



# CHAPTER III: EDUCATIONAL TRAJECTORIES IN LUXEMBOURG'S EUROPEAN PUBLIC SCHOOLS

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### 3. EDUCATIONAL TRAJECTORIES IN LUXEMBOURG'S EUROPEAN PUBLIC SCHOOLS

#### SUMMARY

- For students who remain in the same curriculum during a given time period, delayed careers (*allongement de cycle, retard scolaire*) are less frequent in the European curriculum compared to the Luxembourgish curriculum.
- The vast majority of students who attended P5 in European Public Schools (EPS) move also towards secondary education within EPS (instead of moving towards another curriculum).
- The student population of the first grade in secondary education (S1) in EPS is partially composed of primary school EPS students (P5). However, the largest share of students in S1 originates from schools following the Luxembourgish curriculum, where they attended C4.2 (the last primary school grade). These students are thus one year older.
- The majority of the students who complete their observation cycle in EPS (S3) tend to continue their education in EPS afterwards (S4).
- Comparisons between language groups within EPS revealed that the rate of continuous trajectories in lower secondary school grades varies slightly across groups. Accordingly, students who speak primarily Luxembourgish and/or German at home show a slightly higher continuity rate than their French speaking peers, who in turn show slightly higher continuity rates than their English or Portuguese speaking peers.
- Preliminary results indicate that there seems to be greater continuity (less class repetitions, less track changes) across educational trajectories in EPS than in the Luxembourgish curriculum. However, more data and longer observation periods are needed to report robust and longitudinal results.

Students' academic achievement is often analysed by looking at their performance (*Chapter IV*) and their educational trajectories (*Chapter III*). For the latter, factors such as class repetition, class acceleration, drop-out rates, curriculum or school track changes are taken into account. Changing of school or school tracks is often accompanied by a new composition of peers and can represent a central (critical) event or a challenge to adapt to new learning methods, new levels of demands, and exploring one's own role within the new class (Koch, 2006).

The education system following the Luxembourgish curriculum has a decision-intensive structure, as there are two institutionalised orientation phases (one at the end of primary school and the other one after grade 9 in ESG) in schools following the Luxembourgish curriculum. These



orientation-related decisions are of considerable importance for the students' further learning, well-being in school, and life chances (Martin et al., 2011; Hadjar, 2019). Even if achievement is taken into account, educational decisions are made social-selectively - for example, students that are high achieving but have a low socioeconomic status (SES) are significantly less likely to go to the *Enseignement secondaire classique* (ESC, academic track) than high achieving students with a high SES (Hadjar & Backes, 2021). These issues are closely associated with educational inequality. Therefore, it is interesting for this report to look at the extent to which students in EPS might differ in the educational trajectories they experience, especially since they are in a common track until S3.<sup>16</sup>

It is important to note that EPS only exist since 2016 (see *Chapter I*), and therefore, there is not enough data yet to conduct longitudinal analyses covering the entire educational trajectories of EPS students compared to schools following the Luxembourgish curriculum, simply because no student has yet to complete his or her entire career in EPS. However, it is possible to give insights into particular educational phases of EPS students. In future reports, the focus will be shifted to entire educational trajectories.

### 3.1 OBJECTIVES AND DATA USED

The objectives addressed in the present chapter are the following:

- 1) Comparison of educational trajectories (delayed school careers and track changes) of students (during the first two years) in European curriculum and Luxembourgish curriculum (see 3.3 on delayed school careers and 3.4 on track changes)
- 2) Detailed analyses of EPS students' transitions at particular branching points (e.g., from primary to secondary school and after S3, see 3.5)

To accomplish these objectives, longitudinal pseudonymized administrative data (*Scolaria; fichier élèves*) on students' attendance in different grades (*cycle* or *année d'études*), curricula (Luxembourgish, European, Other International), and tracks (*ordre d'enseignement*) were used. Additionally, the background variable language primarily spoken at home, gathered via students/parents, is also available in the administrative data. As can be seen in *Table III.1* showing the number of EPS students per grade level and school year, most students are currently enrolled

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<sup>16</sup> EPS are characterized by a common core approach in lower secondary education, which means that they have only one school track. However, there are exceptions in Luxembourg, as some schools also offer the *Voie de préparation* (VP, see *Chapter I*) as an additional school track.



in P1 and S1 and no students are attending S7 yet, as the schools gradually extend their offer. With the rising number of EPS since 2016, the total number of students has increased up to the school year 2021/22. Overall student numbers are still low, which leads to statistical limitations.

**Table III.1 - Number of EPS Students per Grade Level from the School Year 2016/17 to 2021/22**

Grade/school year	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
P1	35	63	147	204	225	258
P2	6	60	90	182	231	249
P3	6	39	96	123	208	248
P4	8	23	52	117	147	227
P5	2	42	54	89	167	165
S1	78	130	312	339	450	529
S2	0	79	126	317	364	464
S3	0	0	86	159	341	399
S4	0	0	0	75	143	315
S5	0	0	0	0	69	131
S6	0	0	0	0	0	71
S7	0	0	0	0	0	0

### 3.2 GRADE LEVEL AND TRACKING STRUCTURES IN EPS VERSUS LUXEMBOURGISH CURRICULUM

To gain a better understanding of the various types of educational trajectories in EPS and in schools following the Luxembourgish curriculum, a detailed look at the grade level and tracking structure of the two systems is presented in the following.

#### Comparison of grade level structure

Primary education following the **Luxembourgish curriculum** is divided into four cycles, each lasts two years. C1 consists of preschool education. C2, C3, and C4 cover six years. Grade 1 of primary education, for example, is labeled as C2.1, grade 2 as C2.2 (see *Figure III.1*). Secondary education starts in grade 7. Lower secondary education covers the grades 7, 8, and 9. Upper secondary education starts in grade 10 and lasts – depending on the track – until grade 11 or 13.<sup>17</sup>

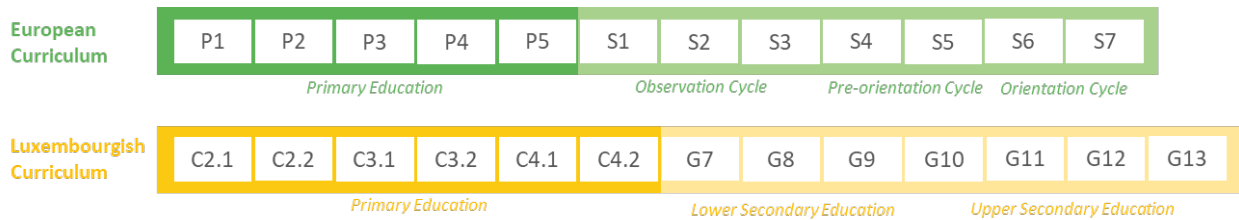
As aforementioned in *Chapter I, Table I.3* (Organisation of Studies in European Schools), primary education in **EPS** covers the first five years of education (P1-P5), while secondary education is

<sup>17</sup> Few occupational sections last until grade 14.



organized in three cycles (i.e., observation, pre-orientation, and orientation cycle) covering seven years of education (S1-S7). Therefore, the grade level structure of the two systems is not parallel. For example, S1 in EPS is the first grade in secondary education and corresponds in terms of age to grade 6 in the Luxembourg curriculum (labeled as C4.2), which is still part of primary education (see *Figure III.1*), and secondary education in the Luxembourg curriculum starts with grade 7 (labeled as G7).

**Figure III.1 - Primary and Secondary Education Following the European (Green) and the Luxembourgish Curriculum (Yellow)**



### Comparison of tracking structure

As already mentioned, with institutionalized orientation procedures at two points in time (after C4.2 and after grade 9), the education system following the **Luxembourgish curriculum** is rather decision-intensive (see also *Chapter II*). Secondary education is divided into parallel school tracks with different achievement levels and leading to different school leaving certificates. Thus, from grade 7 onwards the secondary program of the Luxembourgish curriculum is divided into the tracks *Enseignement secondaire classique* (ESC), *Enseignement secondaire général* (ESG), and *Voie de préparation* (ESG-VP), which is part of ESG.<sup>18</sup> A change between these tracks is defined as a "track change" in the following. The structure of the newly established **EPS** envisions greater continuity in the educational trajectory, as there is no orientation phase after primary school, but rather a direct transition to secondary education in the same school institution, as well as no achievement-differentiated tracks at lower secondary level. Thus, lower secondary education in EPS follows a common core approach (*tronc commun*) leading to the European Baccalaureate. Few EPS in Luxembourg additionally offer a modified form of the *Voie de préparation* (EPS-VP, see *Chapter I*). Changes between these two tracks within the European curriculum are defined as "track change". Changes between different curricula (Luxembourgish curriculum, European curriculum, or other international curricula, see *Chapter I*) are understood as "curriculum change" (see analyses in 3.4).

<sup>18</sup> From grade 10 onwards, the ESG provides different tracks in upper secondary education leading to different school leaving certificates.



Both curricula have in common that they offer achievement-based courses starting in different grades in certain subjects at basic and advanced levels, for example. These achievement-based courses are not defined as school tracks in this context.

Regarding the different orientation procedures in the two curricula, some considerations about their consequences for the students remain noteworthy. In EPS, due to the continuous education at primary and secondary school level within the same school, there is no disruption after primary education, which implies no separation from peers, no new school route etc. (Koch, 2006). However, EPS students potentially experience a disconnect with their neighborhood peers by enrollment in EPS in P1, due to the fact that they have, on average, longer travel distances to their EPS than students going to a primary school following the Luxembourgish curriculum that is located closer to their homes (see catchment area and travel distances in *Chapter I*). Indeed, these students have shorter travel distances and can more easily maintain contacts with their peers in the neighborhood during primary education. They experience a disruption when it comes to the transition to secondary schools, which are located in larger cities making longer travel distances necessary.

### 3.3 DELAYED CAREERS WITHIN AND ACROSS CURRICULA

In a 2008 study on differentiation measures (such as class repetition and tracking), Luxembourg was described as a country of grade repetition ("*Pays du redoublement*"; Reichert, 2008). More than 10 years later, still a high proportion of students who are older than their theoretical age in the respective grade are reported (MENJE, 2022). This seems surprising given the well established ineffectiveness of grade repetition (e.g., Hornung et al., 2021; Sonnleitner et al., 2021). Indeed, stratified education systems, to which the school system following the Luxembourgish curriculum belongs, are prone to selection strategies creating homogeneous groups of students in terms of performance, and thus show higher degrees of educational inequalities (Van de Werfhorst & Mijs, 2010; Pfeffer, 2008) and can have higher rates of class repetition due to the homogenization logic (MENFP & EMACS, 2007).

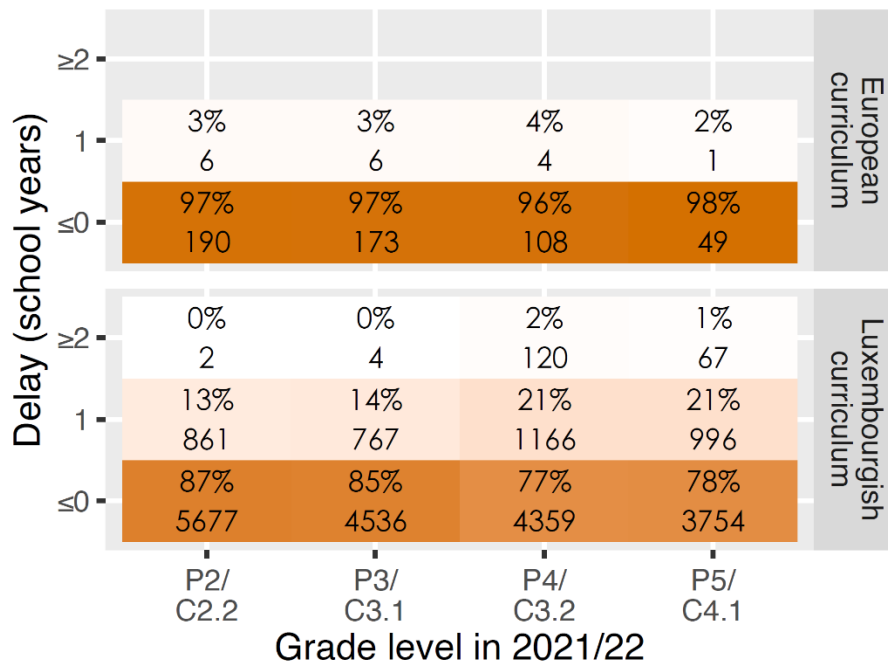
*Figure III.2* shows the proportion and numbers of primary school students with delayed careers in schools following the European curriculum (top) versus schools following the Luxembourgish curriculum (bottom).

The analysis contains all students who were registered in the school year 2021/22, who started their school career in grade 1 (C2.1 resp. P1) and remained in the same curriculum since they began.



A delay in 2021/22 was then calculated from the year the student first started grade 1. *Figure III.2* shows that 13% of students following the Luxembourgish curriculum in C2.2 had a delay, while 3% of EPS students in P2 had a delay<sup>19</sup>. The lower rate of delay in EPS can also be observed in later stages of primary education. In P5, only 2% of the EPS students showed a delay, while 22% of students following the Luxembourgish curriculum showed a delay of at least one year in C4.1.

**Figure III.2 - Number of School Years Delay among Primary School Students by Curriculum (European Curriculum vs. Luxembourgish Curriculum) for the School Year 2021/22**



Note. The percentages are displayed as column percentages per curriculum. The color shading represents the values of the percentages. The darker the shade of orange, the higher the student share for the relevant number of delayed school years per grade level.

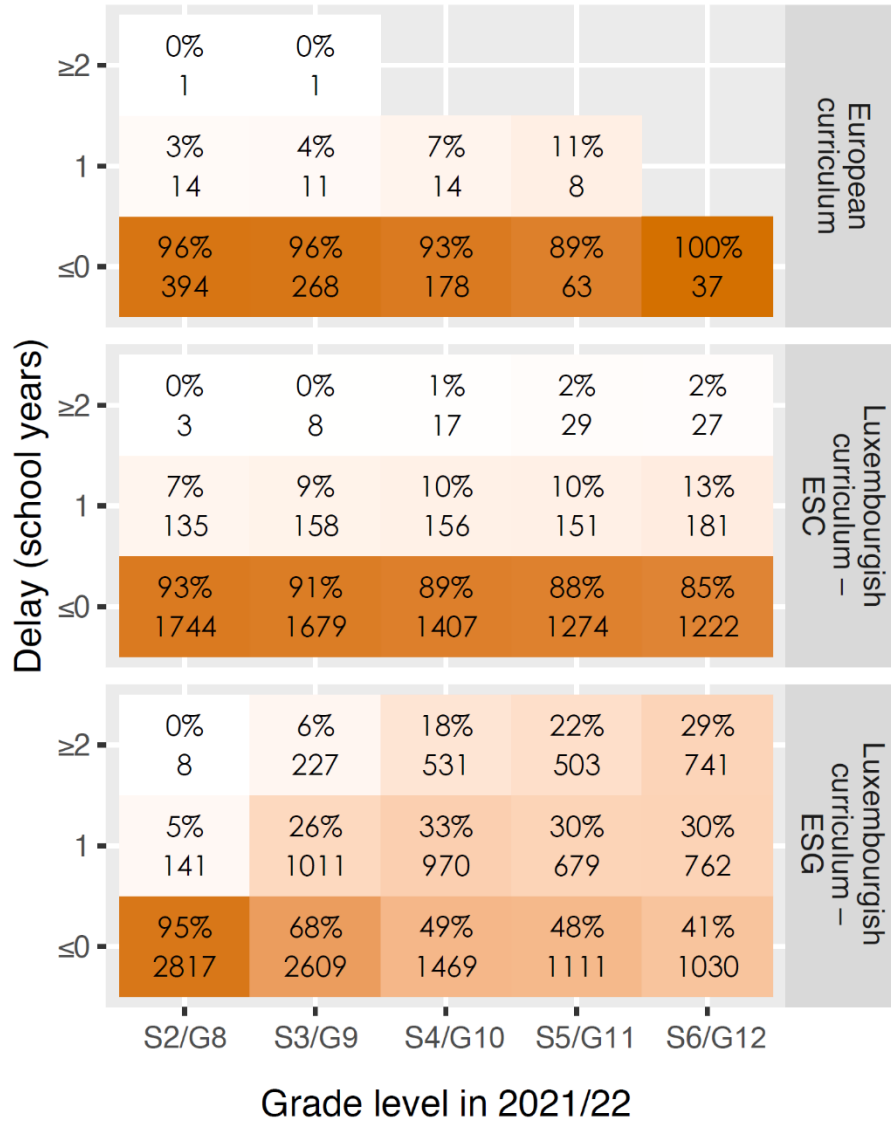
*Figure III.3* shows the delay of secondary school students who were enrolled in the school year 2021/22 and remained in the same curriculum since their start in secondary school S1 in EPS, and grade 7 (see *Figure III.1*, G7) in the Luxembourgish curriculum. Thus, the percentages given concern only the delays experienced within secondary school. As former reports have shown that school delay (MENJE, 2021 a,b), respectively class repetition (Hadjar et al., 2018), varies between school tracks in the Luxembourgish curriculum, *Figure III.3*, representing school delay for secondary

<sup>19</sup> Example: When a student was in P1 in the school year 2018/19, it is expected for the student to be in P3 in the school year 2021/22. If the student is in fact in P2 in the school year 2021/22, there is a delay of one year.



education, will be split by school track, depicting ESC in the middle section, ESG at the bottom and – for the intended comparison – the European curriculum at the top.

**Figure III.3 - Number of School Years Delay among Secondary School Students by Curriculum (European Curriculum vs. Luxembourgish Curriculum) for the School Year 2021/22**



Note. The percentages are displayed as column percentages per curriculum. The color shading represents the values of the percentages. The darker the shade of orange, the higher the student share for the relevant number of delayed school years per grade level.

When comparing the two curricula, the darker shading of the bottom line in the European curriculum (with percentages between 89% and 100%) illustrates that EPS students at secondary school level experience more often trajectories without delay than secondary school students in the Luxembourgish curriculum (with percentages between 85% and 93% in ESC and percentages





between 41% and 95% in ESG). For example, in ESC in the Luxembourgish curriculum, 89% of students were without delays in grade 10 (G10). 10% of students already had one year of delay since their start in secondary school, and 1% had two or more years of delay (not taking into account previous delays from primary education). In ESG in the Luxembourgish curriculum, 49% of students were without delays in grade 10 (G10). 33% of students already had one year of delay since their start in secondary school, and 18% had two or more years of delay (not taking into account previous delays from primary education). In contrast, in S4 in EPS, only 7% had a delay of one year. There was no delay of two or more years at all (again without taking into account previous delays from primary education), although of course the small numbers of EPS students must be taken into account. In sum, it can be seen that delays occur more frequently in secondary education (see *Figure III.3*) than in primary education (see *Figure III.2*), both in EPS and in the Luxembourgish curriculum.

It is important to note that these data should not be understood as conventional class repetition rates as only those students who had been enrolled in the same curriculum since the first grade of primary school (*Figure III.2*) or the first grade of secondary school (*Figure III.3*) were included in the sample to make a valid comparison. Students who, for example, first repeated a grade level and then changed curriculum (or vice versa), or students who first repeated a grade and then left the school system completely, were excluded.

What can be concluded is that for students who remain in the same curriculum during the period under consideration, class repetition is less frequent in EPS.

### 3.4 TRACK CHANGES WITHIN AND ACROSS CURRICULA

As other stratified education systems such as the education systems of Switzerland, Germany, or Austria, the education system following the Luxembourgish curriculum is rather decision-intensive, with institutionalized orientation procedures at two points in time and a separation of primary and secondary education provided in different school buildings (see 3.2). This results in a disruption in the students' trajectories, since the transition from primary to secondary school as well as the transition from lower to upper secondary school after grade 9 in ESG implies a new learning environment as well as a new peer composition. This is perceived very differently by those affected, and often seen as a challenge according to previous studies (e.g., Backes, 2018). Moreover, the decision phases can translate into a "search for the right track" (Backes, 2018) and for some students early re-orientations – as a form of correction of a former decision – occur (for Germany: Stubbe 2009; Kramer et al. 2009; Koch, 2003; for Luxembourg: Backes, 2018).



Table III.2 focuses on the potential re-orientations in form of track changes<sup>20</sup> after the first grade in secondary education for students in the EPS (EC, top) in comparison to students in the Luxembourgish curriculum (LC, bottom) for the school year 2020/21. It has to be noted that, in general, EPS do not offer different tracks due to its common core approach. However, few EPS provide the VP in addition to the track leading to European Baccalaureate (see Chapter I), these track changes are taken into account here. It can be seen that the percentage of those remaining on schedule in the track they attended in the first secondary school year is 96.2% in EPS and slightly lower at 94.0% in the Luxembourgish curriculum. Thus, in EPS, early re-orientations occur in only 3.8% of the students. 0.5% ( $N = 2$ ) of the students re-orient to another track within the European curriculum, and 3.3% ( $N = 14$ ) of the students change to another curriculum (either to the Luxembourgish curriculum or an international curriculum). In the Luxembourgish curriculum, 6% re-orient early, with 5.2% ( $N = 258$ ) changing within tracks of the Luxembourgish curriculum and 0.8% ( $N = 41$ ) changing curriculum.

**Table III.2 - Track Changes among Secondary School Students in the European Curriculum and Luxembourgish Curriculum (School Year 2020/21)**

2020/21		S1 to S2	%	N	
Track changes	<b>European Curriculum (EC)</b> ( $N = 427$ )	remained in EC (same track)	96.2%	411	
		remained in EC (different track)	0.5%	2	
		changed curriculum	3.3%	14	
			<b>Grade 7 to Grade 8</b>	<b>%</b>	<b>N</b>
	<b>Luxembourgish Curriculum (LC)</b> ( $N = 5000$ )	remained in LC (same track)	94.0%	4701	
		remained in LC (different track)	5.2%	258	
changed curriculum		0.8%	41		

### 3.5 EUROPEAN PUBLIC SCHOOL STUDENTS' TRANSITIONS AT PARTICULAR BRANCHING POINTS

To provide a better understanding of the various types of track changes and curriculum changes that have been identified in 3.4, a detailed look at students' transitions in the European curriculum is presented in the following. In order to illustrate these transitions, Sankey diagrams (similar to flow charts) were created for different student cohorts (see 3.5.1 to 3.5.5).

According to Boudon "any school system, whatever its apparent flexibility, forces the individual, at x times in his schooling" (1974, p. 108), at so-called "*branching points*", to decide whether to

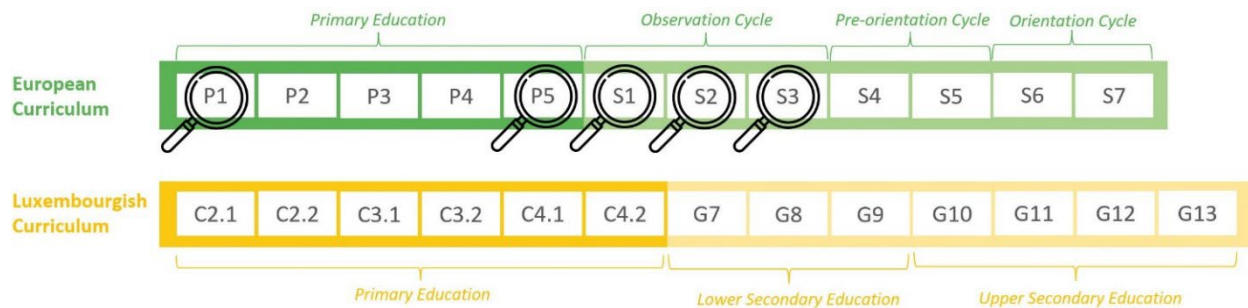
<sup>20</sup> Definitions of track changes and curriculum changes are to be found in 3.2.

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remain in the current track or to change the students' educational situation (by changing track, dropping out etc.). Here, we follow Boudons' rather broad understanding of branching points and mean points in time after particular grade levels in the European curriculum that may show variations in students' transitions due to the systemic grade level structure that has been described above (see 3.2). The selection of branching points for the detailed analyses of EPS students' transitions (see *Figure III.4*) is based on the following argumentation.

As aforementioned in 3.2, primary education in EPS covers the first five years of education (P1-P5), while secondary education covers seven years of education (S1-S7). In terms of grade level, P1 and S1 were chosen because they mark the beginning years of primary and secondary school education, respectively. Accordingly, the Sankey diagrams were used to analyse the continuity of the future trajectories of students in P1 and S1, and to answer the question whether the students remain in the chosen curriculum and advance to the next grade level, or show different transitions.

**Figure III.4 - Selection of Branching Points for the Analyses of Transitions**



Moreover, P5 and S3 were chosen as these branching points represent the last year of primary education, respectively the last year of the observation cycle in secondary education. Even though the European curriculum defines itself as a common core system, the purpose of these analyses is to examine whether a certain share of students may re-orient towards other school offers at these branching points. Thus, Sankey diagrams were created to trace the transition of P5 graders to secondary school and the transition of S3 graders' to upper secondary school.

Furthermore, Sankey diagrams were used to analyse the educational origins of S1 students at the beginning of secondary education in order to answer the question of what school curriculum the students have previously attended. This is particularly relevant because EPS were recently established so that the secondary school classes cannot be composed purely of former EPS primary school students. Given the fact that S1 corresponds to C4.2 and S2 corresponds to Grade



7 in the Luxembourgish curriculum (see *Figure III.4*), curricula changes could be possible at this particular branching point. Thus, the educational origin of S2 students will also be analysed.

The following questions are examined by making use of Sankey diagrams:

- How continuous are EPS students' primary school trajectories (P1 to P4, see 3.5.1)?
- What happens to EPS students before and after finishing primary schooling (P5, see 3.5.2)?
- What is the composition of students that begin secondary education in EPS (S1)? Where do they come from? What do subsequent trajectories of S1 students look like (see 3.5.3)?
- How many cross-entry students move directly to grade S2 in EPS after primary education following the Luxembourgish curriculum (see 3.5.4)?
- How continuous are the trajectories of EPS students after finishing the observation cycle (S3, see 3.5.5)?

Sankey diagrams represent a group of students at a given time and depict their educational trajectories. More information about these diagrams and a *Sankey reading help* is provided in 3.5.1. The questions above will be explored with Sankey diagrams which are based on the most recent available administrative student data for each of the respective analyses (see *Table III.1*).

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### 3.5.1 HOW CONTINUOUS ARE EPS STUDENTS' PRIMARY SCHOOL TRAJECTORIES (P1 TO P4)?

With regard to student trajectories, this section focuses on the beginning of primary education and examines students' educational trajectories (P1 and onwards). In order to determine the continuity of EPS students' primary school trajectories, and thus, to analyse how many students remain in EPS and advance to the next grade level, continuity rates have been calculated by using the data from the school year 2018/19, as it provided the most comprehensive data with regard to the total number of students. In addition to the continuity rates from one school year to the consecutive school year, so called survival rates (Boudon, 1974) have been calculated. The survival rate is calculated as a product of the continuity rates in between a starting year to a chosen end year of a given cohort without class repetition (here from P1 to P4 for the students attending P1 in the school year 2018/19). This rate gives the opportunity to summarise continuity over a chosen number of years and thus enables comparisons between groups.

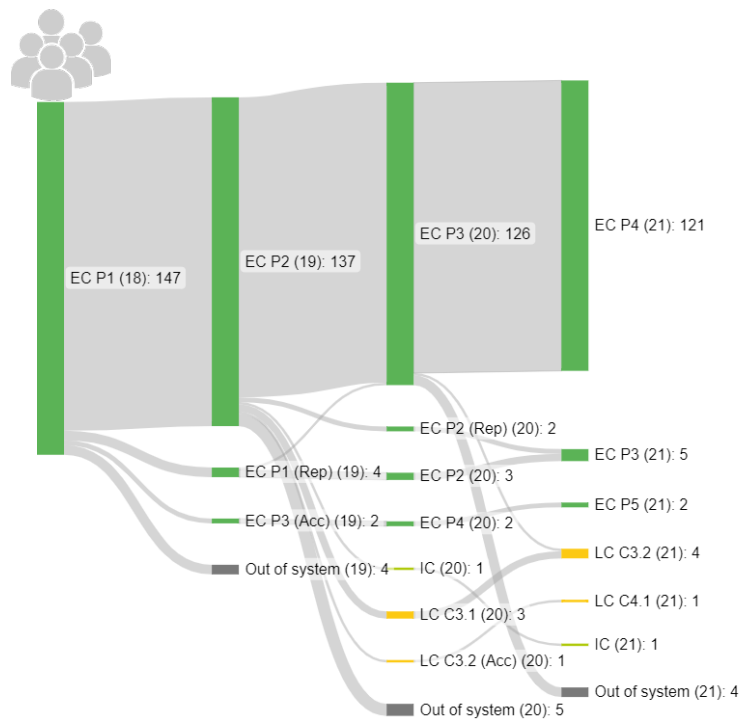


**Reading help for Sankey diagrams**

The following figures are so-called Sankey diagrams (flow charts), which were created by using SankeyMATIC. They show how many students make which transitions from one school year to the next. Each Sankey considers students of a certain EPS grade level as the initial cohort. This is indicated by the group symbol. The vertical bars show the distribution of students in different curricula. The river arms at the left hand side of the vertical bars show where the same students were a year earlier, and those at the right hand side show where the students were a year later. Thus, the width of the river arms represents the relative number of students making a particular transition.

For convenience, abbreviations were used in order to represent different curricula and grade levels. EC stands for European curriculum, LC stands for Luxembourgish curriculum, and IC stands for other International curricula (e.g. Cambridge). Rep stands for repetition and Acc stands for acceleration. Lastly, the number in brackets represents the school year. For example: "EC P2 (19)" represents the grade P2 students who are in the European curriculum in the school year 2019/20.

**Figure III.5 - Primary School Trajectories of Grade P1 EPS Students (2018/19 Cohort, N = 147)**



Note. This Sankey diagram considers students who were registered in P1 in the school year 2018/19 as the initial cohort (N = 147). This is indicated by the group symbol. The diagram is most easily read from this starting cohort. EC = European curriculum. LC = Luxembourgish curriculum. IC = other International curricula (e.g. Cambridge). Rep = repetition. Acc = acceleration. The number in brackets represents the school year.



Accordingly, *Figure III.5* shows that in the school year 2018/19, 147 students were registered in P1 of EPS implementing the European curriculum (EC). As it can be seen in the dark green vertical bars, most students remain in the EPS in the following years and proceed to the next grade. At the end of the school year 2018/19, 137 of 147 EPS students (93.2%) move from P1 to P2. In the consecutive years, it becomes 125 students (91.2%) moving from P2 to P3, and 121 (96.0%) students moving from P3 to P4. The survival rate results is 81.6% from P1 to P4 ( $.932 \times .912 \times .96$ ). Thus, 81.6% of the students starting in P1 in EPS in the school year 2018/19 make it to P4 in the school year 2021/22 without a delay (see *Figure III.5*).

Although small in number, there are also students who follow other transitions: students who advanced two years at once (e.g., 2 students moved from P1 to P3 upon completion of the school year 2018/19), students who repeated a grade in EPS (e.g., 2 students were again enrolled in P2 upon completion of the school year 2019/20), students who changed curricula and enrolled in schools implementing International curricula (here: Cambridge) or the Luxembourgish curriculum, and students who “dropped out”<sup>21</sup> (see *Figure III.5*). All in all, it can be stated that EPS students' primary school trajectories are rather stable and continuous over the subsequent years.

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### 3.5.2 WHAT HAPPENS TO EPS STUDENTS BEFORE AND AFTER FINISHING PRIMARY EDUCATION (P5)?

Since there is no orientation in EPS after primary education, it is worth taking a look at the educational trajectories of EPS students after they finish their primary school in P5 and answering the question whether most of the students remain in EPS as the curriculum allows a smooth transition (i.e., primary and secondary education within one school). In this regard, the 2020/21 grade P5 cohort was selected as it provided the most recent information. Moreover, this sample allows for the analysis of where do these students come from.

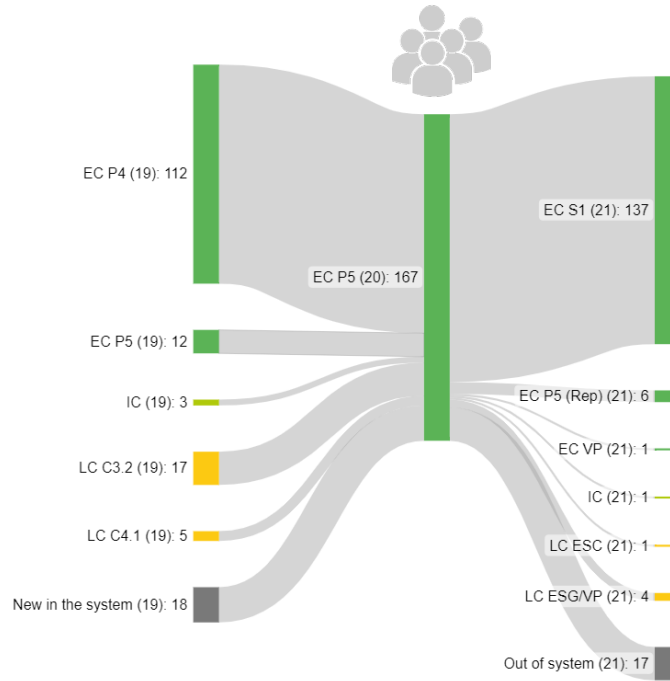
As can be seen in *Figure III.6*, 167 students were enrolled in P5 in the school year 2020/21. It should be noted that 112 of these students were enrolled in P4, and 12 of them were enrolled in P5 (i.e., these students repeated P5) in EPS in the school year 2019/20. Thus, 124 students (74.3%) of the 2020/21 P5 cohort were already EPS students the year before. However, it is also noticeable that some students transferred from schools following the Luxembourgish curriculum or other international curricula as well.

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<sup>21</sup> Caution should be given to the use of “drop out” as a term. Since there is no additional information on the trajectories of these specific students, they are marked as “dropped out” when they do not appear before or after a certain school year. This could indicate a transfer to a state-subsidized school, moving to another country, or an actual drop out from the school system altogether.



Figure III.6 – Transitions of Grade P5 EPS Students (2020/21 Cohort, N = 167)



Note. This Sankey diagram considers students who were registered in P5 in the school year 2020/21 as the initial cohort (N = 167). This is indicated by the group symbol. The diagram is most easily read from this starting cohort. EC = European curriculum. LC = Luxembourgish curriculum. IC = other International curricula (e.g. Cambridge). Rep = repetition. Acc = acceleration. The number in brackets represents the school year. To increase readability, some cases in the LC were combined and rearranged under new groups (e.g., LC ESG/VP includes ESG and ESG-VP students in different grade levels).

After considering the transitions from P5, it can be seen that 137 (82.0%) of the students in the aforementioned cohort advanced to S1 in the school year 2021/22. Besides, there are students who follow other transitions: six students with class repetition in EPS (3.6%), one student who moved to VP in the European curriculum, 17 “drop outs” (10.2%), and six other students with curriculum change (3.6%). More specifically, while one student went to another international curriculum (here: International Baccalaureate), five students changed to grade 7 in schools following the Luxembourgish curriculum. Inherent in this transition is the skipping of a grade, as primary education in schools following the Luxembourgish curriculum lasts a total of six years. These five students, however, have only completed five years of primary schooling in EPS.

The most recent dataset was used for the analysis. However, since EPS is a rather new educational offer, we also considered previous years to look at stability across cohorts which was only possible for this specific analysis due to the short time span considered (P4 to S1). The patterns seem to be rather stable in the school years 2018/19 and 2019/20. Indeed, most students in P5 transition towards secondary education (S1) in EPS (87.0% and 79.8%). In sum, preliminary findings based on



small sample sizes may cautiously suggest that there is a relatively stable and continuous trend. The majority of EPS students stay within EPS after finishing primary education in grade P5 and progress to S1.

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### 3.5.3 WHAT IS THE COMPOSITION OF STUDENTS THAT BEGIN SECONDARY EDUCATION IN EPS (S1)? WHERE DO THEY COME FROM? WHAT DO SUBSEQUENT TRAJECTORIES OF S1 STUDENTS LOOK LIKE?

To depict the compositions of students who begin their secondary education in EPS<sup>22</sup>, the 2019/20 grade S1 cohort was selected to trace where they come from and to follow the respective students through their entire lower secondary education (S1 to S3). As represented in *Figure III.7*, out of the 318 students who started their secondary education in EPS in the school year 2019/20, 47 students (14.8%) originate from grade P5 in EPS. The largest share of students came from schools following the Luxembourgish curriculum, where students had last attended grade 6 (C4.2) ( $N = 189, 59.4\%$ ); who, thus, attended primary school for one additional year compared to the P5 EPS students.

The other students can be characterized as follows: students from other grade levels in the Luxembourgish curriculum, EPS P5 repeaters, or students recently registered in Luxembourg's education system (grey). The fact that the group of EPS students in S1 is largely composed of former students following the Luxembourgish curriculum is mainly due to the fact that the number of students progressing from grade P5 of EPS is still limited - given the fact that the schools were only recently established. However, this has started to change slightly in more recent years. In the school year 2021/22, which was not selected for the Sankey diagrams because the cohort does not allow for the tracing of subsequent trajectories, 50.7% ( $N = 251$ ) of the S1 graders were coming from grade P5 in EPS; while 27.7% ( $N = 137$ ) of them were from C4.2 in primary schools following the Luxembourgish curriculum.

*Figure III.7* additionally shows further trajectories of the 2019/20 cohort S1 graders in the first three years of secondary education. As already outlined for the first years of primary education, the first years of secondary education also show rather continuous trajectories. Most students remain in the European curriculum: 90.6% ( $N = 288$ ) after S1; and 89.6% ( $N = 258$ ) after S2. Those students who

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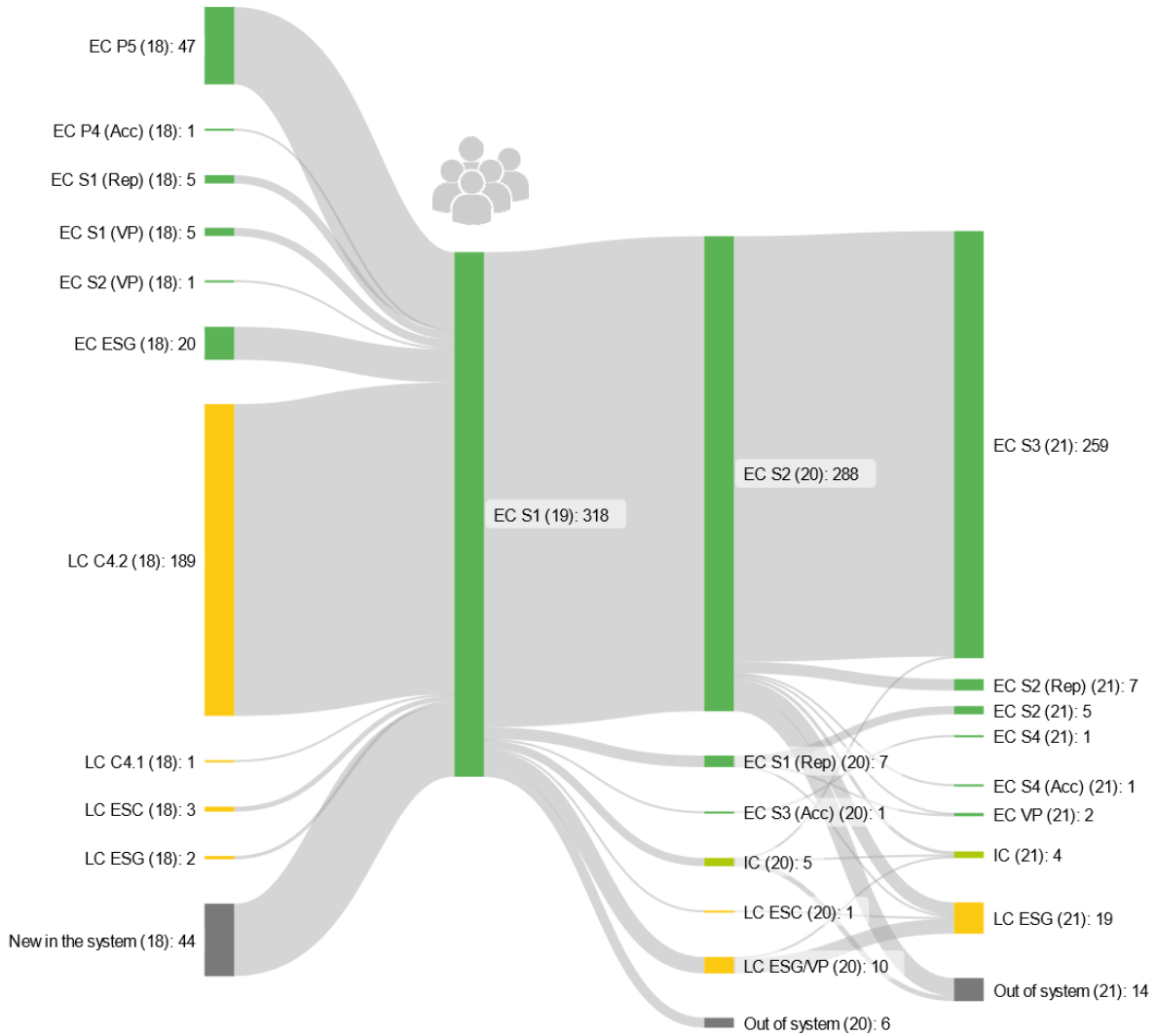
<sup>22</sup> It should be noted that these statistics are based on students in regular tracks in EPS in S1. The students in S1 EPS-VP ( $N = 21$ ) in the school year 2019/20 are not included.





pursue other trajectories mainly move towards the Luxembourgish curriculum or are not registered any more in the administrative student database.

Figure III.7 - Origins and Secondary School Trajectories of Grade S1 EPS Students (2019/20 Cohort, N = 318)



Note. This Sankey diagram considers students who were registered in S1 in the school year 2019/20 as the initial cohort (N = 318). This is indicated by the group symbol. The diagram is most easily read from this starting cohort. EC = European curriculum. LC = Luxembourgish curriculum. IC = other International curricula (e.g. Cambridge). Rep = repetition. Acc = acceleration. The number in brackets represents the school year. As students vary vastly on their educational trajectories, there were categories with very few number of students. To increase readability, some categories in the LC were combined and rearranged under new groups (e.g., LC ESG/VP includes ESG and ESG-VP students in different grade levels).



### Comparison of S1 EPS students' lower secondary school trajectories by language groups

As grade S1 in EPS is the first year of secondary education in the European curriculum, and thus, marks an important educational branching point, a closer look into particular language groups follows directly below. We compare the continuity of students' school trajectories after S1, differentiated by language spoken primarily at home, and answer the question of whether patterns of remaining in the chosen curriculum and advancing to the next grade level differ by language group. For that purpose the four major language groups in Luxembourg (i.e., Luxembourgish/German French, English, and Portuguese) (see *Chapters I and II*) are used as a basis for a close-up look. The trajectories of these groups are depicted separately in *Figure III.8*.

At the top left, *Figure III.8* shows the trajectories of the students who primarily speak Luxembourgish and/or German at home ( $N = 61$ ) from S1 to S3 in EPS<sup>23</sup>. It can be observed that most students remain in EPS from year to year resulting in continuity rates<sup>24</sup> of 96.7% (59 out of 61 students) after S1, and 93.2% (55 out of 59 students) after S2. This culminates in a survival rate<sup>25</sup> of 90.1% from S1 to S3 without class repetition. Students who leave the European curriculum are students who transfer to the Luxembourgish curriculum.

The trajectories of S1 EPS students who primarily speak Portuguese at home ( $N = 55$ , see *Figure III.8* top right) show that less students remain in EPS from year to year than students who primarily speak Luxembourgish and/or German, resulting in continuity rates of 89.1% (49 out of 55 students) after S1, and 77.6% (38 out of 49 students) after S2. This culminates in a survival rate of 69.1% from S1 to S3 without class repetition. Students who leave the European curriculum are students who transfer to the Luxembourgish curriculum or are not registered any more in the administrative student database.

The trajectories of S1 EPS students who primarily speak French at home ( $N = 81$ , see *Figure III.8* bottom left) show that a high share of students remain in EPS from year to year resulting in continuity rates of 93.8% (76 out of 81 students) after S1, and 93.4% (71 out of 76 students) after S2. This culminates in a survival rate of 87.6% from S1 to S3 without class repetition. Students who leave the European curriculum are students who transfer to the Luxembourgish curriculum or another

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<sup>23</sup> The statistics in *Figure III.8* are based on students in regular track in EPS (leading to the European Baccalaureate) in the school year 2019/20. Two Luxembourgish/German speaking students, 15 Portuguese speaking students and one French speaking student in EPS-VP were not reported.

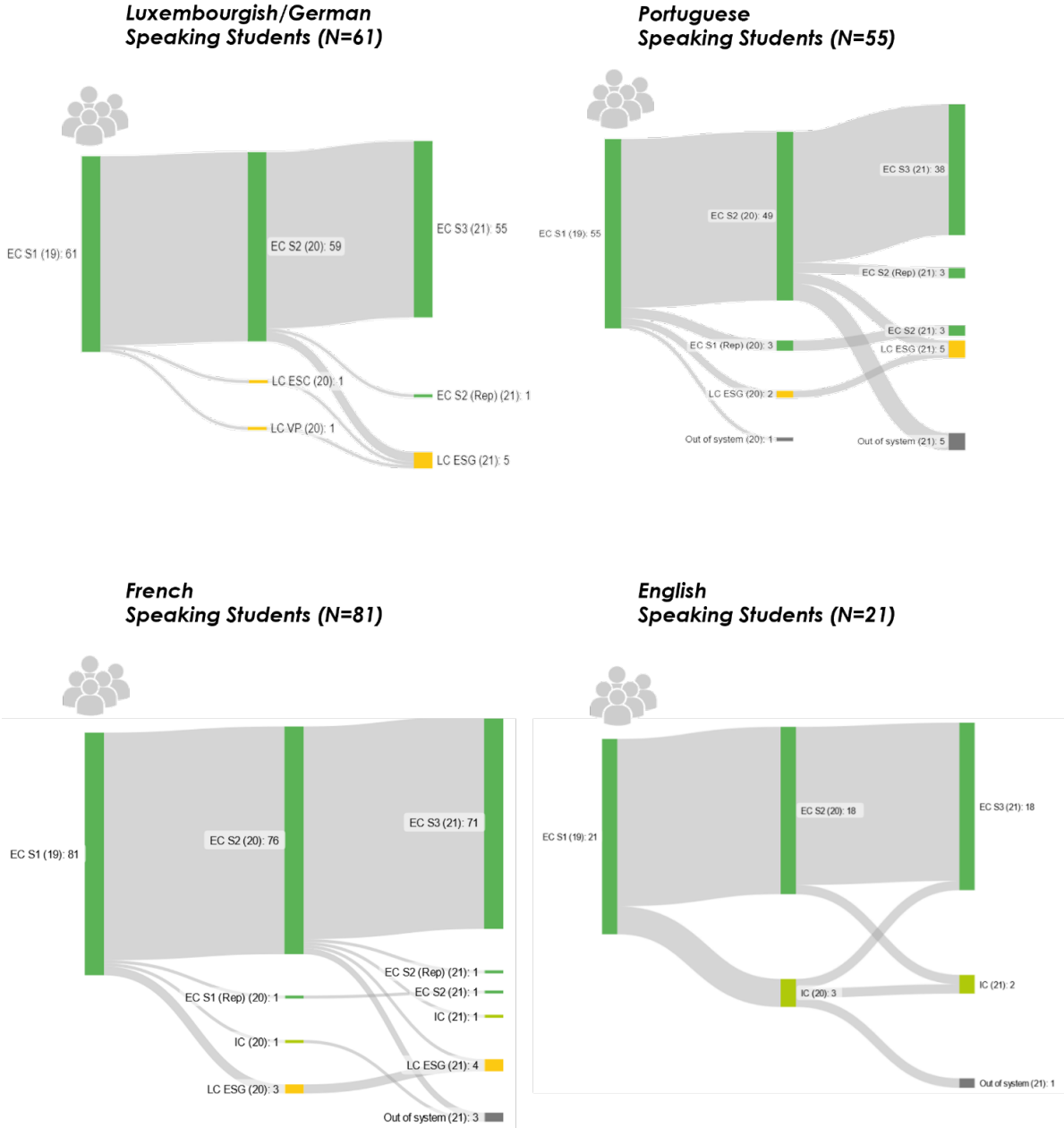
<sup>24</sup> Continuity rate refers to the percentage of students remaining on track without class repetition from one year to the following one.

<sup>25</sup> As explained in 3.5.1, survival rate is calculated as a product of the continuity rates in between a starting year to a chosen end year of a given cohort without class repetition (here from S1 to S3 for the students attending S1 in the school year 2019/20).



international curriculum or who are not registered any more in the administrative student database.

**Figure III.8 – Lower Secondary School Trajectories for Grade S1 EPS Students from S1 to S3 per Language Group (2019/20 Cohort)**



Note. These Sankey diagrams consider students of different language groups who were registered in S1 in the school year 2019/20 as the initial cohort. This is indicated by the group symbol. The diagrams are most easily read from this starting cohort. EC = European curriculum. LC = Luxembourgish curriculum. IC = other International curricula (e.g. Cambridge). Rep = repetition. Acc = acceleration. The number in brackets represents the school year. To increase readability, some cases in the LC were combined and rearranged under new groups (e.g., LC ESG/VP includes ESG and ESG-VP students in different grade levels).



The trajectories of S1 EPS students speaking primarily English at home, who only account for a total of 21 students (see *Figure III.8* bottom right), show continuity rates of 85.7% (18 out of 21 students) after S1, and 94.4% (17 out of 18 students) after S2. This culminates in a survival rate of 80.9% from S1 to S3 without class repetition. Students who leave the European curriculum are students who transfer to other international curricula (International Baccalaureate or Cambridge, both providing English as language of instruction) or who are not registered any more in the administrative student database.

To compare the selected language groups, the survival rate can be used, which reflects the proportion of those who started from S1, and via S2 in the following year, finally ended up in S3 in the third year. It shows that the Luxemburgish/German speaking and French speaking groups have the highest survival rates (90.1% and 87.6%, respectively), while the English speaking group, which consists of only 21 students, has slightly lower rates (80.9%) and the Portuguese language group, with 69.1%, still has a relatively high survival rate, but considerably lower than the comparison groups.

At this point, we briefly reconsider the language section choices of EPS students by language groups, which were described in detail in *Chapter I*. There, it can be seen that the English speaking EPS students were enrolled in an English language section at a rate of 94.7% and the French speaking students at a rate of 88.1% in a French language section. The picture is different for the Luxemburgish/German speaking students, where the proportion of those enrolled in a German language section was comparatively smaller at 70.7%. The Portuguese language group also showed a more varied distribution across language sections with 73.4% of the students enrolled in a French language section, 16.4% in an English language section, and 10.2% in a German language section. Relating these findings to the survival rates in lower secondary education in EPS, one can consider tentative explanations. The comparison of continuity patterns of the language groups depicted in *Figure III.8* allow the following cautious interpretations: French speaking students who are offered a language section that corresponds to their primary language spoken at home show a higher survival rate in EPS than Portuguese speaking students who are taught in a language that does not correspond directly to their native language. The slightly lower survival rate of the English language group who, indeed, also benefits from a language of instruction in EPS that corresponds to their native language cannot be interpreted due to the small number of students. The high survival rate of Luxemburgish/German speaking EPS students who are enrolled across all three language section offered in EPS (see *Chapter I*) cannot be interpreted without



more differentiated analyses. Future studies with larger student numbers will allow for differentiated conclusions by looking at language groups in different language sections.

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### 3.5.4 HOW MANY CROSS-ENTRY STUDENTS MOVE DIRECTLY TO GRADE S2 IN EPS AFTER PRIMARY EDUCATION FOLLOWING THE LUXEMBOURGISH CURRICULUM?

Given the fact that grade S2 in EPS corresponds to grade 7 (the first year of secondary education in the Luxembourgish curriculum, see *Figure III.4*), curriculum changes from C4.2 (the last year of primary education in the Luxembourgish curriculum) towards S2 in EPS might be possible as students' theoretical age is the same there. Thus, we analysed the educational origin of S2 students. As a result, grade S2 student compositions in the school year 2021/22 ( $N = 447$ )<sup>26</sup> show some heterogeneity in the educational backgrounds, however, the big majority of students (87.2%,  $N = 390$ ) come from grade S1 in EPS. Additionally, there are some repeaters (1.8%) and 25 students (5.6%) who transitioned from schools following the Luxembourgish curriculum to S2 in EPS. A closer look into the latter group shows that there are only two students who transitioned directly from C4.2 in a primary school following the Luxembourgish curriculum to grade S2 in EPS, which might be due to the fact that these students missed the first year of secondary education in EPS. 5.3% of grade S2 students in the school year 2021/22 were registered for the first time in the administrative student dataset so that no further information on their educational origins is available.

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### 3.5.5 HOW CONTINUOUS ARE EPS STUDENTS' TRAJECTORIES AFTER FINISHING THE OBSERVATION CYCLE (S3)?

As explained in *Chapter I, Table I.3* (Organisation of Studies in European Schools), the first three years of secondary education (S1-S3) in EPS are called the observation cycle, in which all students follow a common core approach (*tronc commun*), and grade S3 marks the final year of the observation cycle (also see *Figure 4*). The 2020/21 grade S3 cohort was selected as it provided the most complete dataset<sup>27</sup>. As it can be seen from *Figure III.9*, 323 students were enrolled in grade S3 in an EPS in the school year 2020/21. From these, the majority, 81.7% ( $N = 264$ ) moved to grade S4 in EPS, five (1.5%) repeated the same grade, and two (0.6%) advanced two grade levels at

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<sup>26</sup> These statistics are based on students in regular tracks in EPS in S2. The students in S2 EPS-VP ( $N = 17$ ) in the school year 2020/21 are not included.

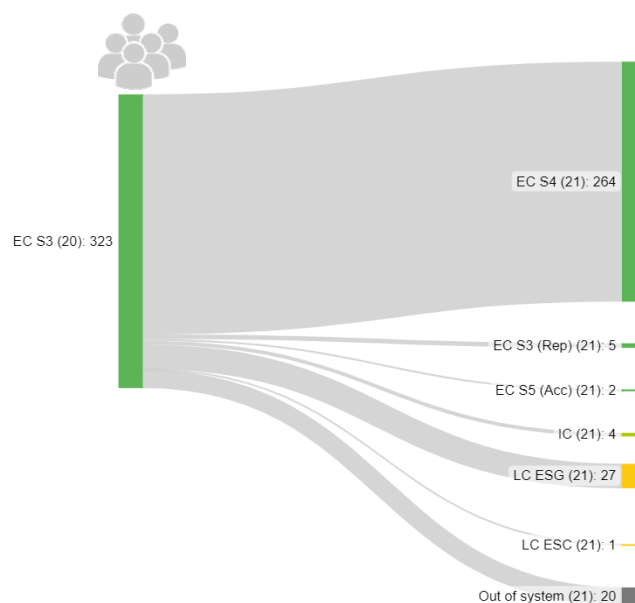
<sup>27</sup> These statistics are based on students in regular tracks in EPS in S3. The students in S3 EPS-VP ( $N = 18$ ) in the school year 2020/21 are not included.



once. Thus, 271 of the students (83.9%) stayed in the European curriculum. Although small in number, there are also students who follow other transitions: four students (1.2%) went to other international curricula and 28 students (8.7%) moved to the Luxembourgish curriculum. Finally, 20 students (6.2%) were not registered anymore in the administrative student database after grade S3.

Based on these preliminary results, which do not yet include complete educational trajectories within EPS due to their recent establishment, it is not possible to draw strong conclusions. Compared to other studies on the Luxembourgish curriculum (Hadjar et al., 2018), the results suggest that there might be higher continuity within EPS. However, more data and longer observation periods are needed to report valid and longitudinal results.

**Figure III.9 - Secondary School Trajectories for Grade S3 EPS Students (2020/21 Cohort, N = 323)**



Note. This Sankey diagram considers students who were registered in S3 in the school year 2020/21 as the initial cohort (N = 323). This is indicated by the group symbol. The diagram is most easily read from this starting cohort. EC = European curriculum, LC = Luxembourgish curriculum, IC = other International curricula (e.g. Cambridge), Rep = repetition, Acc = acceleration. The number in brackets represents the school year. To increase readability, some cases in the LC were combined and rearranged under new groups (e.g., LC ESG/VP includes ESG and ESG-VP students in different grade levels).

### 3.5 CONCLUSION AND OUTLOOK

Class repetition, track changes, and curriculum changes are important factors that influence students' educational trajectories. Luxembourg has a rather decision-intensive structure in schools following the Luxembourgish curriculum with two institutionalised orientation phases (see 3.2). As for EPS, there is no similar institutionalised orientation phase that urges students to choose between



school tracks leading to different school leaving certificates. Instead, there is a common core approach (*tronc commun*) for all students until the completion of S3; and afterwards, students are given an opportunity to enroll in courses with varying levels in particular subjects (e.g., advanced mathematics courses are optional starting from S4).

The present chapter on EPS students' educational trajectories provides a first comparison with schools following the Luxembourgish curriculum. Within the European curriculum, delayed careers are less common for primary and secondary school students than for students in the Luxembourgish curriculum. This might be due to the language offer which allows students to continue their education in their L1 (e.g., native language or equivalent) throughout their educational careers. This is not the case in schools following the Luxembourgish curriculum, which offer a multilingual education with a change in instruction language in different school grades and tracks. However, given the small number of students enrolled in the European curriculum compared to the ones in the Luxembourgish curriculum, the results should be interpreted carefully. Moreover, this interpretation should not be confused with the conventional class repetition rates as the analyses only focuses on students who remained in a particular curriculum since they were first enrolled either in the first year of primary or secondary school, and the results are not linked to any background characteristics such as SES, gender, or migration background.

The findings also show some continuity in EPS students' educational trajectories in such a way that most grade P1 EPS students stay within the European curriculum, and the majority of grade P5 EPS students moved towards secondary education in EPS. A similar pattern was also observed in the trajectories of grade S3 EPS students as the majority of them continued their studies in EPS upon completion of the observation cycle.

The comparisons of the selected language groups indicate that Luxembourgish/German speaking students had the highest survival rates followed by French speaking and English speaking students. In contrast, Portuguese speaking students had a slightly lower survival rate compared to their peers from the other language groups. The majority of the Luxembourgish/German speaking, French speaking, and English speaking students tend to enroll in language sections corresponding to their language primarily spoken at home. The congruence between students' home language and the language of instruction may be one of the reasons behind students' high survival rates in their educational careers. The lower survival rate for Portuguese speaking students might be due to the fact that there is no such congruence in the language of instruction for this language group (the majority of them enroll in French language sections; see *Chapter I, Figure I.20*).



In conclusion, the preliminary findings reveal that there seems to be higher continuity in EPS, which might be due to it providing students with a non-stratified school offer that is without an institutionalized orientation phase, and with a continuity in the language of instruction. However, more data and longer observation periods are needed to further substantiate these profound, longitudinal results.

### 3.6 LIMITATIONS

The analyses of this chapter were conducted by using the administrative student dataset (*Scolaria, Fichier élèves*). Given the nature and availability of the data, there are some limitations that need to be kept in mind when interpreting the results.

To begin with, the proportion of students with delayed careers were examined separately for primary and secondary school level in both EPS and in schools following the Luxembourgish curriculum. However, due to the data limitations, the analyses were only conducted within separate school levels (i.e., primary school and secondary school), and only for students who had been enrolled in the same curriculum since the first grade of primary or secondary school. Therefore, delayed careers do not take the students who had changed curricula within a school level into consideration, and delay in secondary school does not include the possible delay already experienced during primary school. According to MENFP (2012), dropouts occur more frequently among students who have already repeated a grade, indicating cumulative experiences of school failure. More data and longer observation periods are needed to report robust and longitudinal results on cumulative experiences of school failure.

Considering the recent establishment of EPS, only one school provides data until S6. Therefore, there is not enough data to analyse complete educational trajectories in EPS and compare them with trajectories of students who attend the Luxembourgish curriculum. Instead, EPS students' educational trajectories were examined at particular branching points to get an understanding of their continuity patterns in primary and secondary school and the composition of students who begin secondary education in EPS. For these analyses, only the most complete datasets were utilized; thus, the starting cohorts differ from one analysis to other depending on the research question.

As former research has shown, students demographic background characteristics (e.g., migration background, SES, region of residence) have a strong influence on educational achievement and trajectories (Lenz et al., 2021; Backes, 2018; Klapproth & Schaltz, 2015). However, the present





dataset is limited when it comes to analyses based on migration background or different socioeconomic groups. Therefore, the analyses only focused on different language groups. More data and longer observation periods are needed to report robust and longitudinal results regarding the question of whether particular educational transitions tend to be made social-selectively.



## REFERENCES

- Backes, S. (2018). *Heterogenität im luxemburgischen Schulsystem. Eine Mixed-Method-Studie zu Bildungsverläufen aus ungleichheitstheoretischer Perspektive*. Weinheim, beltz.
- Boudon, R. (1974). *Education, opportunity, and social inequality: Changing prospects in Western society*. New York City, New York, Wiley.
- Hadjar, A. (2019). Educational expansion and inequalities: How did inequalities by social origin and gender decrease in modern industrial societies? In Becker, R. (Ed.), *Research Handbook on the Sociology of Education*. Cheltenham, Edgar Elgar.
- Hadjar, A. & Backes, S. (2021). Bildungsungleichheiten am Übergang in die Sekundarschule in Luxemburg. In LUCET & SCRIPT (Eds.), *Nationaler Bildungsbericht Luxemburg 2021* (pp. 86 – 93). Luxemburg, LUCET & MENJE.
- Hadjar, A., Fischbach, A. & Backes, S. (2018). Bildungsungleichheiten im luxemburgischen Sekundarschulsystem aus zeitlicher Perspektive. In LUCET & SCRIPT (Eds.), *Nationaler Bildungsbericht Luxemburg 2018* (pp. 59 – 83). Luxemburg, LUCET & MENJE.
- Hornung, C., Wollschläger, R., Keller, U., Esch, P., Muller, C. & Fischbach, A. (2021). Neue längsschnittliche Befunde aus dem nationalen Bildungsmonitoring ÉpStan in der 1. und 3. Klasse: Negativer Trend in der Kompetenzentwicklung und kein Erfolg bei Klassenwiederholungen. In LUCET & SCRIPT (Eds.), *Nationaler Bildungsbericht Luxemburg 2021* (pp. 44 – 55). Luxemburg, LUCET & MENJE.
- Klapproth, F. & Schaltz, P. (2015). Klassenwiederholungen in Luxemburg. In MEN & Université du Luxembourg (Eds.), *Bildungsbericht Luxemburg 2015: Analysen und Befunde* (pp. 76-83). Luxemburg, MEN & Université du Luxembourg.
- Koch, K. (2006). Der Übergang von der Grundschule in die weiterführende Schule als biographische und pädagogische Herausforderung. In Ittel, A., Stecher, L., Merkens, H. & Zinnecker, J. (Eds.), *Jahrbuch Jugendforschung* (pp. 69-89). Wiesbaden, VS Verlag für Sozialwissenschaften.
- Kramer, R.-T., Helsper, W., Thiersch, S. & Ziems, C. (2009). *Selektion und Schulkarriere: Kindliche Orientierungsrahmen beim Übergang in die Sekundarstufe I*. Wiesbaden, VS Verlag für Sozialwissenschaften.
- Lenz, T. & Backes, S. (2021). Orientierungen im luxemburgischen Schulsystem. In LUCET & SCRIPT (Eds.), *Nationaler Bildungsbericht Luxemburg 2021* (pp. 84 – 85). Luxemburg, LUCET & MENJE.
- Martin, R., Brunner, M., Schalke, D. & Berger, F. (2011). Soziale Mobilität: Ergebnisse der dritten Phase von MAGRIP. In Brunner, M. & Martin, R. (Eds.), *Die MAGRIP-Studie (1968-2009): Wie beeinflussen sozio-kognitive Merkmale von Kindern im Grundschulalter und ihre Bildungswege*



*ihr späteres Leben als Erwachsene in Luxemburg?* (pp. 37-55). Luxembourg, Universität Luxemburg (EMACS).

MENFP (2012). *Le décrochage scolaire au Luxembourg: Parcours et caractéristiques des jeunes en rupture scolaire. Causes du décrochage*. Luxembourg, MENFP.

MENJE (2021a). *Enseignement secondaire général Statistiques globales et analyse des résultats scolaires Année scolaire 2019/2020*. Luxembourg, MENJE.

MENJE (2021b). *Enseignement secondaire classique Statistiques globales et analyse des résultats scolaires Année scolaire 2019/2020*. Luxembourg, MENJE.

MENJE (2022). *Rapport d'activité*. MENJE, Luxembourg.

MENJE (2023). *THE LUXEMBOURGISH EDUCATION SYSTEM 2023*. Luxembourg, MENJE Service presse et communication.

MENFP & EMACS (2007). *PISA 2006: Nationaler Bericht Luxemburg*. MENFP & University of Luxembourg (EMACS), Luxembourg.

Pfeffer, F. T. (2008). Persistent inequality in educational attainment and its institutional context. *European Sociological Review*, 24(5), 543-565. <https://doi.org/10.1093/esr/jcn026>

Reichert, M. & Dierendonck, C. (2008). Ketty, Carlos et Goran...au pays du redoublement. In Martin, R., Dierendonck, C., Meyers, C. & Noesen (Eds.), *La place de l'école dans la société luxembourgeoise de demain: Vers de nouveaux modèles de fonctionnement du système éducatif* (pp. 73-110). Brüssel, De Boeck.

Sonnleitner, P., Krämer, C., Gamo, S., Reichert, M., Keller, U. & Fischbach, A. (2021). Neue längsschnittliche Befunde aus dem nationalen Bildungsmonitoring ÉpStan in der 3. und 9. Klasse: Schlechtere Ergebnisse und wirkungslose Klassenwiederholungen. In LUCET & SCRIPT (Eds.), *Nationaler Bildungsbericht Luxemburg 2021* (pp. 109 – 115). Luxembourg, LUCET & MENJE.

Stubbe, T. C. (2009). *Bildungsentscheidungen und sekundäre Herkunftseffekte: Soziale Disparitäten bei Hamburger Schülerinnen und Schülern der Sekundarstufe I*. Münster, Waxmann.

Van de Werfhorst, H. & Mijs, J.. (2010). Achievement inequality and the institutional structure of educational systems: A comparative perspective. *Annual Review of Sociology*, 36(1), 407-428. <https://doi.org/10.1146/annurev.soc.012809.102538>