
Luxembourg's Fundamental School Teacher Training Programme: A Decade of Admissions at the BScE (Integral Version)

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Luxembourg's Fundamental School Teacher Training Programme: A Decade of Admissions at the BScE

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OBJECTIVE: the primary goal of this report is to introduce the research strand associated with the pre-service fundamental school teacher training programme at the University of Luxembourg. Below we provide a brief history of the *Bachelor en Sciences de l'Éducation* (BScE) programme; outline the evolution of the admission process over the last 10 years; briefly profile pre-service candidates relative to admissions into the programme; and finally provide a closer look at those admitted into the BScE programme over the past decade. In section 1, the substantive results focus on all candidates over this time period, and then only the admitted candidates in section 2.

CONTEXT: a recent report by the UNESCO Institute for Statistics (2016) sought to estimate the demand, or number of teachers needed, around the world to reach the UN's Sustainable Development Goal 4, which aims to support inclusive and equitable quality education and promote lifelong learning opportunities globally. To reach the goal, it is estimated that 24.4 million fundamental school teachers and another 44.4 million secondary school teachers are required to provide every child in the world access to education. This phenomenon of widespread teacher shortages around the world has led researchers to further investigate what motivates candidates to become teachers and what motivates them to remain in the job (see for example Watt et al., 2012). Likewise for Luxembourg: this is an important issue, which we seek to address with our research.

BRIEF HISTORY OF THE PROGRAMME & ADMISSIONS PROCESS: while teacher education has existed in Luxembourg for a much longer time, admission testing, which is the focus of this report has only existed since about 1996. Before then, selection into the teacher training programme for education at the fundamental school level was based on school grades; starting in 1996, however, a competitive exam was introduced. Prior to 2003, before the founding of the University of Luxembourg, the teaching program was administered by the Institute for Higher Studies and Research in Teaching (*Institut Supérieur d'Études et de Recherches Pédagogiques (ISERP)*).

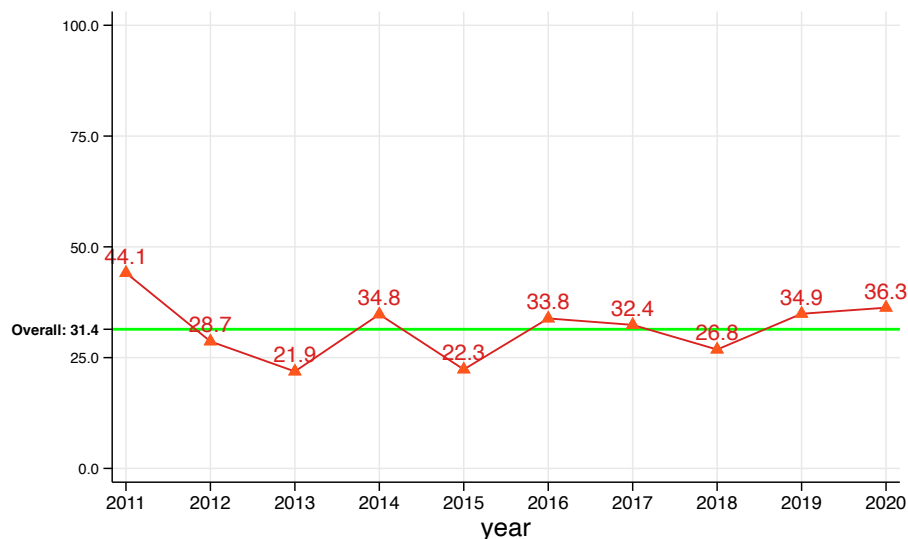
The current training programme is designed to teach and enhance pedagogical skills, and thus the admissions process described herein is responsible for assessing and detecting sufficient knowledge in these domains prior to the pedagogical training. Its format, up until 2019 (pre-COVID-19), emphasized text reading comprehension as well as grammatical knowledge (in French, German,

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Luxembourgish, and English) and content knowledge in mathematics and science. This format has been in place since 2011 and coincides with the data, and time-period, we report in this brief report.¹ Before 2011, and for varying lengths of time, the admissions process included measures of text production in the languages mentioned above and measures of formal linguistic knowledge such as grammar and syntax. In 2020, due to COVID-19, the process changed to include school grades, a motivation letter, and an online questionnaire regarding the candidate’s motivations for becoming a teacher (Watt and Richardson, 2007).

THE IDEAL CANDIDATE: in Luxembourg’s multilingual school system, which serves a highly diverse student population, can best be described as a “Generalist”. He/she has the cognitive and social wherewithal to become an effective teacher upon the successful completion of the BScE study programme. Consequently, the admissions process aims to identify and select qualified candidates for training into the teaching profession at the fundamental school level (pre-school and primary school levels), including the preparation track in general secondary school and special needs education. The programme requires that candidates have a Luxembourg certificate qualifying them for university entry, or an equivalent international “bacculaureate”. Prior to the exam, the candidate is invited to respond to a host of noncognitive scales and socio-demographic indicators as part of the registration process.² Graduates receive a Bachelor in Educational Sciences.

Figure 1: Percent Chance of Being Admitted by Year



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 Source: Bachelor en Sciences de l'Éducation (N = 2,761)

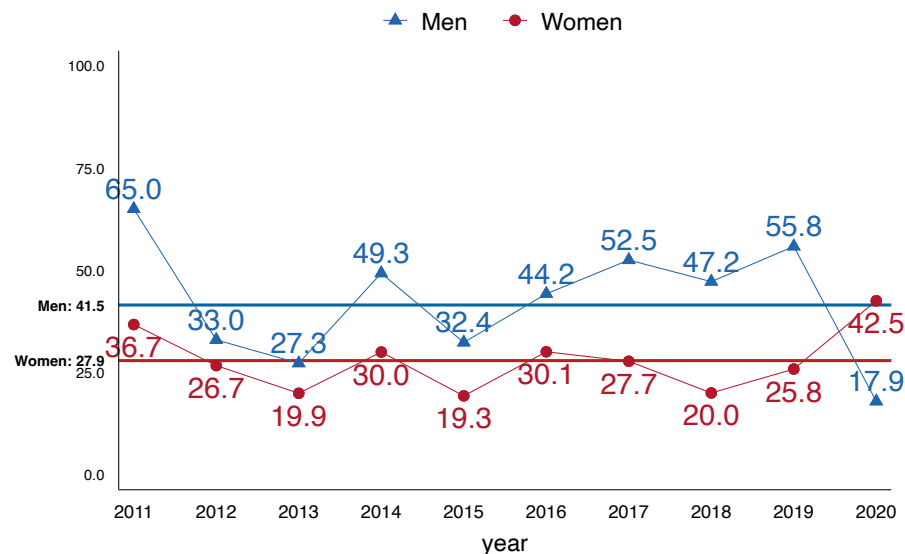
¹The competitive exam typically took place from 8:00 to 18:00 on the first Tuesday in July. Competency is demonstrated by correctly responding to a majority of medium-difficulty level items, per section of exam.

²This information is not used for admission decision purposes; however, it is an important part of the programme’s quality assurance process.

DATA & DESCRIPTIVE STATISTICS: are presented in table 1 and figs. 1 to 13. The data show and describe all candidates³ that submitted required documents and participated in the admission exam.⁴ Over the last 10 years, the BScE programme has considered and assessed a total of 2,761 candidates for admission, approximately 276 per year. From these, as shown in fig. 1, approximately 31.4% have qualified for admission each year.

1 ALL CANDIDATES

Figure 2: Percent Chance of Being Admitted by Gender



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Source: Bachelor en Sciences de l'Éducation (N = 2,761)

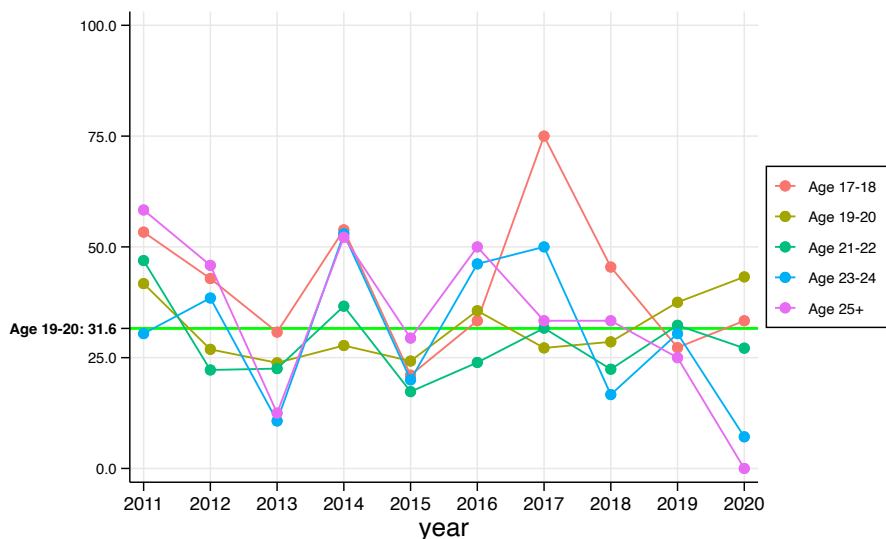
ADMISSION BY GENDER: in fig. 2 we find the relative chances of being admitted by gender over the past 10 years. In table 1 below, we see that on average women makeup almost 75% of the candidates per year (2043/2761), yet in fig. 2 we see that men have had a much higher chance of being admitted than women (41.5% vs. 27.9%, respectively). This is likely due to a combination of differences in self-selection and variability in preparedness among the candidates. That is to say, teaching as a profession, especially at the fundamental school level has been traditionally occupied mostly by women. In Luxembourg, for example, a full 80% of the fundamental school teachers are women as of September 2020 (Ministère de l'Éducation nationale, de l'Enfance de la jeunesse, 2020). Thus, the self-selectivity among women into the profession is much higher because it is understood as a "woman's profession" and consequently a wider cross-section of women, in terms of preparedness, participate in the exam. Among men, however, the self-selectivity is much more constrained as evidenced by the lower number of male candidates, and thus only men who are particularly interested and prepared for the profession participate in the admissions process.

³For comparability purposes across the 10 years, we exclude Track 2 candidates (*formation en cours d'emploi*) starting in 2016.

⁴In 2020, there was no exam, thus this value pertains to candidates who submitted application materials, not only exam participants.

Interestingly, fig. 2 also shows that unlike previous years, the 2020 admission process appears to have favoured women over men (43% vs. 18%, respectively). We hypothesize the difference is primarily due to differences in expressed motivations in becoming a teacher, which was the main difference between the 2020 and pre-2020 approach.

Figure 3: Percent Chance of Being Admitted by Age Groups



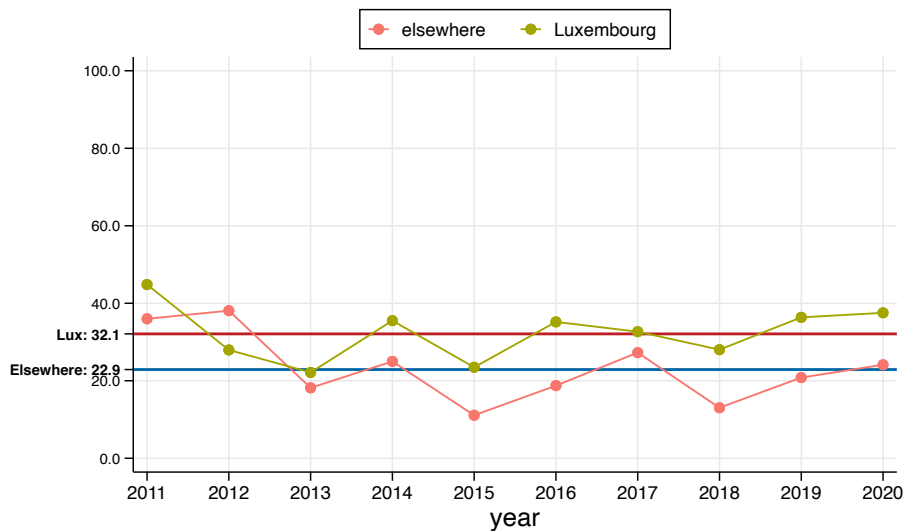
Education Report 2021 / Bildungsbericht 2021
 Source: Bachelor en Sciences de l'Éducation (N = 2,761)

ADMISSION BY AGE: in fig. 3 we find that with a few exceptions, namely in 2020, the older group (Age 25+) appears to have had higher chances of being admitted than the younger groups. Although it is also the smallest of the age groups (only 137 candidates in this age range have participated in the exam, see table 1); suggesting perhaps, a special motivation and willingness to succeed among these candidates. The youngest age group (Age 17-18) also appears to have had higher than average chances of admission; however, for this group their relative youth at exam time suggests good familiarity with the topics assessed by the exam.

ADMISSIONS BY PLACE OF BIRTH: with the exception of 2012, fig. 4 shows a clear disadvantage among candidates not born in Luxembourg. In general, the chances for candidates born in Luxembourg have been on average 32%, while for those born elsewhere about 10 percentage points lower (23%). To be clear, the figure indicates that candidates born in Luxembourg had approximately the same chances of admissions as the overall average (31% vs. 32%), while those born elsewhere had lower chances on average. Evidently, the non-Luxembourg candidates in 2012 were particularly well prepared and/or especially motivated.

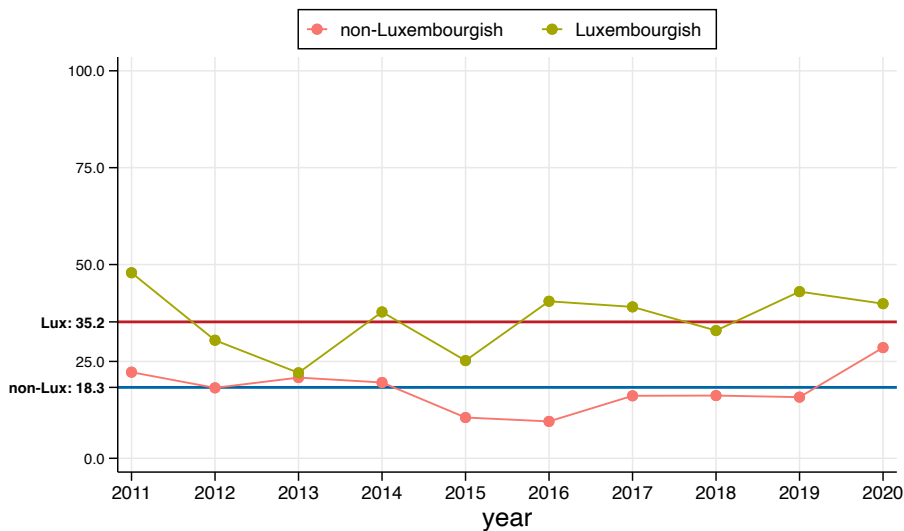
ADMISSION BY MOTHER TONGUE: in fig. 5 we find a similar pattern to that of Place of Birth. On average, candidates whose mother tongue was Luxembourgish had a slightly higher chance of admission (35%), while on average only 2 out of 10 (18%) candidates whose mother tongue was non-Luxembourgish were admitted.

Figure 4: Percent Chance of Being Admitted by Place of Birth



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 Source: Bachelor en Sciences de l'Éducation (N = 2,761)

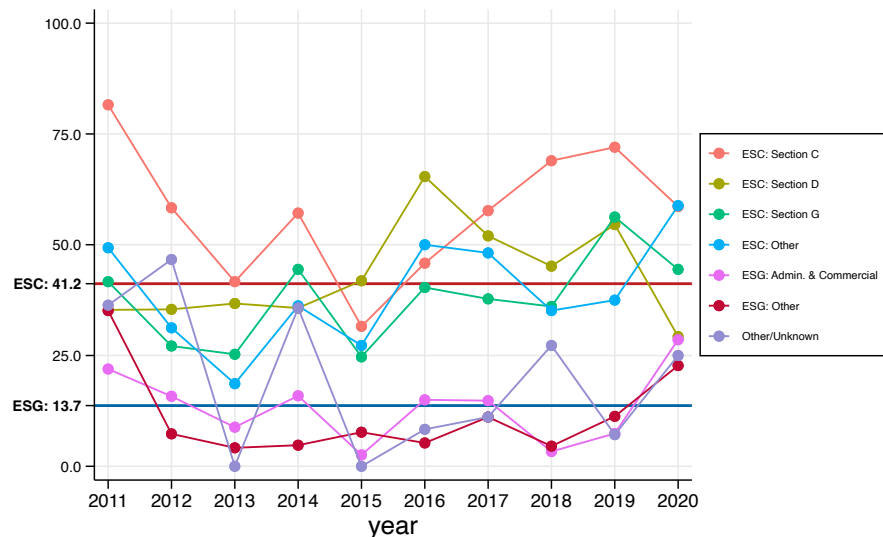
Figure 5: Percent Chance of Being Admitted by Mother Tongue



Education Report 2021 / Bildungsbericht 2021
 Source: Bachelor en Sciences de l'Éducation (N = 2,761)

ADMISSION BY ACADEMIC SECTION: varies quite a bit, as shown in fig. 6. The graph depicts the chances of admission only for those sections that have been heavily represented by candidates in the admissions exam. (For a more complete list, please see table 1 below.) Consequently, the graph focuses only on 3 of the *Enseignement Secondaire Classique* (ESC) sections (C, D, and G) and combines the other sections into "ESC:Other"; it also presents the admission rates for the *Enseignement Secondaire Général* (ESG) section (Administrative & Commercial) and combines the other into "ESG:Other"; finally it also displays rates for the category "Other/Unknown", a group of candidates whose section was either not specified or from an education system outside of Luxembourg. In general, we find that candidates from ESC sections were admitted approximately 4

Figure 6: Percent Chance of Being Admitted by Academic Section

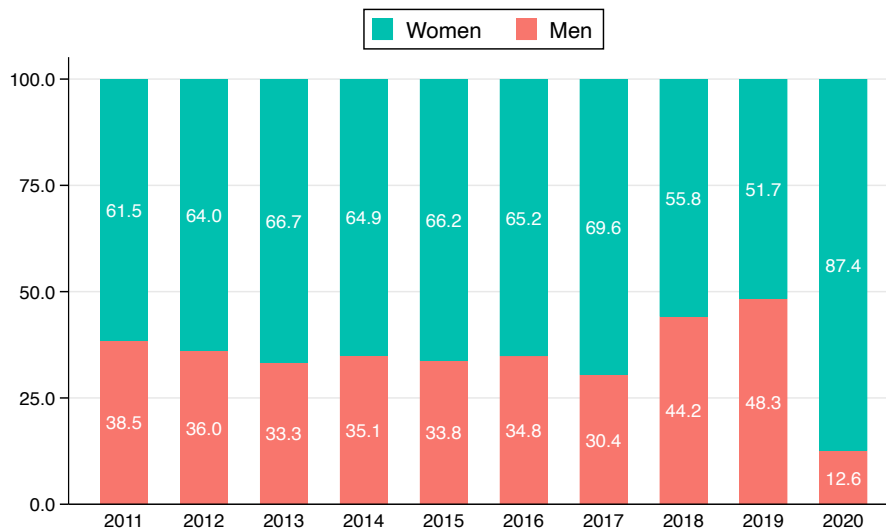


Education Report 2021 / Bildungsbericht 2021
 Source: Bachelor en Sciences de l'Éducation (N = 2,761)

out of 10 times (41%), while approximately only 1 out of 10 candidates were admitted from ESG sections (13%). Clearly the chances of admission were higher and lower than the overall average of 31%, respectively.

2 ADMITTED CANDIDATES

Figure 7: Gender of Admitted Candidates by Year

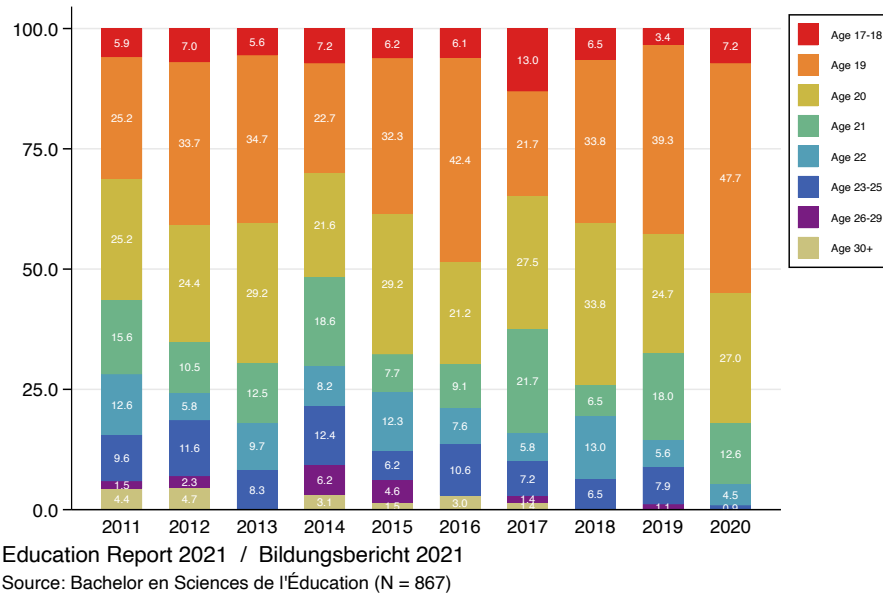


Education Report 2021 / Bildungsbericht 2021
 Source: Bachelor en Sciences de l'Éducation (N = 867)

In this section, we focus only on those candidates that were admitted. Thus, in the figures below, we profile the 867 candidates admitted into the programme since 2011.

Figure 7 shows that over the last decade of admissions at the BScE, nearly 2 out of 3 candidates admitted have been women. The gender balance had been improving toward 50/50 until 2019. In 2020, however, nearly 9 out of 10 candidates admitted were women.

Figure 8: Age Groups of Admitted Candidates by Year



In fig. 8, we see that most of the admitted were primarily 19 or 20 years of age. In most years, less than 20% or 2 out of 10 are age 23+. Very few candidates aged 30+ have been admitted in the last 10 years.

Figure 9: Academic Track of Admitted Candidates by Year

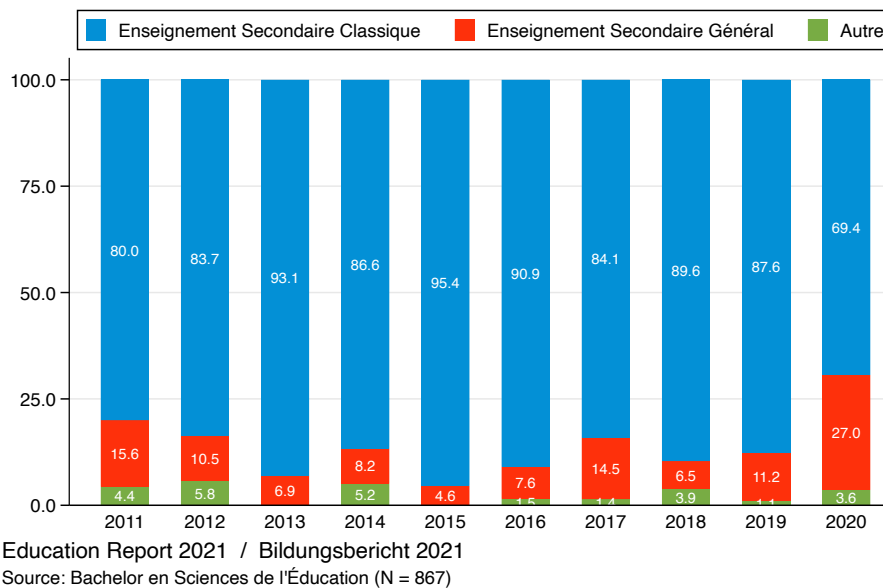
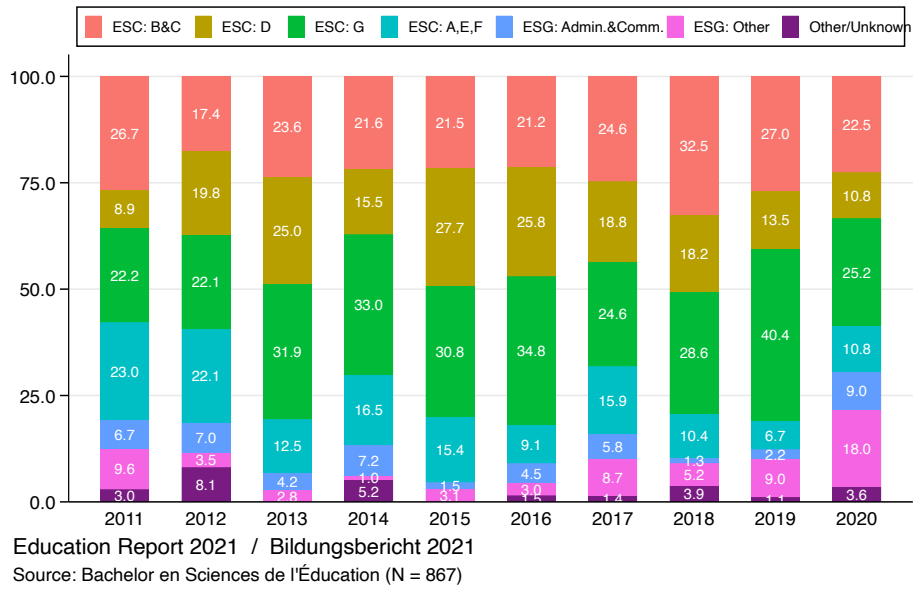


Figure 9 shows that the vast majority (nearly 9 out of 10) of those admitted came from the ESC track, and approximately only 1 out of 10 came from the ESG. In 2020, however, nearly 3 out of

10 of the admitted were *Secondaire Général* students. Over the years, very few of those admitted have come from outside of these two traditional tracks.

Figure 10: Academic Sections of Admitted Candidates by Year



In fig. 10, we see more specifically from which academic sections of the ESC and ESG tracks the admitted students have come. The largest contributor from *Classique* has been Section G (the Humanities and Social Sciences section), followed by Section D (economic sciences - mathematics) and Sections B & C combined (mathematics-information technology & natural sciences – mathematics, respectively). From *Secondaire Général*, the largest contributing section has been the Administration and Commercial section.

Figure 11: Place of Birth of Admitted Candidates by Year

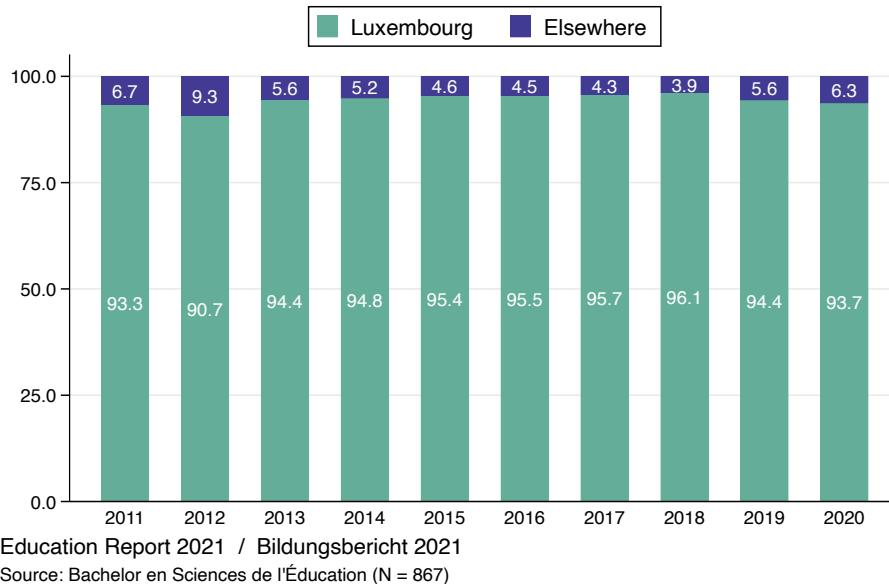
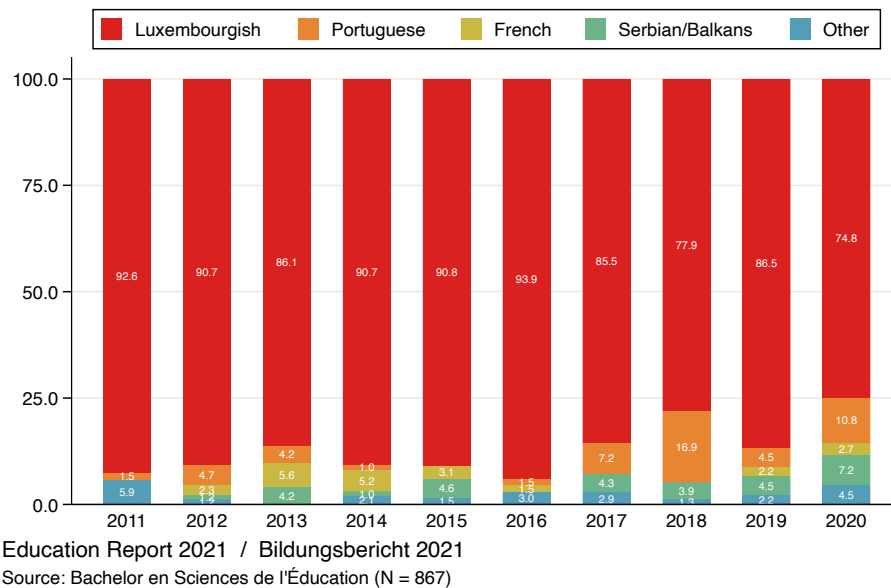
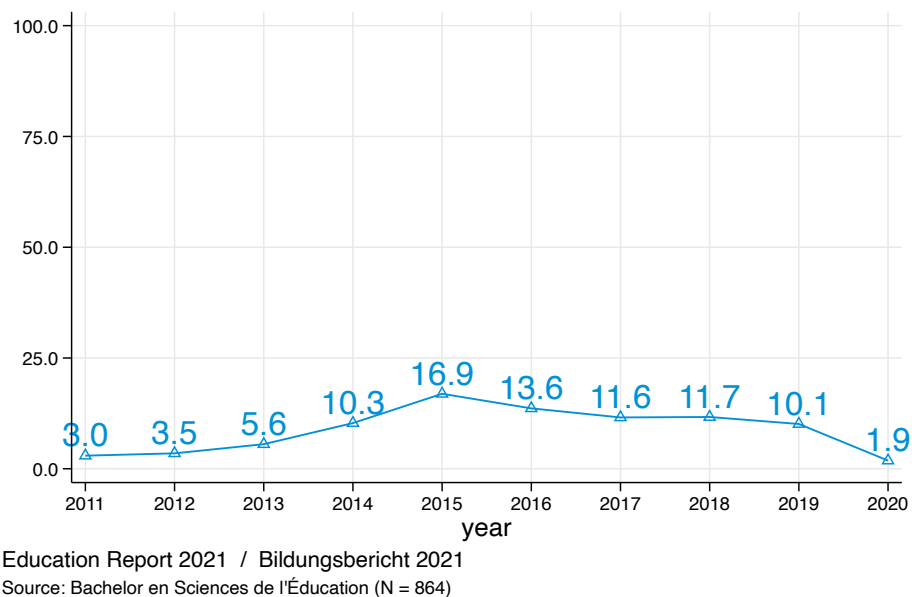


Figure 12: Mother Tongue Language of Admitted Candidates by Year



While in fig. 11 we see a steady trend of Luxembourg-born students – about 9 out of 10 of the admitted students were born in Luxembourg – in fig. 12 we find an increasing diversification in the Mother Tongue language among those admitted. Luxembourgish describes a bit more than 7 out of 10 students, while students whose mother tongue is Portuguese appears to be increasing as is the number of students with a Serbian/Balkan language background.

Figure 13: Percent Dropouts by Year



Lastly, Figure 13 displays the percentage of dropouts per academic year. For each year, it demonstrates the overall percentage of students that withdrew that academic year. To be clear, dropouts can be from any preceding academic year, including itself. Overall, the programme experienced

many dropouts in 2015, coinciding with its move from Campus Walferdange to Campus Belval in Esch-sur-Alzette and the announcement of a 3-year teaching internship requirement for all teaching candidates by the Ministry of Education (2015). Thereafter, except for 2020, about 1 out of 10 students admitted withdrew from the programme before graduation. Perhaps, due to the COVID confinement, students found fewer opportunities outside of the BScE programme to lure them away as in previous years. Or alternatively, perhaps the confinement period reaffirmed the importance of teaching at the fundamental school level among BScE students and thus they continue to persist.⁵

FINAL REMARKS & PROSPECTS: in 2019, Luxembourg wanted to hire 320 new fundamental school teachers; however, only 66 graduates of the University of Luxembourg took the state exam that year.⁶ Luxembourg currently needs between 300 and 400 new fundamental school teachers per year to keep up with demographic shifts. Consequently, a major challenge for the BScE is to drastically augment the number of graduates while maintaining quality assurance.

A possible strategy to attract more candidates could be to relax admission criteria; however, this could potentially lower the quality of the programme. Alternatively, we could devise a "Generalist-minus" path, which would provide more flexibility in the selection process. Currently, fundamental school teachers are expected to teach all subjects, plus the three languages: Luxembourgish, German and French. The "Generalist-minus" path, could for example, require candidates to master all current requirements, minus one; and thus, would be expected to teach only those subjects in the future, while a differently qualified colleague would be responsible for the other content.

Multiple scenarios are possible and can be considered. Regardless of the path we take, however, we must remain mindful of the downstream effects on our schools and pupils – our most important stakeholders. To be clear, the University would like to train more teachers, but currently we face two limiting factors: (1) we lack an overabundance of candidates that fulfil all current admission requirements, and (2) staff resources are limited and have been severely diminished over the last decade. Nevertheless, at current levels we are able to train 100 students per cohort; and for that past 4 years we have admitted 110 students to help offset possible dropouts and to maximise the number of potential graduates. We look forward to working with the Ministry to improve the recruitment of both candidates and staff to meet the needs of the increasingly diverse and dynamic Luxembourgish population.

⁵Note: while 867 candidates have been admitted over the last 10 years; three of these admissions have been of candidates who were admitted but not enrolled, thus the total potential number of dropouts is lower (N = 864) in fig. 13.

⁶The exam (*concours des enseignants-fonctionnaires*) is organized yearly by the Ministry of National Education, Child and Youth Affairs.

Table 1: Descriptive statistics of candidates participating in exam, 2011-2020.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
<i>Status:</i>											
Not Admitted	171	214	257	182	226	129	144	210	166	195	1,894
Admitted	135	86	72	97	65	66	69	77	89	111	867
<i>Gender:</i>											
Men	80	94	88	69	68	52	40	72	77	78	718
Women	226	206	241	210	223	143	173	215	178	228	2,043
<i>Age Groups:</i>											
17-18	15	14	13	13	19	12	12	11	11	24	144
19-20	163	186	193	155	165	118	125	182	152	192	1,631
21-22	81	63	71	71	75	46	60	67	65	70	669
23-24	23	13	28	17	15	13	10	24	23	14	180
25+	24	24	24	23	17	6	6	3	4	6	137
<i>Country of Birth:</i>											
Luxembourg	281	279	307	259	264	179	202	264	231	277	2,543
Other Country	25	21	22	20	27	16	11	23	24	29	218
<i>Mother Tongue:</i>											
Luxembourgish	253	247	269	226	227	152	147	174	173	199	2,067
Portuguese	15	19	21	21	17	17	30	55	34	36	265
French	9	5	11	9	14	7	12	10	12	18	107
German	7	5	3	5	6	2	2	7	7	4	48
Italian	4	4	3	1	2	0	3	4	3	5	29
Serbian/Balkans	5	6	7	7	10	10	9	23	13	25	115
LUX-Bilingual	8	9	12	7	7	1	4	8	6	9	71
Other EU	2	4	3	1	3	4	3	2	7	4	33
Other non-EU	3	1	0	2	5	2	3	4	0	6	26
<i>Academic Section:</i>											
ESC: Section A	24	24	21	21	9	2	8	11	8	13	141
ESC: Section B	7	5	8	7	5	4	4	6	9	9	64
ESC: Section C	38	24	36	28	51	24	26	29	25	29	310
ESC: Section D	34	48	49	42	43	26	25	31	22	41	361
ESC: Section E	40	28	24	19	35	10	10	20	14	10	210
ESC: Section F	2	7	6	11	3	2	5	0	1	2	39
ESC: Section G	72	70	91	72	84	57	45	61	64	63	679
ESG: Educateur/Educatrice	17	19	23	7	7	17	26	25	15	20	176
ESG: Div. Admin. et Commerciale	41	38	34	44	26	20	27	30	27	35	322
ESG: Infirmier/Infirmiere	1	0	4	1	3	2	0	4	2	3	20
ESG: Sciences Naturelles	0	0	0	0	0	0	0	0	0	10	10
ESG: Sciences Sociales	0	0	0	0	0	9	13	35	36	33	126
ESG: Technique Générale	18	22	21	13	13	10	15	24	18	22	176
Other or Unknown	12	15	12	14	12	12	9	11	14	16	127
<i>Academic Track:</i>											
Enseignement Secondaire Classique (ESC)	211	207	234	200	206	125	123	158	143	167	1,774
Enseignement Secondaire Général (ESG)	80	79	82	65	74	58	81	118	101	126	864
Autre	15	14	13	14	11	12	9	11	11	13	123
Total Candidates at Exam:	306	300	329	279	291	195	213	287	255	306	2,761

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