge, subjects or courses; being given opportunities to clarify doubts and explain difficulties; having opportunities to listen and analyzing classmates' ideas; addressing important contents for the future; addressing important learning to personal and professional life; knowing how to study and fulfil assigned tasks to get good grades; being assessed by tests.

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Contacts

Ana Cristina Torres
Post-doctoral researcher
Centro de Investigação e Intervenção Educativas
Faculdade de Psicologia e de Ciências da Educação da Universidade do Porto
[Centre for Research and Intervention in Education
Faculty of Psychology and Education Sciences of the
University of Porto]
Address:
Rua Alfredo Allen, 4200–135 Porto, PORTUGAL
Contacts:
acctorres@fpce.up.pt | (+351) 22 040 06 34 (291)

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TRANSITION TO SENIOR PHASE
– S4 students' voices about curriculum and curricular work in schools

ANNEX: TABLES AND GRAPHS

Ana Cristina Torres, Mark Priestley
July 2018

Participants

Focus groups participants

Table 4 – Focus groups participants according to type of institution where data was collected, its territorial context, types of course and sex.

TYPE OF INSTITUTION	TERRITORIAL CONTEXT	TYPES OF COURSES: ACADEMIC only girls	ACADEMIC only boys	ACADEMIC and VOCATIONAL girls	ACADEMIC and VOCATIONAL boys
(1) college	medium urban			6	1
(2) high	small town	4	3		
(3) high	large urban	9			
(4) high	rural area	4	2		
(5) academy	medium urban	5	3		4
(6) high	small town			5	3
	total per gender	22	8	11	8
	total per courses	30		19	

Survey sample

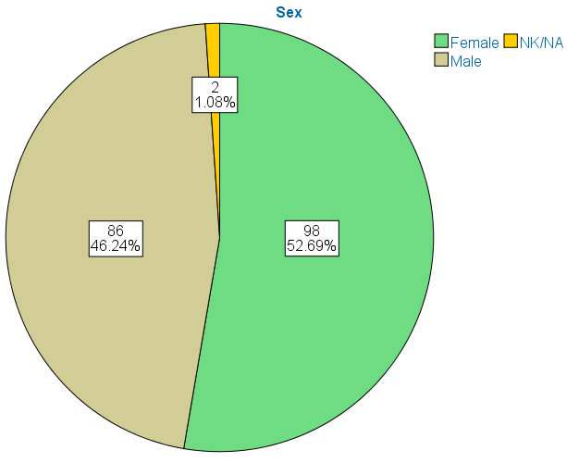

Figure 3 – Participant students' sex.

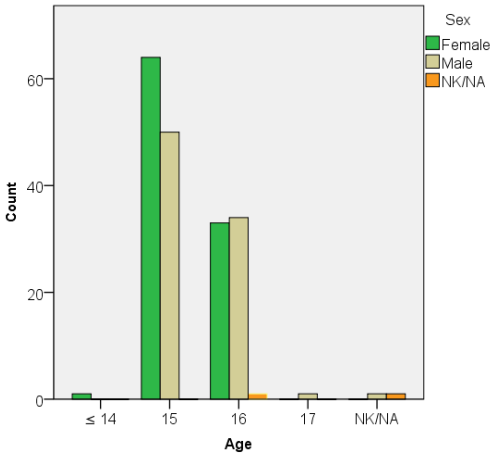

Figure 4 – Participant students' ages and sex.

Table 5 – Participant students' main caregivers and his/hers highest level of education completed.

	… and his/hers highest level of education completed is …								
Your main caregiver is…	NK/ NA	Did not attend school	3rd or 4th level	5th level	6th level	Higher Education - Graduated	Higher Education - Master or PhD	NK/NA	Total
Mother	8	1	6	15	11	26	20	22	109
Father	2	0	3	3	1	4	8	1	22
Aunt	1	0	0	1	0	0	0	0	2
Gran	0	0	0	0	0	0	0	1	1
Mother and Father	5	0	1	6	2	14	15	7	50
NK/NA	0	0	0	0	0	0	0	2	2
Total	16	1	10	25	14	44	43	33	186

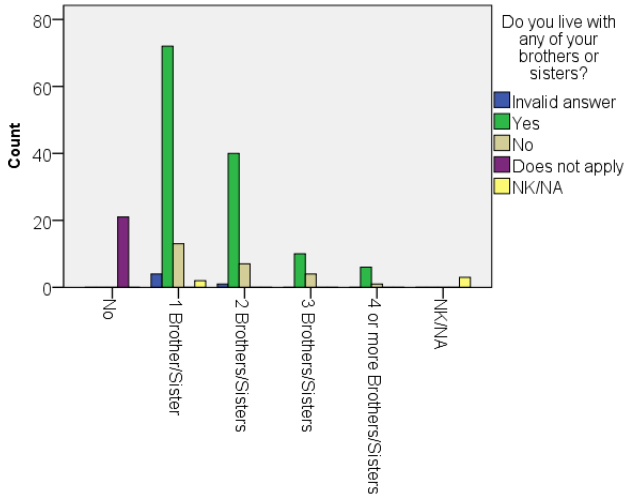

Figure 6 – Participant students' number of brothers or sisters.

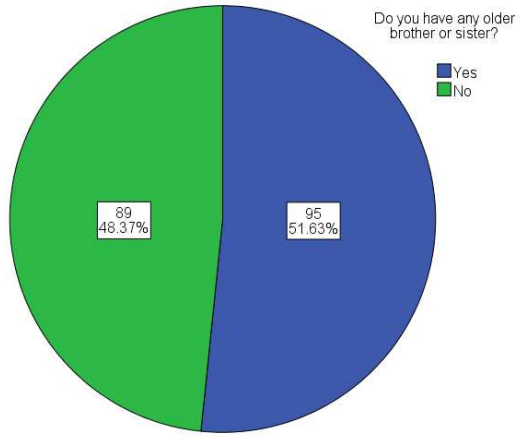

Figure 5 – Having older brothers or sisters.

Table 6 – Participant students according to type of institution where data was collected, its territorial context, education provision and sex.

Type of institution	Territorial context	SCHOOL only		SCHOOL and COLLEGE*	
		girls	boys	girls	boys
(1) college	medium urban			0	0
(2) high	small town	8	16		
(3) high	large urban	45	33		
(4) high	rural area	32	26	1	
(5) academy	med urban	10	6		
(6) high	small town			1	6
	total per gender	95	81	2	6
	total per courses	176		8	

Table 7 – Number of students enrolled in courses per sex.

SUBJECT AREA	COURSE	SEX	
		girls	boys
SCIENCES AND TECHNOLOGIES	Biology	75	41
	Chemistry	44	40
	Computing Science	5	26
	Design and Manufacture	4	4
	Engineering Science	1	8
	Graphic Communication	6	18
	Physics	25	52
MODERN LANGUAGES AND HUMANITIES	French	50	28
	Geography	37	43
	German	25	14
	History	22	23
	Spanish	21	3
SOCIAL AND BUSINESS	Administration and IT	1	1
	Accounting	0	1
	Business Management	20	18
	Modern Studies	42	22
	RMPS	6	5
	Social subjects	98	86
CREATIVE AND PERFORMANCE ARTS	Art & Design	29	10
	Creative Digital Media	0	2
	Drama	13	4
	Media Studies	3	4
	Music	20	14
	Music Performance	1	1
	Music Technology	0	2
	NC Acting and Performance	1	0
VOCATIONAL	Childcare	1	0
	Construction	0	1
	Energy	1	1
	Hairdressing	1	0
	Maritime Studies	0	1
	Sports and Recreation	0	2
	Technical Skills	1	0
	Woodwork	1	3
HEALTH AND WELLBEING	Health and Food Technology	2	0
	Home Economics	10	2
	Hospitality	1	1
	Physical Education	19	24
	PSE	1	4

Table 8 - Participant students according to number of attended courses in each subject area and sex.

SUBJECT AREA	No of courses students attend	SEX	
		girls	boys
SCIENCES AND TECHNOLOGIES	0	10	7
	1	34	15
	2	37	26
	3	16	30
	4	1	8
MODERN LANGUAGES AND HUMANITIES	0	9	18
	1	32	29
	2	48	36
	3	9	3
SOCIAL AND BUSINESS	0	45	49
	1	39	28
	2	12	9
	3	2	0
CREATIVE AND PERFORMATIVE ARTS	0	45	53
	1	40	29
	2	12	4
	3	1	0
VOCATIONAL	0	93	81
	1	4	2
	2	1	3
HEALTH AND WELLBEING	0	68	60
	1	27	22
	2	3	4

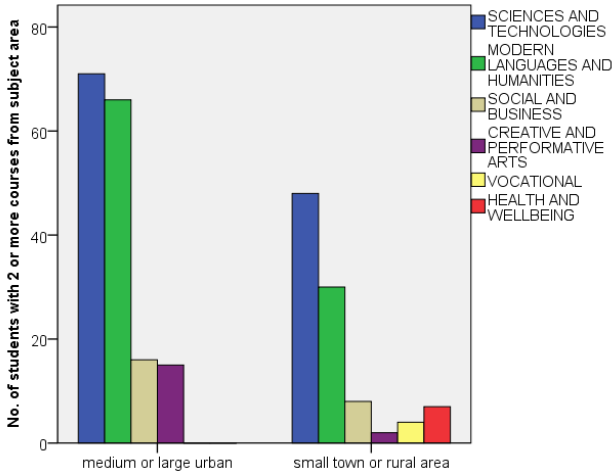

Figure 7 – Number of students with 2 or more courses from each subject area, per territorial context.

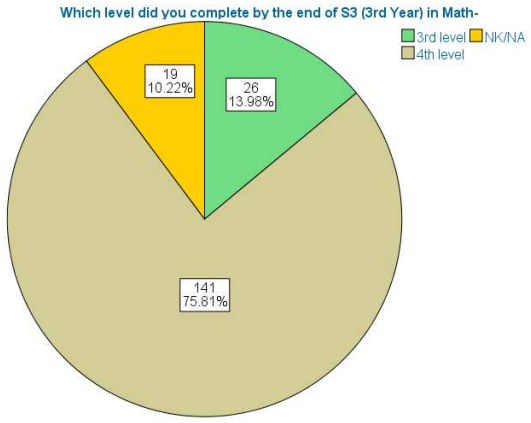

Figure 9 – Completed level at Math by the end of S3.

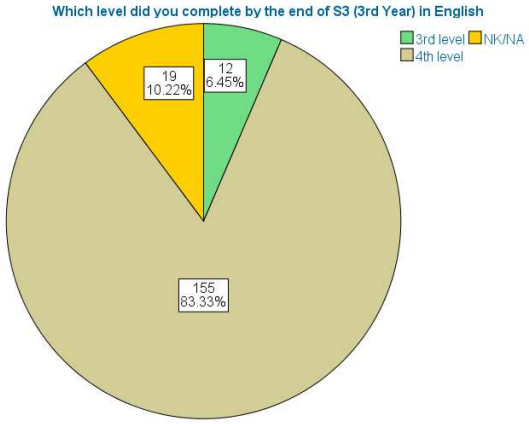

Figure 8 – Completed level at English by the end of S3.

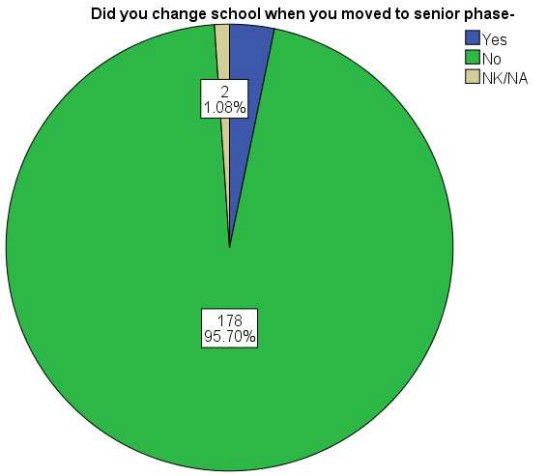

Figure 10 – Change of school when moving on to senior phase.

Table 9 – Change of school and mentioned reasons to change school.

Change of school	Reasons to change school	Frequency	Percent	Percent for "Yes"
Yes	came with friends to current school	1	.5	16.7
	changed to a school closer to home	1	.5	16.7
	changed to a school closer to relative's place of work	1	.5	16.7
	other reasons	3	1.5	51.3
	Total	6	3.2	100.0
No change		178	95.7	
No answer		2	1.1	
	Total	186	100.0	

Findings

1. Reasons and expectations in course choices

Focus groups

Table 10 – Main reasons for course choices: quotes for topics referred to in the focus groups per types of courses.

MAIN REASONS for course choices	ACADEMIC ONLY GROUPS (4 high schools)	ACADEMIC and VOCATIONAL MIX GROUPS (1 high school and 2 colleges)
Personal interest for the subjects	*Just choose the subjects I liked and enjoyed the most* (2Z) *you choose the ones you enjoy the most* (3A) *It was the subjects I was interested in* (4A) *Chose the subjects I thought I would like* (5K)	*I thought it would be fun* (5J) *Had an interest in the vocational subjects* (6A)
Being able to try out subjects before +16 choices	*At my old school they decided they wanted to make six National Five's and I wanted to do seven to try out as many subjects as I could* (2A) *It felt good to have a fresh start on some subjects and change a little bit* (4C) *I wanted to try out some subjects* (5B)	*I was curious about some History themes and Computing I just wanted to try out* (5S) *I tried out college courses for being different from school and may help me to decide* (1G)
S4 choices already thinking about future options		*I had a few ideas of what I would be back then, and I thought Geography would be good to have* (5J) *Physics because in junior I wanted to go to an Engineering course* (5R) *The college courses were more practical and related to what I want to do when I leave school* (6A)
Easier subjects or the one's more likely to get good grades	*The one's I thought I would do the best and I could get qualifications for all, one of my main criteria* (2M) *You basically pick the subjects you are good at* (3A)	*I just found them easy* (5M)
Randomly or to complete columns	*So because I need to pick seven subjects for the National 5, the last two I just had to pick and I knew I was going to regret no matter what they were* (2E)	*I didn't think about the subjects; I just choose at random* (5R) *It was the best thing in the column. Everything else was crap* (6H)

Table 11 – Main influences in course choices: quotes for topics referred to in the focus groups per types of courses.

MAIN INFLUENCES in course choices	ACADEMIC ONLY GROUPS (4 high schools)	ACADEMIC and VOCATIONAL MIX GROUPS (1 high school and 2 colleges)
KNOWING THE COURSES CONTENTS	*Before we chose our subjects we knew the course content of each subject. So, we knew what was in the course before we actually choose our subjects. Most of them anyway* (2R) *On classes, by the 2nd year, some teachers explained the courses contents, at least for some subjects* (3H) *I think we got some information in fourth year, on the back of the subjects' choices form* (5U)	*I only remember about a list of topics to learn in Geography. Not on any other subject* (5J) *I think I got a booklet with a short paragraph about each subject* (6H)
CAREER ADVISING OR BRIEFING SESSION	*Met the career adviser every year (3rd and 4th). But she only explained the subjects and what he could do if he wanted to leave school.* (4J) *There was an assembly at the school with all the 3rd years and then we had only one week to decide* (4G)	*We had a few times of career advising sessions, at the end of junior* (5M)
PARENTS INFLUENCE	*I think some parents, not all parents, but want you to take, they have ideas of specific subjects that they want you to take. Not necessarily what you want to take. You have to be strong and do what you want, and obviously you can face what you choose upon, if you know what you want to do* (2R) *I guess parents influence a bit. It was more the thing that, for instance, my mum likes Geography very much, so I ended up picking Geography* (3H)	
TEACHERS INFLUENCE	*I felt like I had to take a language, so, yeah, that was one of the things, from like parents and the teachers* (2M) *I think the teachers are actually a big part of it as well. [Several agree]. You obviously don't know when you choose your subject, what teacher you are going to get. But, a teacher can make you love a subject or really hate it [several agree]* (2A)	*There was a lot of pressure. From everyone, basically. Everyone asking you, what did you pick, what did you pick? And then the teachers are asking you if you have picked yet? You have to think about it* (5J) *If you are good in a subject, like the best on your class, then teachers will pressure you to continue with their subject* (5M)
TRYING OUT OR CONTINUING SUBJECTS FROM BGE	*Our main course choices are made on S3. We have pretty much two years courses between S3 and S4. (…) You basically keep with the modern language you were already taking since S1* (3E) *In 3rd year, it was nice having a taste of 6 weeks of Modern Languages, and I think it helped* (4G)	*French is just continuing from previous years, but getting more difficult in the end of 4th year* (5J)

Survey

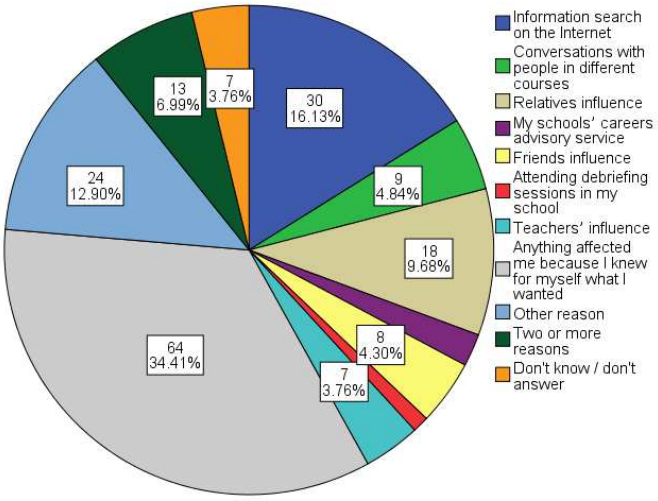

Figure 11 – Main factors affecting courses choice.

Table 12 – Main factors affecting courses choice.

	Frequency	Percent	Valid Percent	Cumulative Percent
Anything affected me because I knew for myself what I wanted	64	34.4	34.4	34.4
Information search on the Internet	30	16.1	16.1	50.5
Other reason (interest, access to uni, access to job, …)	24	12.9	12.9	63.4
Relatives influence	18	9.7	9.7	73.1
two or more reasons	13	7.0	7.0	80.1
Conversations with people in different courses	9	4.8	4.8	84.9
Friends influence	8	4.3	4.3	89.2
Teachers' influence	7	3.8	3.8	93.0
don't know / not specified	7	3.8	3.8	96.8
My schools' careers advisory service	4	2.2	2.2	98.9
Attending debriefing sessions in my school	2	1.1	1.1	100
Total	186	100	100	

*Table 13 – Factors affecting courses choices: differences across groups; Chi-square test and Fisher exact test for over 20% of expected counts < 5 ([1] Girl / Boy; [2] Until 15 / 16 or more; [3] Mother and Father / Other (including Mother or Father only); [4] Yes / No; [5] Medium or large urban / Small town or rural area; [6] 0 or 1 course attended in the subject area / 2 or more courses attended in the subject area; X2 = Chi-square test statistic; F = Fisher's exact test statistic; df = degrees of freedom; *p < .05 (95% significance); **p < .01 (99% significance); ***p < .001 (99,9% significance)).*

Variable	X^2 (df)	p	F	p	Result (significance)
Sex[1]	21.26 (20)	.382	28.00	.122	No
Age[2]	10.26 (20)	.906	16.85	.915	No
Main caregiver[3]	13.68 (10)	.188	12.86	.187	No
Older Brothers[4]	9.09 (10)	.524	9.92	.446	No
Schools' territorial context[5]	25.14 (10)	.003**	24.29	.004**	Yes
No. of courses in Sciences or Technologies[6]	14.82 (10)	.130	14.45	.126	No
No. of courses in Modern Languages and Humanities[6]	6.52 (10)	.797	6.60	.792	No

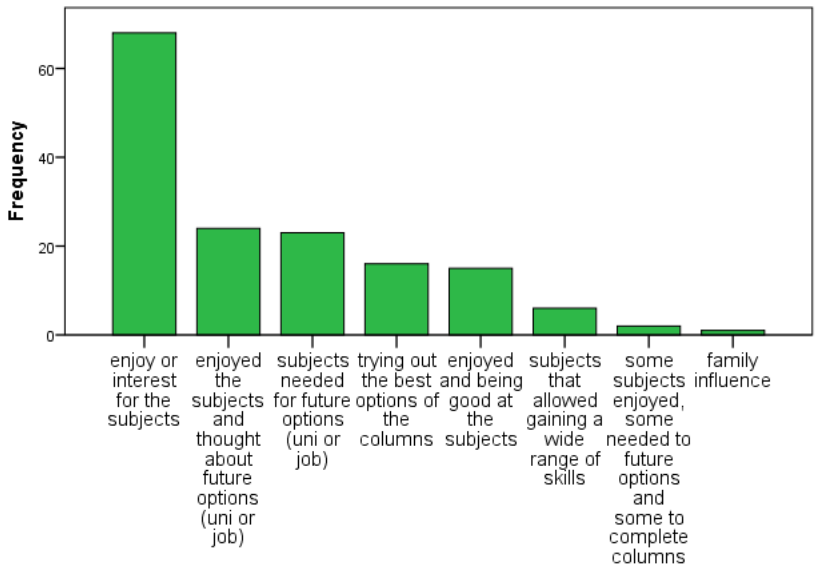

Figure 12 – Main reasons for choosing the courses.

Table 14 – Main reasons for choosing the courses.

	Frequency	Percent	Valid Percent	Cumulative Percent
enjoy or interest for the subjects	68	36.6	43.9	43.9
enjoyed the subjects and thought about future options (uni or job)	24	12.9	15.5	59.4
subjects needed for future options (uni or job)	23	12.4	14.8	74.2
trying out the best options of the columns	16	8.6	10.3	84.5
enjoyed and being good at the subjects	15	8.1	9.7	94.2
subjects that allowed gaining a wide range of skills	6	3.2	3.9	98.1
some subjects enjoyed, some needed to future options and some to complete columns	2	1.1	1.3	99.4
family influence	1	.5	.6	100
Total	155	83.3	100	
Missing	31	16.7		
Total	186	100		

*Table 15 – Main reasons for choosing the courses: differences across groups; Chi-square test and Fisher exact test for over 20% of expected counts < 5 ([1] Girl / Boy; [2] Until 15 / 16 or more; [3] Mother and Father / Other (including Mother or Father only); [4] Yes / No; [5] Medium or large urban / Small town or rural area; [6] 0 or 1 course attended in the subject area / 2 or more courses attended in the subject area; X2 = Chi-square test statistic; F = Fisher's exact test statistic; df = degrees of freedom; *p < .05 (95% significance); **p < .01 (99% significance); ***p < .001 (99,9% significance)).*

Variable	X^2 (df)	p	F	p	Result (significance)
Sex[1]	21.16 (14)	.080	29.52	.010*	Yes
Age[2]	4.54 (7)	.762	4.17	.804	No
Main caregiver[3]	5.23 (7)	.632	5.13	.653	No
Older Brothers[4]	8.60 (7)	.283	8.04	.297	No
Schools' territorial context[5]	11.45 (7)	.097	11.03	.102	No
No. of courses in Sciences or Technologies[6]	7.50 (7)	.384	7.069	.402	No
No. of courses in Modern Languages and Humanities[6]	16.47 (7)	.012*	16.65	.010*	Yes

2. Experienced difficulties in integrating senior phase

Focus groups

Table 16 – Experienced difficulties in integrating senior phase: quotes for topics referred to in the focus groups per types of courses.

EXPERIENCED DIFFICULTIES	ACADEMIC ONLY GROUPS (4 high schools)	ACADEMIC and VOCATIONAL MIX GROUPS (1 high school and 2 colleges)
INCREASED AND MORE DEMANDING WORKLOAD	*The work load definitely, higher! I wasn't expecting it to be a lot higher* (2M) *It got harder, it's more challenging because the workload is to a higher level (…) but it is good* (2J) *You have to do a lot more homework and coursework* (3A) *There was a dramatic leap in work from 3rd to 4th* (4G) *It was difficult to study for all the seven subjects* (5U)	*It's too little time to so much work to get through* (1E) *The work from 3rd to 4th is harder and there is more stuff to know in the fourth year, more in depth* (5S) *Most subjects are harder to understand* (5R) *It was too demanding in the beginning* (6H) *We have more homework to be done on the schools' subjects* [when comparing to the college courses] (6K)
TESTS, EXAMS AND ASSIGNEMENTS: PRESSURE AND OVERLAPED DEADLINES	*And we get so many tests, even for every subject, it is just test after test* (2R) *Seems like we have a massive gap when we don't have any test at all and then they all cram it at once* (2Z) *The first one [assignment] was very sudden as well, and came up really fast, and it was quite difficult for a lot of us* (2E) *The deadlines for the assignments in different subjects overlapped. I do think that was more stressful than the actual exams* (3A) *Teachers put a lot of pressure to complete assignments on their own subjects, forgetting we have assignments in all other subjects with the same tight deadlines* (4G) *In some subjects the assignments were hard. (…) Too little time to complete them* (5Y)	*At first, it was easy/relaxing and stress-free and you could learn at your own pace. Then, in 4th year I felt thrusted into exams and pressure* (1E) *There is some pressure to attendance. And lack of attendance can ruin you in qualifications* (5M) *It's harder. (…) School subjects can be stressful due to the assignment deadlines often in place. College course teachers are more relaxed* (6H)
MORE CONTENTS TO BE MEMORIZED	*We had to learn a lot more, a lot faster* (2R) *We all have to remember important stuff, so you have to spend a lot of time trying to remember* (2E) *It was just hard to do remember, with all the stuff that we have learned* (5A)	*There is not enough time to fully understand things; you just have to memorize it all quickly* (1C) *In National five you have a lot more to write down and remember. I couldn't do that, and that's why I found it so much difficult* (5J)
FASTER TEACHING PACE	*I think a lot of the teachers spent a lot more time before, like, the prelims, spend longer on each course and now they kind of rush it because we have to finish them* (2C) *We have a master teacher that is quite difficult to understand, because he talks very fast, he is very intelligent but he talks very fast and goes over things quickly* (2E) *I felt lack the pace of the course work increased* (2R) *Some teachers teach in a different way. We were used one way and they changed it* (5R)	*Move much quicker now [compared to earlier years of schooling]. Previously, the teacher made sure everyone had understood before moving on, but now it's a rush to get through all the material before the prelims and then exams* (1C) *All teachers moved faster* (5R)
TIMETABLES AND TIME MANAGEMENT	*In the morning there are 2 periods, before break. But then between break and lunch there are 3 periods and I am always really hungry (…) I would appreciate an earlier lunch, yes* (2R) *Balancing your extra curriculum with you school works it is quite hard. Do your training, like doing music and stuff like that, with your study* (2Z)	*It would be nice to change the classes starting time I the morning* (6R) *It's difficult to concentrate in some of the morning classes because you're already tired* (6H)

Survey

Table 17 – Descriptive statistics to items of experienced difficulties in integrating senior phase (N=186; Scale of 1 to 5).

	Valid	Missing	Min.-Max.	Median	Mean	Std. Deviation
1. It was difficult for me to make new friendships.	185	1	1-5	2.00	1.90	.968
2. It was difficult for me to adapt to the new rules I have to follow in my current study/work.	186	0	1-5	2.00	1.98	.897
3. I found no people available to understand my difficulties and help me to overcome them.	183	3	1-5	2.00	2.03	.937
4. The study/work that I develop now does not suit my expectations.	182	4	1-5	2.00	2.23	.941
5. It was difficult for me to solve practical issues of everyday life.	183	3	1-5	2.00	2.04	.969
6. I wasn't used to the study/work load that is now demanded.	185	1	1-5	3.00	2.87	1.120
7. I wasn't used to the rigour that I now have to put into my study/work.	178	8	1-5	3.00	2.72	1.024
8. The learning I had developed so far was insufficient for what I need now in some courses.	181	5	1-5	2.00	2.54	1.036
9. It was difficult for me to engage with the courses due to the pressure to meet what was prescribed in courses specifications.	183	3	1-5	2.00	2.30	.979
10. I had to give up some extracurricular activities in which I was involved.	183	3	1-5	2.00	2.37	1.224
11. It was difficult for me to adapt to the new class schedules.	184	2	1-5	2.00	2.00	.905
12. I felt there was too much competition between my classmates, which made it difficult in class and study activities.	184	2	1-5	2.00	2.14	1.092
13. I felt disappointed with some contents taught in my general/academic courses.	185	1	1-5	3.00	2.70	1.106
14. I felt disappointed with some contents taught in my vocational or work-based skills courses.	182	4	1-5	2.00	2.46	1.000
15. I had trouble in being as responsible and organised as was expected of me in fulfilling assigned tasks.	183	3	1-5	2.00	2.26	1.093
16. I felt greater distance in the relationships with my teachers and I didn't look for their help with my difficulties.	181	5	1-5	2.00	2.23	1.005
17. I didn't recognise in my teachers an effort to get me interested and committed in the courses.	182	4	1-5	2.00	2.27	.997
18. I felt that my teachers did not have the time to support me better.	185	1	1-5	2.00	2.31	1.179

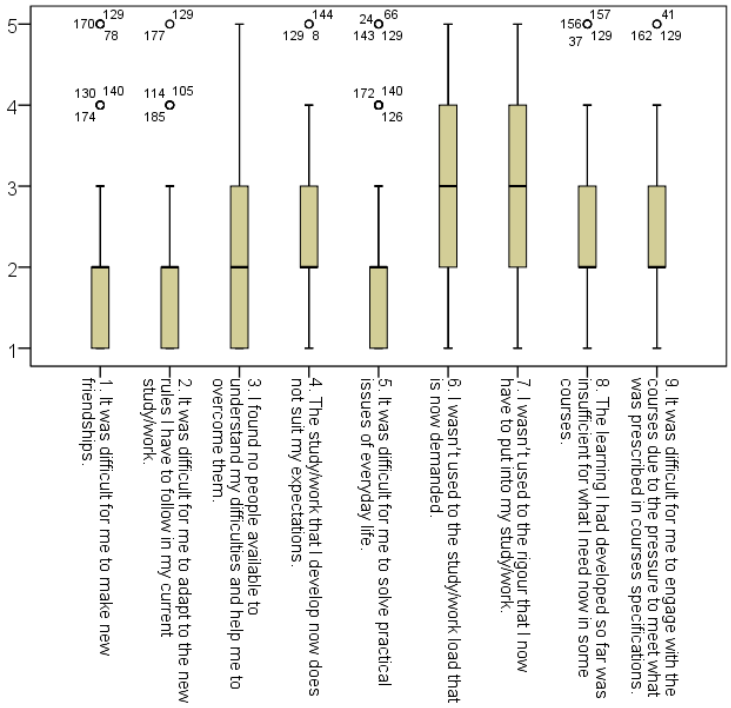

Figure 13 – Distribution of agreement degrees for items 1 to 9 of experienced difficulties in integrating senior phase (N=186) (1=Strongly disagree; 2=Agree; 3=Neither disagree, nor agree; 4=Agree; 5= Strongly agree).

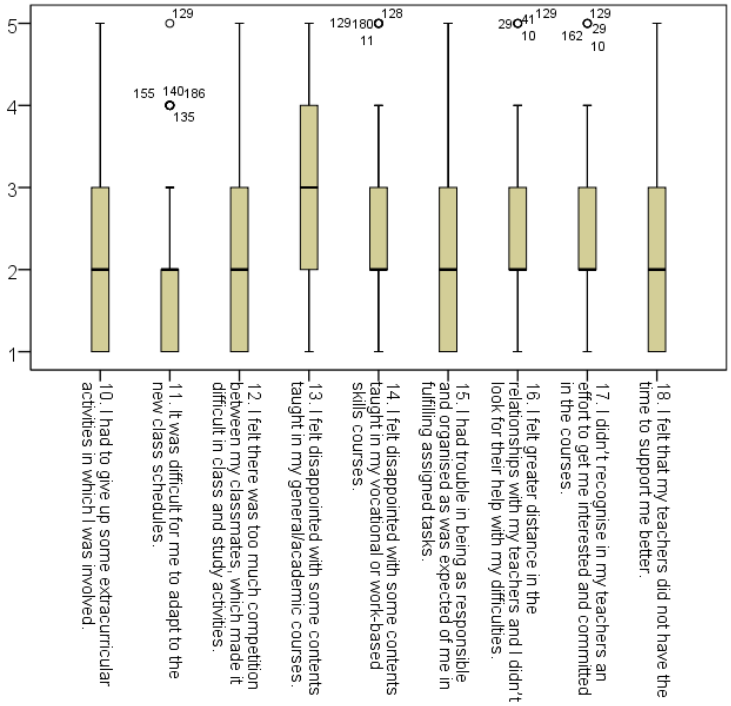

Figure 14 - Distribution of agreement degrees for items 10 to 18 of experienced difficulties in integrating senior phase (N=186) (1=Strongly disagree; 2=Agree; 3=Neither disagree, nor agree; 4=Agree; 5= Strongly agree).

*Table 18 - Wilcoxon and Mann-Whitney tests to compare answers across sex, age and main caregiver (M = median; z = standardized test statistic; p = asymptotic significance (2-sided): *p < .05 (95%) **p < .01 (99%) ***p < .001 (99,9%))*

	Sex				Age				Main caregiver			
	Girls (N=98)	Boys (N=86)			<16 (N=115)	≥16 (N=69)			Mother and Father (N=50)	Other (N=134)		
Item	M	M	z	p	M	M	z	p	M	M	z	p
1	2.00	2.00	-.128	.898	2.00	2.00	-.99	,322	2.00	2.00	-.57	.571
2	2.00	2.00	-1.26	.207	2.00	2.00	-.42	,673	2.00	2.00	-.319	.758
3	2.00	2.00	-.67	.506	2.00	2.00	-.08	,934	2.00	2.00	-.63	.528
4	2.00	2.00	-.98	.327	2.00	2.00	-.67	,504	2.00	2.00	-1.23	.220
5	2.00	2.00	-.96	.339	2.00	2.00	-.62	,537	2.00	2.00	-.62	.538
6	3.00	3.00	-.39	.701	3.00	3.00	-.29	,770	3.00	3.00	-1.51	.132
7	2.00	3.00	-1.71	.088	3.00	2.00	-.55	,580	3.00	3.00	-.50	.617
8	2.00	2.00	-1.29	.197	2.00	2.00	-1.01	,313	2.00	2.00	-1.82	.069
9	2.00	2.00	-.86	.388	2.00	2.00	-.16	,871	2.00	2.00	-1.42	.156
10	2.00	2.00	-3.60	.000***	2.00	2.00	-.09	,931	2.00	2.00	-2.03	.043*
11	2.00	2.00	-1.25	.213	2.00	2.00	-.03	,974	2.00	2.00	-.84	.400
12	2.00	2.00	-1.08	.279	2.00	2.00	-.79	,433	2.00	2.00	-1.17	.244
13	3.00	2.00	-.53	.599	3.00	2.00	-.16	,873	2.00	3.00	-.64	.520
14	2.00	2.00	-.10	.318	2.00	2.00	-1.31	,190	2.00	2.50	-.60	.546
15	2.00	2.00	-.26	.799	2.00	2.00	-.07	,945	2.00	2.00	-.77	.444
16	2.00	2.00	-.08	.939	2.00	2.00	-.12	,907	2.00	2.00	-1.32	.186
17	2.00	2.00	-.41	.682	2.00	2.00	-.57	,568	2.00	2.00	-1.36	.173
18	2.00	2.00	-1.06	.289	2.00	2.00	-.74	,458	2.00	2.00	-.26	.796

*Table 19 - Wilcoxon and Mann-Whitney tests to compare answers across having older brothers/sisters and the school's territorial context (M = median; z = standardized test statistic; p = asymptotic significance (2-sided): *p < .05 (95%) **p < .01 (99%) ***p < .001 (99,9%))*

	Having older brothers/sisters				School's territorial context			
	Yes (N=95)	No (N=89)			Mid or larg urb (N=96)	Small or rural (N=89)		
Item	M	M	z	p	M	M	z	p
1	2.00	2.00	-1.597	.110	2.00	1.50	-1.668	.095
2	2.00	2.00	-.643	.520	2.00	2.00	-.095	.924
3	2.00	2.00	-.714	.475	2.00	2.00	-.357	.721
4	2.00	2.00	-.620	.536	2.00	2.00	-.057	.954
5	2.00	2.00	-1.721	.085	2.00	2.00	-.370	.711
6	3.00	3.00	-.452	.651	3.00	3.00	-.422	.673
7	3.00	2.50	-1.020	.308	3.00	3.00	-.466	.641
8	2.00	2.00	-.230	.818	2.00	2.50	-1.025	.305
9	2.00	2.00	-.347	.728	2.00	2.00	-.540	.589
10	2.00	2.00	-.153	.879	2.00	2.00	-.343	.731
11	2.00	2.00	-2.275	.023*	2.00	2.00	-.036	.971
12	2.00	2.00	-.644	.519	2.00	2.00	-1.813	.070
13	2.50	2.50	-.113	.910	2.00	3.00	-.863	.388
14	2.00	2.50	-.108	.914	2.00	2.00	-.722	.470
15	2.00	2.00	-.636	.525	2.00	2.00	-1.038	.299
16	2.00	2.00	-.836	.403	2.00	2.00	-1.305	.192
17	2.00	2.00	-.332	.740	2.00	2.00	-.218	.828
18	2.00	2.00	-.016	.987	2.00	2.00	-.466	.641

*Table 20 - Wilcoxon and Mann-Whitney tests to compare answers across number of attended courses in the subject areas of Sciences or Technologies and Modern Languages an Humanities (M = median; z = standardized test statistic; p = asymptotic significance (2-sided): *p < .05 (95%) **p < .01 (99%) ***p < .001 (99,9%))*

	No. of attended courses in Sciences or Technologies				No. of attended courses in Modern Languages and Humanities			
	0 or 1 course (N=66)	2 or more (N=120)			0 or 1 course (N=90)	2 or more (N=96)		
Item	M	M	z	p	M	M	z	p
1	2.00	2.00	-.038	.969	2.00	2.00	-.556	.578
2	2.00	2.00	-1.473	.141	2.00	2.00	-.029	.977
3	2.00	2.00	-.851	.395	2.00	2.00	-1.387	.166
4	2.00	2.00	-1.578	.115	2.00	2.00	-1.186	.236
5	2.00	2.00	-2.349	.019*	2.00	2.00	-.789	.430
6	3.00	3.00	-.821	.412	3.00	3.00	-.234	.815
7	3.00	3.00	-.304	.761	3.00	3.00	-.191	.849
8	3.00	2.00	-1.663	.096	3.00	2.00	-2.205	.027*
9	2.00	2.00	-2.016	.044*	2.00	2.00	-2.007	.045*
10	2.00	2.00	-1.080	.280	2.00	2.00	-.097	.923
11	2.00	2.00	-.412	.680	2.00	2.00	-.512	.609
12	2.00	2.00	-2.399	.016*	2.00	2.00	-2.244	.025*
13	3.00	2.00	-.015	.988	3.00	2.00	-.273	.785
14	3.00	2.00	-.045	.964	3.00	2.00	-.417	.677
15	2.00	2.00	-1.143	.253	2.00	2.00	-.875	.382
16	2.00	2.00	-1.517	.129	2.00	2.00	-1.664	.096
17	2.00	2.00	-.921	.357	2.00	2.00	-1.958	.050
18	2.00	2.00	-1.163	.245	2.00	2.00	-1.621	.105

*Table 21 – Summary of differences between groups (non parametric Wilcoxon and Mann-Withney tests: U = Mann-Withney; U = Wilcoxon; z = standardized test statistic; p = asymptotic significance (2-sided); p(1) = exact significance (1-sided); mr = mean rank; *p < .05 (95%) **p < .01 (99%) ***p < .001 (99,9%).*

Item	Who tends to agree more with having had this difficulty? (differences between groups)
5. It was difficult for me to solve practical issues of everyday life.	- students enrolled in none or only 1 course of Sciences or Technologies (U=3102.5; W=10005.5; z=-2.35; p=.019*; p(1)= .009**, mr=103.49 > 85.52 for those with 2 or more)
8. The learning I had developed so far was insufficient for what I need now in some courses.	- students enrolled in none or only 1 course of Modern Languages or Humanities (U=3347.0; W=7812.0; z=-2.21; p=.027*; p(1)= .014*, mr=99.53 > 83.11 for those with 2 or more)
9. It was difficult for me to engage with the courses due to the pressure to meet what was prescribed in courses specifications.	- students enrolled in none or only 1 course of Sciences or Technologies (U=3152.0; W=10292.0; z=-2.02; p=.0.044*; p(1)= .022*, mr=102.25> 86.49 for those with 2 or more) - students enrolled in none or only 1 course of Modern Languages or Humanities (U=3498.5; W=7963.5; z=-2.01; p=.045*; p(1)= .022*, mr=99.69 > 84.72 for those with 2 or more)
10. I had to give up some extracurricular activities in which I was involved.	- girls (U=2854.0; W=6509.0; z=-3.60; p=.000***; p(1)=.000***, mr=103.77 > 76.58 for boys) - students who did not stated having both the mother and the father as main caregivers (U=2658.0; W=3933.0; z=-2.025; p=.043*; p(1)= .021*, mr=95.71 > 78.66 for those with Mother and Father as main caregivers)
11. It was difficult for me to adapt to the new class schedules.	- students who referred having older brothers or sisters (U=3381.5; W=7297.5; z=-2.27; p=.023*; p(1)= .011*, mr=99.52 > 82.92 for those not having older brothers or sisters)
12. I felt there was too much competition between my classmates, which made it difficult in class and study activities.	- students enrolled in none or only 1 course of Sciences or Technologies (U=3077.5; W=10217.5; z=-2.40; p=0.016*; p(1)= .008**, mr=104.65 > 85.86 for those with 2 or more) - students enrolled in none or only 1 course of Modern Languages or Humanities (U=3455.0; W=8015.0; z=-2.24; p=.025*; p(1)= .012*, mr=101.18 > 84.37 for those with 2 or more)

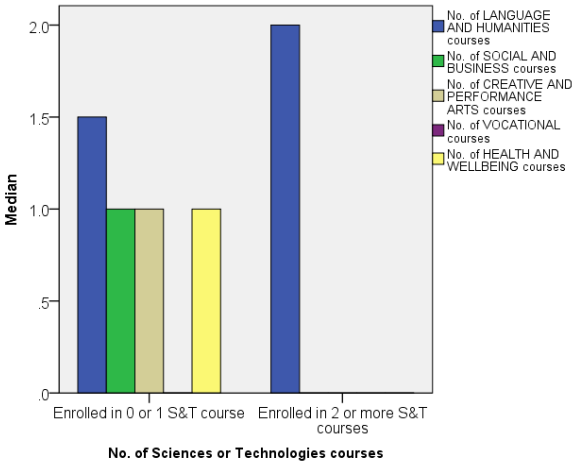

Figure 16 – Relationship between number of Sciences or Technologies courses enrolled in and enrolment in courses from other subject areas.

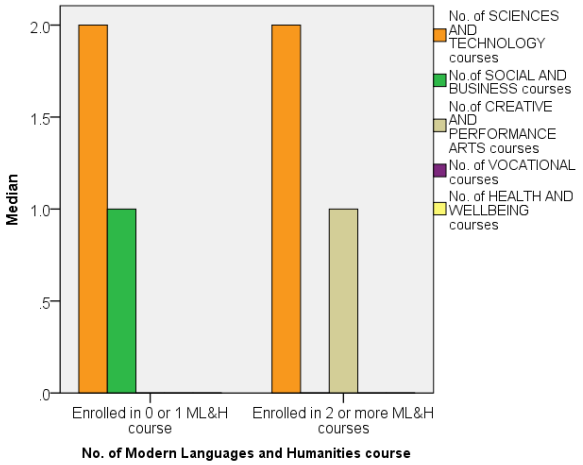

Figure 15 – Relationship between number of Modern Languages or Humanities courses enrolled in and enrolment in courses from other subject areas.

3. Perceptions about the experienced curriculum in their set of courses of senior phase

Focus groups

Survey

Table 22 – Descriptive statistics to items of perceptions about the experienced curriculum in their set of courses of senior phase (N=186; Scale of 1 to 5).

	Valid	Missing	Min.-Max.	Median	Mean	Std. Deviation
1. I have too many courses.	186	0	1-5	2.00	1.96	.875
2. I wish I had more study time with the support of my teachers.	185	1	1-5	3.00	2.99	1.123
3. No course should be mandatory.	183	3	1-5	3.00	3.30	1.285
4. I wish I had more practical activities in my classes.	184	2	1-5	3.00	3.22	1.110
5. Some courses besides English and Math should be mandatory.	185	1	1-5	2.00	2.18	1.051
6. I wish I could contact with professionals in the fields I am studying.	183	3	1-5	4.00	3.39	1.053
7. If I could, I would change some courses.	181	5	1-5	3.00	2.89	1.140
8. I feel the need of more time to have other activities outside class or school.	181	5	1-5	3.00	3.04	1.120
9. I feel that the courses have too many contents to be learned.	182	4	1-5	3.00	3.04	1.121
10. I feel that some of my courses will not be useful to my future.	181	5	1-5	4.00	3.30	1.202
11. I wish I could build my timetable.	182	4	1-5	3.00	3.23	1.207

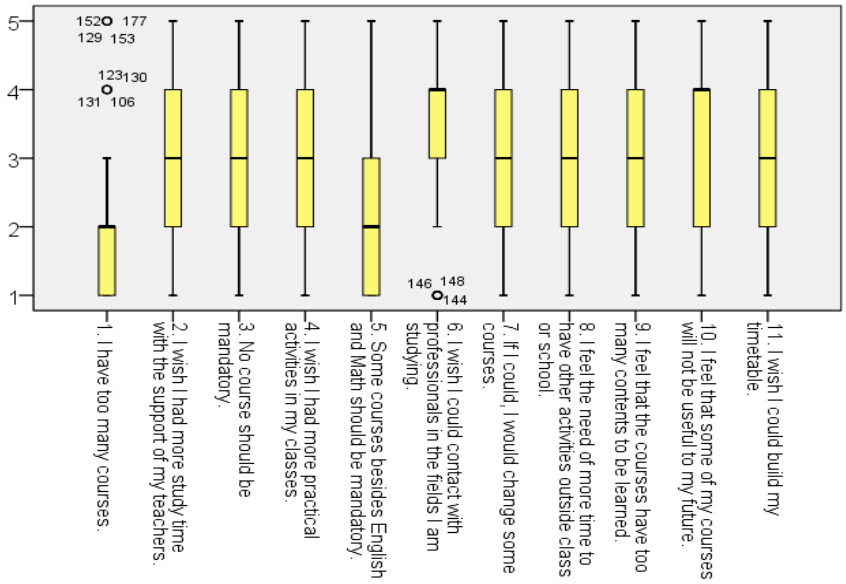

Figure 17 – Distribution of agreement degrees for items of perceptions about the experienced curriculum in their set of courses of senior phase (N=186) (1=Strongly disagree; 2=Agree; 3=Neither disagree, nor agree; 4=Agree; 5= Strongly agree).

*Table 23 - Wilcoxon and Mann-Whitney tests to compare answers across sex, age and main caregiver (M = median; z = standardized test statistic; p = asymptotic significance (2-sided): *p < .05 (95%) **p < .01 (99%) ***p < .001 (99,9%))*

	Sex				Age				Main caregiver			
	Girls (N=98)	Boys (N=86)			<16 (N=115)	≥16 (N=69)			Mother and Father (N=50)	Other (N=134)		
Item	M	M	z	p	M	M	z	p	M	M	z	p
1	2.00	2.00	-1.22	.223	2.00	2.00	-1.69	.091	2.00	2.00	-1.15	.250
2	3.00	3.00	-3.95	.000***	3.00	3.00	-.83	.404	3.00	3.00	-.900	.368
3	3.00	3.00	-.40	.687	4.00	3.00	-.62	.538	3.00	4.00	-1.33	.183
4	3.00	3.00	-1.14	.253	3.00	3.00	-.49	.623	3.00	3.00	-.21	.836
5	2.00	2.00	-.37	.713	2.00	2.00	-1.08	.281	2.00	2.00	-1.01	.312
6	4.00	4.00	-1.075	.287	4.00	4.00	-.29	.769	4.00	4.00	-.59	.558
7	3.00	3.00	-.37	.712	3.00	3.00	-2.47	.014*	3.00	3.00	-.28	.781
8	3.00	3.00	-1.25	.210	3.00	3.00	-.91	.362	3.00	3.00	-.15	.882
9	3.00	3.00	-3.17	.002**	3.00	3.00	-.24	.809	3.00	3.00	-.01	.989
10	4.00	3.00	-2.36	.019*	4.00	3.00	-.79	.428	3.00	4.00	-1.50	.133
11	4.00	3.00	-2.19	.029*	3.00	3.00	-.71	.475	3.00	3.00	-1.99	.046*

*Table 24 - Wilcoxon and Mann-Whitney tests to compare answers across having older brothers/sisters and the school's territorial context (M = median; z = standardized test statistic; p = asymptotic significance (2-sided): *p < .05 (95%) **p < .01 (99%) ***p < .001 (99,9%))*

	Having older brothers/sisters				School's territorial context			
	Yes (N=95)	No (N=89)			Mid or larg urb (N=96)	Small or rural (N=89)		
Item	M	M	z	p	M	M	z	p
1	2.00	2.00	-.68	.496	2.00	2.00	-2.81	.005*
2	3.00	3.00	-1.35	.176	3.00	3.00	-2.12	.034*
3	3.00	3.00	-.22	.829	3.50	3.00	-.78	.438
4	4.00	3.00	-.95	.341	3.00	4.00	-1.16	.248
5	2.00	2.00	-.67	.506	2.00	2.00	-.27	.791
6	3.00	4.00	-2.38	.017*	4.00	4.00	-1.28	.201
7	3.00	3.00	-.69	.494	3.00	3.00	-.60	.547
8	3.00	3.00	-.41	.684	3.00	3.00	-1.54	.124
9	3.00	3.00	-1.96	.050	3.00	3.00	-2.38	.017*
10	4.00	3.00	-.45	.653	4.00	3.00	-1.22	.223
11	3.00	3.00	-.51	.610	3.00	3.00	-2.17	.030*

*Table 25 - Wilcoxon and Mann-Whitney tests to compare answers across number of attended courses in the subject areas of Sciences or Technologies and Modern Languages or Humanities (M = median; z = standardized test statistic; p = asymptotic significance (2-sided): *p < .05 (95%) **p < .01 (99%) ***p < .001 (99,9%))*

	No. of attended courses in Sciences or Technologies				No. of attended courses in Modern Languages and Humanities			
	0 or 1 course (N=66)	2 or more (N=120)			0 or 1 course (N=90)	2 or more (N=96)		
Item	M	M	z	p	M	M	z	p
1	2.00	2.00	-.24	.811	2.00	2.00	-.23	.817
2	3.00	3.00	-.33	.742	3.00	3.00	-1.46	.143
3	4.00	3.00	-.11	.916	3.00	3.00	-.02	.984
4	3.50	3.00	-.22	.827	3.00	3.00	-.13	.895
5	2.00	2.00	-.29	.770	2.00	2.00	-.77	.439
6	3.00	4.00	-1.75	.080	4.00	4.00	-.15	.885
7	3.00	3.00	-1.45	.146	3.00	3.00	-.56	.578
8	3.00	3.00	-.15	.885	3.00	3.00	-.66	.510
9	3.00	3.00	-.89	.374	3.00	3.00	-1.38	.167
10	3.00	4.00	-.64	.521	3.00	4.00	-1.13	.257
11	3.00	3.00	-.29	.773	3.00	3.00	-.99	.318

*Table 26 – Summary of differences between groups (non-parametric Wilcoxon and Mann-Withney tests: U = Mann-Withney; U = Wilcoxon; z = standardized test statistic; p = asymptotic significance (2-sided); p(1) = exact significance (1-sided); mr = mean rank; *p < .05 (95%) **p < .01 (99%) ***p < .001 (99,9%).*

Item	Who tends to agree more with this perception? (differences between groups)
1. I have too many courses.	- students in schools in medium or large urban territories (U=3337.0; W=7342.0; z=-2.81; p=.005**; p(1)= .002**, mr=102.74> 82.49 for students in small towns or rural contexts)
2. I wish I had more study time with the support of my teachers.	- girls (U=2802.0; W=6457.0; z=-3.95; p=.000***; p(1)= .000***, mr=105.91 > 75.96 for boys) - students in schools in medium or large urban territories (U=3487.0; W=7403.0; z=-2.12; p=.034*; p(1)= .017*, mr=100.18> 84.13 for students in small towns or rural contexts)
6. I wish I could contact with professionals in the fields I am studying.	- students without older brothers or sisters (U=3286.5; 7751.5; z=-2.38; p=.017*; p(1)= .008**, mr=100.22> 82.46 for students with older brothers)
7. If I could, I would change some courses.	- older students (16 or more) (U=2970.5; W=9186.5; z=-2.47; p=.014*; p(1)= .007**, mr=101.82 > 82.76 for younger students)
9. I feel that the courses have too many contents to be learned.	- girls (U=2962.5; W=6532.5; z=-3.17; p=0.002**; p(1)= 0.001***, mr=101.64> 77.77 for boys) - students in schools in medium or large urban territories (U=3279.0; W=7107.0; z=-2.38; p=.017**; p(1)= .009**, mr=99.62 > 81.69 for students in small towns or rural contexts)
10. I feel that some of my courses will not be useful to my future.	- girls (U=3204.0; W=6774.0; z=-2.35; p=.019*; p(1)= .009***, mr=98.27 > 80.64 for boys)
11. I wish I could build my timetable.	- girls (U=3291.0; W=6861.0; z=-2.19; p=.029*; p(1)= .014**, mr=98.22 > 81.68 for boys) - students who did not state having both the mother and the father as main caregivers (U=2643.5; W=3918.5; z=-1.99; p=.046*; p(1)= .022*, mr=95.17> 78.37 for those with Mother and Father as main caregivers) - students in schools in medium or large urban territories (U=3347.0; W=7175.0; z=-2.17; p=.030*; p(1)= .015**, mr=98.89 > 82.47 for students in small towns or rural contexts)

4. Perceptions about the course/classes of English

Focus groups

Survey

Table 27 – Descriptive statistics to items of perceptions about the course/classes of English (N=186; Scale of 1 to 5).

	Valid	Missing	Min.-Max.	Median	Mean	Std. Deviation
1. I understand the connections between the contents and familiar contexts or situations.	175	11	1-5	3.00	3.27	.972
2. I feel that I have enough knowledge to understand the contents.	177	9	1-5	4.00	3.51	.948
3. I understand the connections between the contents and other fields of knowledge, subjects or courses.	177	9	1-5	4.00	3.47	.960
4. I use other spaces beside my classroom (for example; library, lab, shop, garden, or others).	175	11	1-5	3.00	2.73	1.170
5. I engage in group tasks or group work.	177	9	1-5	3.00	3.53	1.087
6. I'm given opportunities to clarify my doubts and explain my difficulties.	175	11	1-5	3.00	3.35	1.055
7. I have opportunities to present my ideas and explanations.	178	8	1-5	3.00	3.38	1.030
8. I try to listen and analyse my classmates' ideas.	174	12	1-5	4.00	3.56	.921
9. There are moments to talk about other issues besides the ones prescribed in the courses specifications.	173	13	1-5	3.00	2.97	1.094
10. I address important contents for my future.	175	11	1-5	3.00	3.07	1.056
11. What I learn is important to my personal and professional life.	176	10	1-5	3.00	3.09	1.008
12. I easily understand what my difficulties are and ask for help.	176	10	1-5	3.00	3.24	.987
13. I feel motivated to learn.	177	9	1-5	3.00	3.27	1.136
14. I know how to study and fulfil assigned tasks to get good grades.	176	10	1-5	3.00	3.45	.973
15. I engage in research and problem solving activities.	176	10	1-5	3.00	3.31	1.073
16. I use information and communication technologies (ICT).	176	10	1-5	3.00	3.07	1.093
17. I engage in practical or inquiry activities.	176	10	1-5	3.00	3.06	1.094
18. I engage in debates or discussions of ideas.	176	10	1-5	3.00	3.05	1.165
19. I engage in simulations and role playing activities.	177	9	1-5	3.00	2.59	1.135
20. I engage in multidisciplinary projects.	172	14	1-5	3.00	2.78	1.164
21. I do self-assessment of my tasks and learning.	178	8	1-5	3.00	3.10	1.105
22. I'm assessed by my attitudes.	177	9	1-5	3.00	3.10	1.142
23. I'm assessed by tests.	178	8	1-5	4.00	3.73	1.060
24. I'm assessed by oral tasks.	176	10	1-5	3.00	3.14	1.084
25. I'm assessed by written tasks.	178	8	1-5	4.00	3.65	1.064

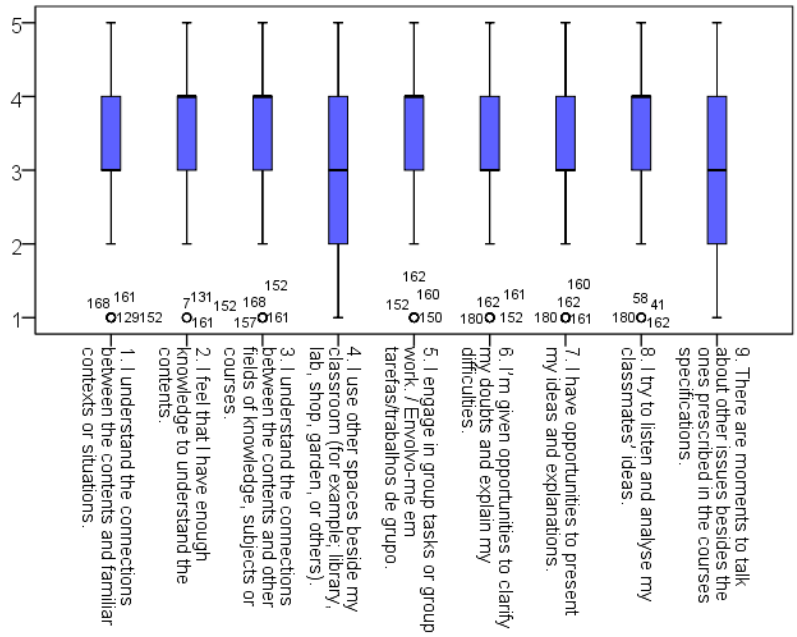

Figure 18 – Distribution of agreement degrees for items 1 to 9 of perceptions about course/classes of English (N=186) (1=Rarely; 2=Few times; 3=Sometimes; 4=Many times; 5=Almost always).

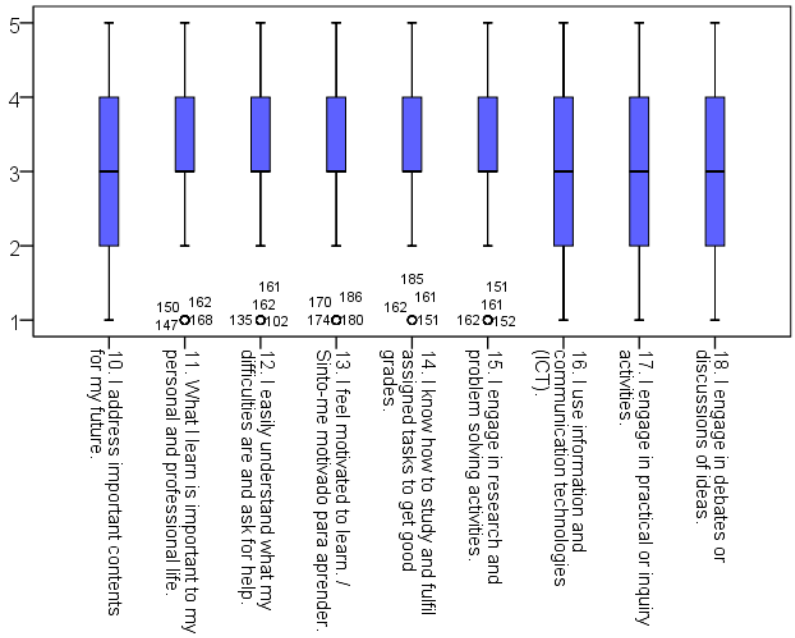

Figure 19 – Distribution of agreement degrees for items 10 to 18 of perceptions about course/classes of English (N=186) (1=Rarely; 2=Few times; 3=Sometimes; 4=Many times; 5=Almost always).

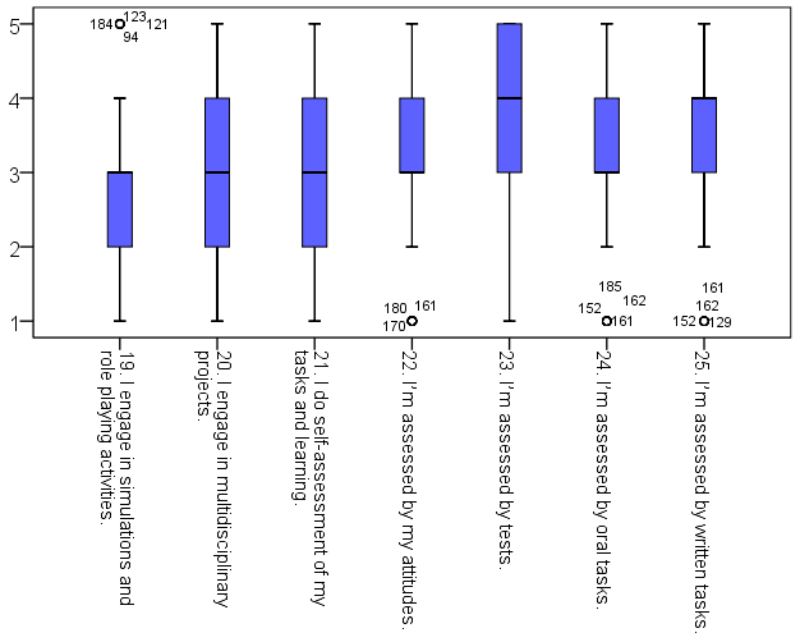

Figure 20 – Distribution of agreement degrees for items 19 to 25 of perceptions about course/classes of English (N=186) (1=Rarely; 2=Few times; 3=Sometimes; 4=Many times; 5=Almost always).

*Table 28 - Wilcoxon and Mann-Whitney tests to compare answers across sex, age and main caregiver (M = median; z = standardized test statistic; p = asymptotic significance (2-sided): *p < .05 (95%) **p < .01 (99%) ***p < .001 (99,9%)).*

	Sex				Age				Main caregiver			
	Girls (N=98)	Boys (N=86)			<16 (N=115)	≥16 (N=69)			Mother and Father (N=50)	Other (N=134)		
Item	M	M	z	p	M	M	z	p	M	M	z	p
1	3.00	3.00	-.072	.942	3.00	3.00	-.439	.661	3.00	3.00	-.618	.537
2	4.00	4.00	-.125	.901	4.00	3.00	-1.067	.286	4.00	4.00	-.832	.405
3	4.00	3.00	-.631	.528	4.00	3.00	-.824	.410	4.00	4.00	-.473	.636
4	3.00	3.00	-1.663	.096	3.00	3.00	-.418	.676	3.00	3.00	-1.301	.193
5	4.00	3.00	-1.170	.242	4.00	3.00	-1.027	.304	4.00	3.00	-1.991	.046*
6	3.00	3.00	-.210	.834	4.00	3.00	-.093	.926	4.00	3.00	-2.186	.029*
7	3.00	3.00	-.285	.775	3.00	3.00	-.294	.769	3.00	3.00	-1.831	.067
8	4.00	3.00	-1.842	.066	4.00	4.00	-.513	.608	3.00	4.00	-.400	.689
9	3.00	3.00	-.175	.861	3.00	3.00	-.239	.811	3.00	3.00	-.078	.937
10	3.00	3.00	-.827	.408	3.00	3.00	-2.135	.033*	3.00	3.00	-.298	.765
11	3.00	3.00	-1.097	.273	3.00	3.00	-1.925	.054	3.00	3.00	-.812	.417
12	3.00	3.00	-.996	.319	3.50	3.00	-1.286	.198	3.00	3.00	-.624	.532
13	3.00	3.00	-.064	.949	3.00	3.00	-.889	.374	4.00	3.00	-2.986	.003**
14	3.00	3.00	-.869	.385	3.50	3.00	-.282	.778	3.00	3.00	-.517	.605
15	3.00	3.00	-.270	.787	3.00	3.00	-1.257	.209	3.00	3.00	-1.057	.290
16	3.00	3.00	-1.830	.067	3.00	3.00	-.456	.648	3.00	3.00	-.911	.363
17	3.00	3.00	-.199	.842	3.00	3.00	-.247	.805	3.00	3.00	-.549	.583
18	3.00	3.00	-.507	.612	3.00	3.00	-.430	.667	3.00	3.00	-1.799	.072
19	3.00	3.00	-.012	.990	3.00	2.00	-.525	.599	3.00	2.00	-1.589	.112
20	3.00	3.00	-1.249	.212	3.00	3.00	-.994	.320	3.00	3.00	-1.846	.065
21	3.00	3.00	-.517	.605	3.00	3.00	-2.255	.024*	3.00	3.00	-1.403	.161
22	3.00	3.00	-.420	.675	3.00	3.00	-.557	.578	3.00	3.00	-.276	.783
23	4.00	4.00	-1.799	.072	4.00	4.00	-1.216	.224	4.00	4.00	-1.356	.175
24	3.00	3.00	-2.690	.007*	3.00	3.00	-.040	.968	3.00	3.00	-1.332	.183
25	4.00	4.00	-1.328	.184	4.00	4.00	-.293	.769	4.00	4.00	-.221	.825

*Table 29 - Wilcoxon and Mann-Whitney tests to compare answers across having older brothers and the school's territorial context (M = median; z = stand. test statistic; p = asymptotic significance (2-sided): *p < .05 (95%) **p < .01 (99%) ***p < .001 (99,9%))*

	Having older brothers/sisters				School's territorial context			
	Yes (N=95)	No (N=89)			Mid or larg urb (N=96)	Small or rural (N=89)		
Item	M	M	z	p	M	M	z	p
1	3.00	3.00	-1.138	.255	3.00	3.00	-.570	.569
2	3.00	4.00	-2.410	.016*	4.00	3.00	-1.269	.204
3	4.00	4.00	-1.826	.068	4.00	3.00	-1.037	.300
4	3.00	3.00	-1.187	.235	3.00	3.00	-.422	.673
5	3.00	4.00	-1.014	.311	3.00	4.00	-1.087	.277
6	3.00	3.50	-.543	.587	4.00	3.00	-.348	.728
7	3.00	3.00	-.423	.673	3.00	3.00	-.554	.580
8	4.00	4.00	-.691	.489	4.00	4.00	-1.331	.183
9	3.00	3.00	-.291	.771	3.00	3.00	-.074	.941
10	3.00	3.00	-1.353	.176	3.00	3.00	-1.083	.279
11	3.00	3.00	-.912	.362	3.00	3.00	-.051	.960
12	3.00	3.00	-.211	.833	3.00	3.00	-.170	.865
13	3.00	3.00	-1.211	.226	3.00	3.00	-.299	.765
14	3.00	4.00	-.682	.495	3.00	4.00	-.858	.391
15	3.00	3.00	-1.071	.284	3.00	3.00	-1.240	.215
16	3.00	3.00	-1.198	.231	3.00	3.00	-1.353	.176
17	3.00	3.00	-.757	.449	3.00	3.00	-.739	.460
18	3.00	3.00	-.893	.372	3.00	3.00	-.552	.581
19	2.00	3.00	-.696	.486	3.00	3.00	-.788	.431
20	3.00	3.00	-1.388	.165	3.00	3.00	-1.255	.210
21	3.00	3.00	-.942	.346	3.00	3.00	-.874	.382
22	3.00	3.00	-.349	.727	3.00	3.00	-.282	.778
23	4.00	4.00	-1.021	.307	4.00	4.00	-.271	.786
23	3.00	3.00	-.481	.630	3.00	3.00	-.964	.335
25	4.00	4.00	-1.409	.159	4.00	4.00	-.026	.979

*Table 30 - Wilcoxon and Mann-Whitney tests to compare answers across number of attended courses in the subject areas of Sciences or Technologies and Modern Languages an Humanities (M = median; z = standardized test statistic; p = asymptotic significance (2-sided): *p < .05 (95%) **p < .01 (99%) ***p < .001 (99,9%))*

	No. of attended courses in Sciences or Technologies				No. of attended courses in Modern Languages and Humanities			
	0 or 1 course (N=66)	2 or more (N=120)			0 or 1 course (N=90)	2 or more (N=96)		
Item	M	M	z	p	M	M	z	p
1	3.00	3.00	-2.377	.017*	3.00	3.00	-.708	.479
2	3.00	4.00	-3.092	.002**	4.00	4.00	-.390	.696
3	3.00	4.00	-2.504	.012*	4.00	3.50	-.586	.558
4	3.00	3.00	-2.536	.011*	3.00	3.00	-.382	.702
5	3.00	4.00	-.740	.459	3.50	3.50	-.399	.690
6	3.00	4.00	-.375	.708	3.00	3.50	-.430	.667
7	3.00	3.00	-.242	.809	3.00	3.00	-.045	.964
8	3.00	4.00	-2.396	.017*	3.50	4.00	-1.440	.150
9	3.00	3.00	-.198	.843	3.00	3.00	-.651	.515
10	3.00	3.00	-.670	.503	3.00	3.00	-1.419	.156
11	3.00	3.00	-.970	.332	3.00	3.00	-.789	.430
12	3.00	3.00	-.179	.858	3.00	3.00	-.654	.513
13	3.00	3.00	-2.354	.019*	3.00	3.00	-1.471	.141
14	3.00	4.00	-2.803	.005**	3.00	4.00	-.980	.327
15	3.00	3.00	-1.699	.089	3.00	3.00	-.124	.901
16	3.00	3.00	-1.442	.149	3.00	3.00	-2.281	.023*
17	3.00	3.00	-.463	.643	3.00	3.00	-.330	.742
18	3.00	3.00	-.574	.566	3.00	3.00	-.476	.634
19	3.00	3.00	-.618	.537	3.00	2.50	-1.360	.174
20	3.00	3.00	-.866	.387	3.00	3.00	-1.334	.182
21	3.00	3.00	-1.286	.198	3.00	3.00	-1.327	.185
22	3.00	3.00	-.029	.977	3.00	3.00	-.163	.871
23	3.00	4.00	-2.743	.006**	4.00	4.00	-.910	.363
24	3.00	3.00	-1.718	.086	3.00	3.00	-.133	.894
25	4.00	4.00	-2.509	.012**	4.00	4.00	-.088	.930

*Table 31 – Summary of differences between groups (non-parametric Wilcoxon and Mann-Withney tests: U = Mann-Withney; U = Wilcoxon; z = standardized test statistic; p = asymptotic significance (2-sided); p(1) = exact significance (1-sided); mr = mean rank; *p < .05 (95%) **p < .01 (99%) ***p < .001 (99,9%).*

Item	Who tends to agree more with this perception? (differences between groups)
1. I understand the connections between the contents and familiar contexts or situations.	- students with 2 or more Sciences or Technologies courses (U=2747.0; W=4577.0; z=-2.38; p=0.017*; p(1)= .009**, mr=94.11 > 76.28 for students with 0 or 1 Sciences or Technologies course)
2. I feel that I have enough knowledge to understand the contents.	- students who don't have any older brother or sister (U=3059.5; W=7154.5; z=-2.41; p=0.016*; p(1)= .008**, mr=97.01 > 79.49 for students who have older brothers or sisters) - students with 2 or more Sciences or Technologies courses (U=2587.5; W=4478.5; z=-3.09; p=0.002**; p(1)= .001**, mr=97.19 > 73.42 for students with 0 or 1 Sciences or Technologies course)
3. I understand the connections between the contents and other fields of knowledge, subjects or courses.	- students with 2 or more Sciences or Technologies courses (U=2775.0; W=4666.0; z=-2.50; p=0.012*; p(1)= .006**, mr=95.58 > 76.49 for students with 0 or 1 Sciences or Technologies course)
4. I use other spaces beside my classroom (for example; library, lab, shop, garden, or others).	- students with none or only 1 Sciences or Technologies course (U=2669.0; W=9339.0; z=-2.54; p=0.011*; p(1)= .006**, mr=101.02 > 81.21 for students with 2 or more Sciences or Technologies courses)
5. I engage in group tasks or group work.	- students with both Mother and Father as main caregivers (U=2478.0; W=10606.0; z=-1.99; p=0.046*; p(1)= .023*, mr=99.88 > 83.51 for students with Other main caregiver)
6. I'm given opportunities to clarify my doubts and explain my difficulties.	- students with both Mother and Father as main caregivers (U=2382.0; W=10257.0; z=-2.19; p=0.029*; p(1)= .014*, mr=99.88 > 82.06 for students with Other main caregiver)
8. I try to listen and analyse my classmates' ideas.	- students with 2 or more Sciences or Technologies courses (U=2683.0; W=4453.0; z=-2.40; p=0.017*; p(1)= .008**, mr=93.67 > 75.47 for students with 0 or 1 Sciences or Technologies course)
10. I address important contents for my future.	- students aged until 15 (U=2880.5; W=5091.5; z=-2.14; p=0.033*; p(1)= .016*, mr=93.08 > 77.14 for students aged 16 or more)
13. I feel motivated to learn.	- students with both Mother and Father as main caregivers (U=2241.5; W=10369.5; z=-2.99; p=0.003**; p(1)= .001**, mr=106.26 > 81.65 for students with Other main caregiver) - students with 2 or more Sciences or Technologies courses (U=2753.5; W=4523.5; z=-2.35; p=0.019*; p(1)= .009**, mr=95.17 > 76.67 for students with 0 or 1 Sciences or Technologies course)
14. I know how to study and fulfil assigned tasks to get good grades.	- students with 2 or more Sciences or Technologies courses (U=2576.0; W=4587.0; z=-2.80; p=0.005**; p(1)= .002**, mr=95.67 > 73.91 for students with 0 or 1 Sciences or Technologies course)
16. I use information and communication technologies (ICT).	- students with none or only 1 Modern Languages or Humanities course (U=3127.5; W=7405.5; z=-2.28; p=0.023*; p(1)= .011*, mr=97.27 > 80.49 for students with 2 or more Modern Languages or Humanities courses)
21. I do self-assessment of my tasks and learning.	- students aged until 15 (U=2921.5; W=5132.5; z=-2.26; p=0.024*; p(1)= .012*, mr=94.94 > 77.77 for students aged 16 or more)
23. I'm assessed by tests.	- students with 2 or more Sciences or Technologies courses (U=2684.5; W=4514.5; z=-2.74; p=0.006**; p(1)= .003**, mr=96.75 > 75.24 for students with 0 or 1 Sciences or Technologies course)
24. I'm assessed by oral tasks.	- girls (U=2907.0; W=6147.0; z=-2.69; p=0.007**; p(1)= .003**, mr= 93.01 > 83.21 for boys)
25. I'm assessed by written tasks.	- students with 2 or more Sciences or Technologies courses (U=2759.0; W=4589.0; z=-2.51; p=0.012*; p(1)= .006**, mr=96.12 > 76.48 for students with 0 or 1 Sciences or Technologies course)

5. Perceptions about the course/classes of Mathematics

Focus groups

Survey

Table 32 – Descriptive statistics to items of perceptions about the course/classes of Math (N=186; Scale of 1 to 5).

	Valid	Missing	Min.-Max.	Median	Mean	Std. Deviation
1. I understand the connections between the contents and familiar contexts or situations.	171	15	1-5	3.00	3.11	1.092
2. I feel that I have enough knowledge to understand the contents.	170	16	1-5	3.00	3.33	1.059
3. I understand the connections between the contents and other fields of knowledge, subjects or courses.	171	15	1-5	3.00	3.24	1.015
4. I use other spaces beside my classroom (for example; library, lab, shop, garden, or others).	171	15	1-5	3.00	2.61	1.189
5. I engage in group tasks or group work.	173	13	1-5	3.00	2.88	1.238
6. I'm given opportunities to clarify my doubts and explain my difficulties.	173	13	1-5	3.00	3.28	1.065
7. I have opportunities to present my ideas and explanations.	170	16	1-5	3.00	3.03	1.074
8. I try to listen and analyse my classmates' ideas.	169	17	1-5	3.00	3.24	1.003
9. There are moments to talk about other issues besides the ones prescribed in the courses specifications.	172	14	1-5	3.00	2.89	1.142
10. I address important contents for my future.	171	15	1-5	3.00	2.95	1.105
11. What I learn is important to my personal and professional life.	170	16	1-5	3.00	3.01	1.174
12. I easily understand what my difficulties are and ask for help.	169	17	1-5	3.00	3.21	1.001
13. I feel motivated to learn.	170	16	1-5	3.00	3.17	1.264
14. I know how to study and fulfil assigned tasks to get good grades.	170	16	1-5	3.00	3.38	1.104
15. I engage in research and problem solving activities.	172	14	1-5	3.00	3.32	1.058
16. I use information and communication technologies (ICT).	172	14	1-5	3.00	2.72	1.191
17. I engage in practical or inquiry activities.	170	16	1-5	3.00	2.86	1.247
18. I engage in debates or discussions of ideas.	166	20	1-5	3.00	2.77	1.194
19. I engage in simulations and role playing activities.	170	16	1-5	2.00	2.39	1.260
20. I engage in multidisciplinary projects.	167	19	1-5	3.00	2.70	1.210
21. I do self-assessment of my tasks and learning.	172	14	1-5	3.00	2.96	1.182
22. I'm assessed by my attitudes.	172	14	1-5	3.00	2.94	1.213
23. I'm assessed by tests.	171	15	1-5	4.00	3.85	1.029
24. I'm assessed by oral tasks.	170	16	1-5	3.00	2.59	1.321
25. I'm assessed by written tasks.	172	14	1-5	3.00	3.24	1.372

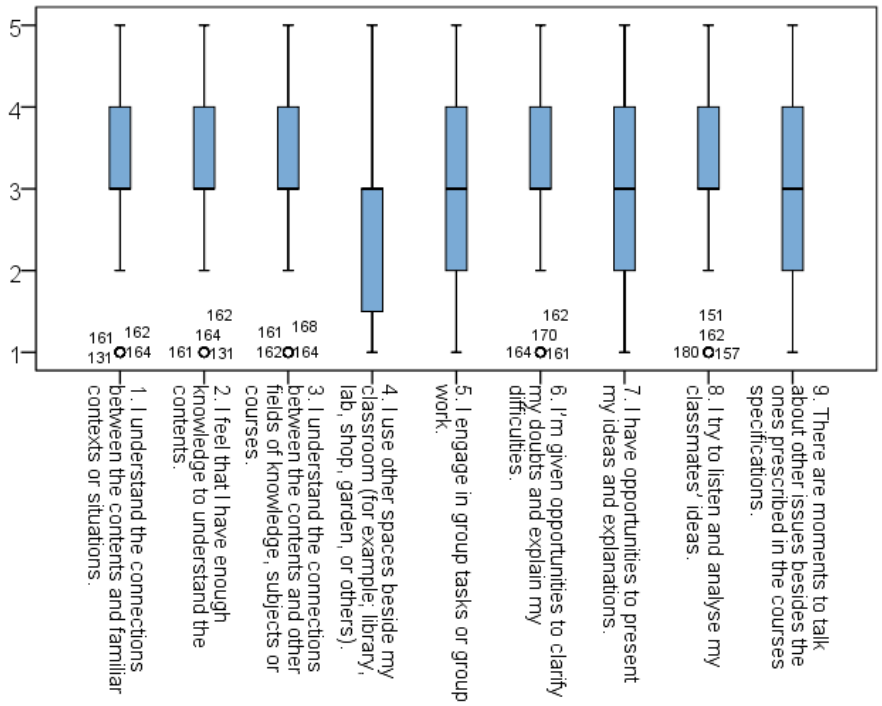

Figure 21 – Distribution of agreement degrees for items 1 to 9 of perceptions about course/classes of Math (N=186) (1=Rarely; 2=Few times; 3=Sometimes; 4=Many times; 5=Almost always).

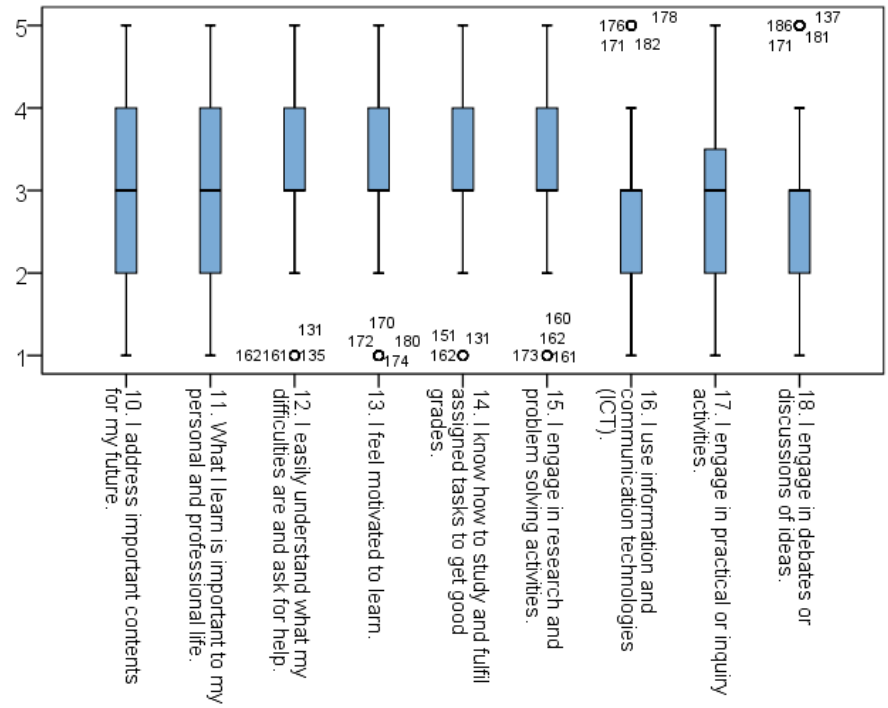

Figure 22 – Distribution of agreement degrees for items 10 to 18 of perceptions about course/classes of Math (N=186) (1=Rarely; 2=Few times; 3=Sometimes; 4=Many times; 5=Almost always).

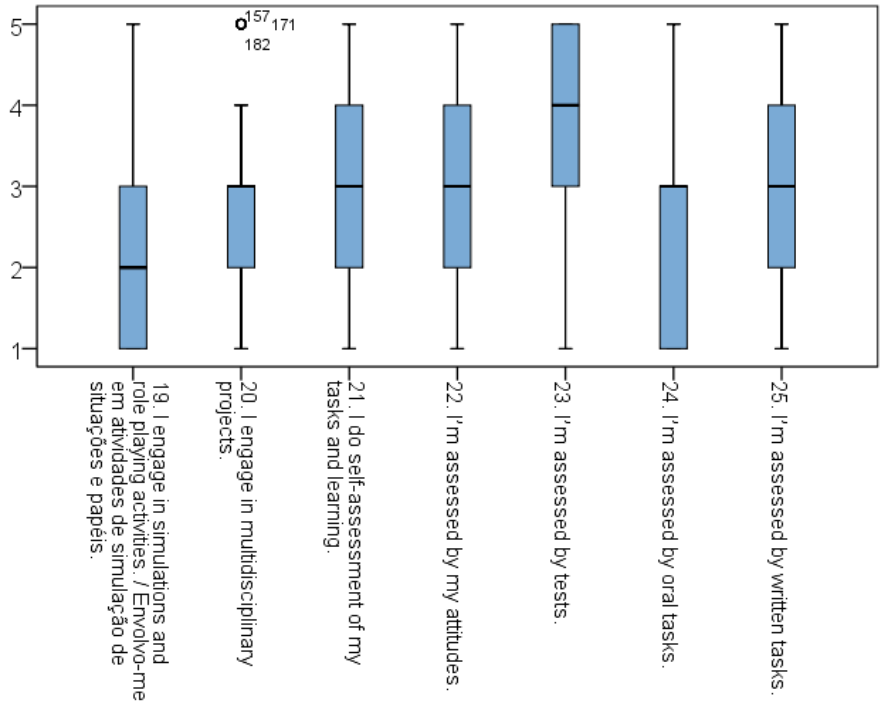

Figure 23 – Distribution of agreement degrees for items 19 to 25 of perceptions about course/classes of Math (N=186) (1=Rarely; 2=Few times; 3=Sometimes; 4=Many times; 5=Almost always).

*Table 33 - Wilcoxon and Mann-Whitney tests to compare answers across sex, age and main caregiver (M = median; z = standardized test statistic; p = asymptotic significance (2-sided): *p < .05 (95%) **p < .01 (99%) ***p < .001 (99,9%))*

	Sex				Age				Main caregiver			
	Girls (N=98)	Boys (N=86)			<16 (N=115)	≥16 (N=69)			Mother and Father (N=50)	Other (N=134)		
Item	M	M	z	p	M	M	z	p	M	M	z	p
1	3.00	3.00	-.526	.599	3.00	3.00	-.888	.375	3.00	3.00	-1.486	.137
2	3.00	3.00	-1.230	.219	4.00	3.00	-.683	.494	4.00	3.00	-2.048	.041*
3	3.00	3.00	-.114	.909	3.00	3.00	-.966	.334	3.00	3.00	-1.744	.081
4	3.00	3.00	-.941	.347	3.00	3.00	-.938	.348	3.00	3.00	-.734	.463
5	3.00	3.00	-.710	.478	3.00	3.00	-1.187	.235	3.00	3.00	-1.791	.073
6	3.00	3.00	-.797	.425	3.00	3.00	-.229	.819	3.50	3.00	-2.150	.032*
7	3.00	3.00	-.507	.612	3.00	3.00	-.677	.498	3.00	3.00	-1.216	.224
8	3.00	3.00	-.670	.503	3.00	3.00	-.209	.834	3.00	3.00	-.108	.914
9	3.00	3.00	-1.537	.124	3.00	3.00	-.748	.455	3.00	3.00	-.839	.402
10	3.00	3.00	-1.240	.215	3.00	3.00	-1.835	.067	3.00	3.00	-1.118	.264
11	3.00	3.00	-1.140	.254	3.00	3.00	-.255	.799	3.00	3.00	-.033	.974
12	3.50	3.00	-1.582	.114	3.00	3.00	-.992	.321	3.00	3.00	-.968	.333
13	3.00	3.00	-.195	.845	3.00	3.00	-.332	.740	4.00	3.00	-2.320	.020*
14	4.00	3.00	-.854	.393	3.00	3.00	-.019	.985	4.00	3.00	-.564	.573
15	3.00	3.00	-.952	.341	3.00	3.00	-.873	.383	3.00	3.00	-1.303	.193
16	3.00	3.00	-.954	.340	3.00	3.00	-.932	.352	3.00	3.00	-.376	.707
17	3.00	3.00	-.494	.622	3.00	3.00	-.972	.331	3.00	3.00	-.973	.330
18	3.00	3.00	-.443	.658	3.00	3.00	-1.628	.103	3.00	3.00	-.879	.379
19	2.00	2.50	-.748	.454	3.00	2.00	-1.672	.094	3.00	2.00	-.480	.631
20	3.00	3.00	-.583	.560	3.00	3.00	-.193	.847	3.00	3.00	-.420	.675
21	3.00	3.00	-.046	.963	3.00	3.00	-.500	.617	3.00	3.00	-1.796	.073
22	3.00	3.00	-1.610	.107	3.00	3.00	-.516	.606	3.00	3.00	-1.219	.223
23	4.00	3.00	-1.548	.122	4.00	3.50	-1.293	.196	4.00	4.00	-2.086	.037*
24	3.00	3.00	-1.296	.195	3.00	3.00	-.336	.737	3.00	3.00	-.489	.625
25	3.00	3.00	-.542	.588	3.00	3.00	-1.721	.085	3.00	3.00	-.219	.827

*Table 34 - Wilcoxon and Mann-Whitney tests to compare answers across having older brothers and the school's territorial context (M = median; z = stand. test statistic; p = asymptotic significance (2-sided): *p < .05 (95%) **p < .01 (99%) ***p < .001 (99,9%)).*

	Having older brothers/sisters				School's territorial context			
	Yes (N=95)	No (N=89)			Mid or larg urb (N=96)	Small or rural (N=89)		
Item	M	M	z	p	M	M	z	p
1	3.00	3.00	-.581	.561	3.00	3.00	-.427	.669
2	3.00	4.00	-.843	.399	3.00	3.00	-.077	.939
3	3.00	3.00	-1.594	.111	3.00	3.00	-.655	.512
4	3.00	3.00	-.920	.358	3.00	3.00	-1.304	.192
5	3.00	3.00	-.307	.759	3.00	3.00	-.804	.421
6	3.00	3.00	-.510	.610	3.00	3.00	-.075	.940
7	3.00	3.00	-.253	.800	3.00	3.00	-.295	.768
8	3.00	3.00	-.601	.548	3.00	3.00	-.355	.723
9	3.00	3.00	-.056	.956	3.00	3.00	-1.062	.288
10	3.00	3.00	-.818	.413	3.00	3.00	-.328	.743
11	3.00	3.00	-.130	.896	3.00	3.00	-.424	.671
12	3.00	3.00	-.225	.822	3.00	3.00	-1.291	.197
13	3.00	3.00	-.263	.792	3.00	3.00	-.549	.583
14	3.00	4.00	-1.771	.077	3.00	3.00	-.615	.539
15	3.00	3.00	-.302	.763	3.00	3.00	-1.300	.193
16	3.00	3.00	-.455	.649	3.00	3.00	-2.017	.044*
17	3.00	3.00	-.485	.628	3.00	3.00	-.304	.761
18	3.00	3.00	-.646	.519	3.00	3.00	-.183	.855
19	3.00	2.00	-.427	.670	2.00	3.00	-.583	.560
20	3.00	3.00	-.781	.435	3.00	3.00	-.003	.997
21	3.00	3.00	-.109	.913	3.00	3.00	-.787	.431
22	3.00	3.00	-.737	.461	3.00	3.00	-.362	.717
23	4.00	4.00	-.348	.728	4.00	4.00	-1.252	.211
23	3.00	3.00	-.557	.578	3.00	3.00	-1.079	.281
25	3.00	3.00	-.783	.434	3.00	3.50	-1.868	.062

*Table 35 - Wilcoxon and Mann-Whitney tests to compare answers across number of attended courses in the subject areas of Sciences or Technologies and Modern Languages an Humanities (M = median; z = standardized test statistic; p = asymptotic significance (2-sided): *p < .05 (95%) **p < .01 (99%) ***p < .001 (99,9%))*

	No. of attended courses in Sciences or Technologies				No. of attended courses in Modern Languages and Humanities			
	0 or 1 course (N=66)	2 or more (N=120)			0 or 1 course (N=90)	2 or more (N=96)		
Item	M	M	z	p	M	M	z	p
1	3.00	3.00	-2.687	.007**	3.00	3.00	-.868	.385
2	3.00	4.00	-3.982	.000***	3.00	3.00	-.498	.619
3	3.00	3.00	-3.130	.002**	3.00	3.00	-.234	.815
4	3.00	3.00	-1.392	.164	3.00	3.00	-1.564	.118
5	3.00	3.00	-.716	.474	3.00	3.00	-.978	.328
6	3.00	3.00	-2.052	.040*	3.00	3.00	-.982	.326
7	3.00	3.00	-1.340	.180	3.00	3.00	-.267	.790
8	3.00	3.00	-2.818	.005**	3.00	3.00	-.974	.330
9	3.00	3.00	-.771	.441	3.00	3.00	-.805	.421
10	3.00	3.00	-2.053	.040*	3.00	3.00	-.630	.528
11	3.00	3.00	-2.435	.015*	3.00	3.00	-.551	.581
12	3.00	3.00	-1.578	.114	3.00	3.00	-.300	.764
13	3.00	3.00	-1.431	.152	3.00	3.00	-.704	.482
14	3.00	4.00	-3.228	.001**	3.00	4.00	-.599	.549
15	3.00	3.00	-.991	.322	3.00	3.00	-.396	.692
16	3.00	3.00	-.691	.490	3.00	3.00	-1.442	.149
17	3.00	3.00	-.187	.852	3.00	3.00	-1.208	.227
18	3.00	3.00	-.935	.350	3.00	3.00	-1.491	.136
19	3.00	2.00	-1.140	.254	3.00	2.00	-1.210	.226
20	3.00	3.00	-.514	.607	3.00	3.00	-.828	.407
21	3.00	3.00	-.709	.478	3.00	3.00	-1.807	.071
22	3.00	3.00	-.517	.605	3.00	3.00	-1.065	.287
23	3.00	4.00	-2.725	.006**	3.00	4.00	-1.861	.063
24	3.00	3.00	-1.335	.182	3.00	2.00	-1.975	.048*
25	3.00	3.00	-.240	.810	3.00	3.00	-1.430	.153

*Table 36 – Summary of differences between groups (non-parametric Wilcoxon and Mann-Withney tests: U = Mann-Withney; U = Wilcoxon; z = standardized test statistic; p = asymptotic significance (2-sided); p(1) = exact significance (1-sided); mr = mean rank; *p < .05 (95%) **p < .01 (99%) ***p < .001 (99,9%).*

Item	Who tends to agree more with this perception? (differences between groups)
1. I understand the connections between the contents and familiar contexts or situations.	- students with 2 or more Sciences or Technologies courses (U=2498.0; W=4209.0; z=-2.69; p=0.007**; p(1)= .003**, mr=92.89 > 72.57 for students with none or 1 Sciences or Technologies course)
2. I feel that I have enough knowledge to understand the contents.	- students with both Mother and Father as main caregivers (U=2272.0; W=9898.0; z=-2.05; p=0.041*; p(1)= .020*, mr=97.11 > 80.47 for students with Other main caregiver) - students with 2 or more Sciences or Technologies courses (U=2106.0; W=3876.0; z=-3.98; p=0.000***; p(1)= .000***, mr=96.03 > 65.69 for students with none or 1 Sciences or Technologies course)
3. I understand the connections between the contents and other fields of knowledge, subjects or courses.	- students with 2 or more Sciences or Technologies courses (U=2398.5; W=4168.5; z=-3.13; p=0.002*; p(1)= .001*, mr=94.08 > 70.65 for students with none or 1 Sciences or Technologies course)
6. I'm given opportunities to clarify my doubts and explain my difficulties.	- students with both Mother and Father as main caregivers (U=2338.5; W=10213.5; z=-2.15; p=0.032*; p(1)= .016*, mr=99.24 > 81.71 for students with Other main caregiver) - students with 2 or more Sciences or Technologies courses (U=2749.5; W=4519.5; z=-2.05; p=0.040*; p(1)= .020*, mr=92.38 > 76.60 for students with none or 1 Sciences or Technologies course)
8. I try to listen and analyse my classmates' ideas.	- students with 2 or more Sciences or Technologies courses (U=2387.0; W=4040.0; z=-2.82; p=0.005**; p(1)= .002**, mr=92.19 > 70.88 for students with none or 1 Sciences or Technologies course)
10. I address important contents for my future.	- students with 2 or more Sciences or Technologies courses (U=2676.0; W=4387.0; z=-2.05; p=0.040*; p(1)= .020*, mr=91.32 > 75.64 for students with none or 1 Sciences or Technologies course)
11. What I learn is important to my personal and professional life.	- students with 2 or more Sciences or Technologies courses (U=2541.0; W=4252.0; z=-2.44; p=0.015**; p(1)= .007**, mr=91.81 > 73.31 for students with none or 1 Sciences or Technologies course)
13. I feel motivated to learn.	- students with both Mother and Father as main caregivers (U=2195.5; W=9821.5; z=-2.32; p=0.020*; p(1)= .010*, mr=98.77 > 79.85 for students with Other main caregiver)
14. I know how to study and fulfil assigned tasks to get good grades.	- students with 2 or more Sciences or Technologies courses (U=2327.0; W=4097.0; z=-3.23; p=0.001**; p(1)= .001**, mr=94.04 > 69.44 for students with none or 1 Sciences or Technologies course)
16. I use information and communication technologies (ICT).	- students in schools in small towns or rural areas (U=2195.5; W=9821.5; z=-2.32; p=0.020*; p(1)= .010*, mr=98.77 > 79.85 for students with Other main caregiver)
23. I'm assessed by tests.	- students with both Mother and Father as main caregivers (U=3008.0; W=7286.0; z=-2.02; p=0.044*; p(1)= .022*, mr=93.92 > 79.20 for students in schools in medium or large urban territories) - students with 2 or more Sciences or Technologies courses (U=2460.0; W=4113.0; z=-2.73; p=0.006**; p(1)= .003*, mr=92.92 > 72.16 for students with none or 1 Sciences or Technologies course)
24. I'm assessed by oral tasks.	- students with none or 1 Modern Languages or Humanities course (U=2989.0; W=7084.0; z=-1.98; p=0.048*; p(1)= .025*, mr=93.14 > 78.71 for students with 2 or more Modern Languages or Humanities courses)

Contacts

Ana Cristina Torres
Post-doctoral researcher
Centro de Investigação e Intervenção Educativas
Faculdade de Psicologia e de Ciências da Educação da Universidade do Porto
[Centre for Research and Intervention in Education
Faculty of Psychology and Education Sciences of the University of Porto]
Address:
Rua Alfredo Allen, 4200–135 Porto, PORTUGAL
Contacts:
acctorres@fpce.up.pt | (+351) 22 040 06 34 (291)

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