



Matching Practices for Secondary Schools – Finland

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Relevant country background

“Matching in Practice” is a research network that brings together the growing community of researchers in Europe working on the various aspects of assignment and matching in education and related labour markets.

These country profiles are part of a collective effort by network members to map matching practices across Europe

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The education system in Finland is made of daycare programs (for babies and toddlers), a one-year preschool and a nine-year compulsory comprehensive school (from age 7 till age 16). After comprehensive school, a student can start upper secondary school, vocational secondary school or decide to work. Approximately half of the pupils go to upper secondary school upon graduation from comprehensive school and the other half go to vocational school. In 2011, 90.9 % of those who applied got a study placement. During that same year 5,762 applicants were left without a placement [1]. Only a minority choose not to apply for further education (2.1% in 2013, [2]). Students typically graduate from secondary school within three or four years, where the fourth year is optional. Higher education in Finland is provided by universities and polytechnics.

Most secondary schools in Finland are public and run by the municipalities, but there are also private and government-run schools. Public schools are free of charge, including health care and lunch [3],[4]. A private school cannot charge fees or make a profit and they are therefore usually publically financed [5]. Approximately 8% of upper secondary school students were attending a private school during the school year 2005 – 2006 [6]. There are very few confessional private schools. Education policy concentrates on equality of opportunity [7].

Admissions to secondary schools are centralized in Finland. During the spring 2013 application process there were a total of 99,550 applicants to secondary schools [2].

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Summary box

Organization of education	Almost all of schools, including private schools, are publicly funded. A student can apply to two kinds of non-mandatory schools: upper secondary school and vocational school.
Stated objectives of enrolment policy	Equality of opportunity to education
Who's in charge?	The Finnish National Board of Education oversees the allocation process.
Admissions system in place since	2008
Available capacity	Decided by the schools based on funding from the state and municipality.
Timing of enrolment	August.
Information available to students prior to enrolment period	Grade limits of previous years are available on the schools' websites or from an information site maintained by the local authority
Restrictions on preference expression	At most 5 programs.
Matching procedure	Sequential version of the school-proposing Gale-Shapley.
Priorities and quotas	Upper secondary schools compute a composite score based on prior academic record and performance on an entry exam. Weights are decided by individual schools. Vocational schools can in addition give bonus points, and thus award a higher composite score, for ranking them first or second and to achieve gender balance.
Tie-breaking	Preferences, academic performance and other criteria are used as tie-breakers (different tie-breakers for upper secondary and vocational schools).
Other special features	A student can receive both vocational and upper secondary school certificates. Gender balancing system can award higher composite score to the minority sex in vocational schools.

Description of current practices

Admissions to secondary schools are conducted using a centralized procedure based on the school-proposing Gale Shapley deferred acceptance algorithm. Each student can rank up to 5 different programs in order of preference. On average, students rank around 3.5 schools. Admissions are decided based on a school-specific composite score computed for all applicants. If two or more students have the same score, a tie-breaking rule used to determine which of the students get

admitted. Weights on the different criteria in the composite score are decided by individual schools. The tie-breaking rule differs between vocational and upper secondary schools but is the same across the same type of schools.

Upper secondary schools compute a composite score for each applicant based on grades in comprehensive school as well as, potentially, entry exams or interviews. Grades count for at least 50% of students' final score [8]. Schools differ in the weights they put on grades from different subjects when computing average scores but the most widely used scoring method is the non-weighted average grade on theoretical subjects.

Vocational secondary schools compute a composite score based on grades in comprehensive school and entry exam (like upper secondary schools), but they also prefer students who list them first and second and students from the minority gender if 70% of the applicants that ranked the program first are of the same gender. How schools weight the different criteria and grades is their own decision. For example, some vocational schools only use the results of entry exams when deciding on admissions.

Schools, whether upper secondary or vocational, can pre-qualify the students they invite to possible entry exams.

Students have information on the grade limits from previous years and which schools value what subject(s) more, even though the precise way the schools weigh the grades (e.g. weight of 2 or 3) is typically unknown to applicants.

When two applicants have the same composite score for a school, a tie-breaking rule is used. For upper secondary schools, this tie-breaking rule first uses the students' preferences to determine who gets in. If the students list the school at the same rank, then average grades on all subjects are used as a tie-breaker and if there is still tie, a random draw is used. For vocational schools, the tie-breaking rule first uses the students preferences to determine who gets in, then points on the possible entry exam, then gender points, then average on all subjects and, if there is still a tie, a random draw is used.

Finally, secondary schools can impose lower limits on the average grade or on the entry exam score according to demand.

The algorithm used to allocate students, based on the schools' composite score and on students' submitted preferences, is a variant of the school-proposing deferred acceptance algorithm. Schools are ordered randomly:

Step 0: Students propose to all acceptable schools. All schools rank students that applied to them on the basis of their composite scores.²

Step 1: School 1 selects the best students that it can take according to its capacity, q_1 , and the students' composite scores, and puts all other students on a waiting list.

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Step K: School K goes through all students that have not been selected by a more preferred school, starting from the students with the highest composite scores. School K admits the q_K

² If more than 70% of the applicants that ranked a vocational program as their most preferred choice are males (females), the females (males) applying to that vocational school program get bonus points to the composite score based on gender. In addition vocational school award bonus points to the composite score if school is in top two choices.

best students and places the rest on a waiting list. If a student that it selects was already allocated a seat in a less preferred school, J, then that student is removed from school J's list.

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This process continues until all schools have allocated their seats to their most preferred students available and all students are assigned.

Based on conversations with the Finnish National Board of Education, it was not clear whether the algorithm manages seats freed up in previous steps by circling over the whole list of schools again, or whether rejection chains initiated by a student getting a more preferred seat are dealt with in the step where it takes place. Note that this algorithm is very similar to the one used in Turkey University admissions with the difference that schools in Finland have a say on their preferences [9].

Performance

In the fall of 2012, 79% of the applicants for upper secondary schools got to their first choice schools/programs and 97% accepted that placement. For vocational secondary schools, an applicant was matched to her first choice school/program in 39% to 75% of the cases depending on the sector. Overall 68% of the applicants were accepted to their first choices and 86% of them accepted that placement. Every year, around 9% of all the applicants do not get a placement [1,10].

Recent policy change

Vocational school admissions were reformed during the Fall of 2013. There are three main changes. First, priorities for new applicants and those without a placement the previous year were introduced to favor them over other applicants, mainly those applicants who wish to change to another program. Program switching is indeed common in Finland: previously around 11,000 applicants with an upper secondary school certificate applied to vocational schools of which around 7,000 have been admitted a placement. The goal is to increase the placements of newly graduated comprehensive school students and applicants without a placement from 3,000 to 5,000 a year [1].

Second, the pre-qualification stage for entry exams has been removed. All applicants are now invited to the entry exams.

Third, there will no longer be bonus points given for ranking a school second; students will only gain points for ranking a school first. [1]

Perceived issues

There has been a concern that the applicants who are left without a placement become marginalized. The recent reform tries to address this concern by giving bonus points to those applicants who did not receive a study place during the previous admission season [11].

Other lingering issues are the high level of program switching and dropout rates. Yearly 3,500 out of around 48,000 (~7%) vocational school students switch programs. During the year 2009/2010 around 11,600 (~24%) vocational school students dropped out of their studies [1].

Finally, it must be noted that the algorithm used for matching students to schools is not strategy-proof given the composite score is affected by listing a school first.

Existing data

Data (in Finnish) on e.g. acceptance rates and entry exam points, from the website of Finnish National Board of Education: https://www.kouluta.fi/koulutadw/faces/app/startupDWRReports.jspx?report_id=18

Statistics about education can be found from the English website of Statistics Finland: http://tilastokeskus.fi/til/kou_en.html

Vipunen: Open-access data bank on all levels of schooling containing data e.g. on admissions, degrees, age groups. Link to Vipunen: <http://vipunen.csc.fi/>

Legal texts

Legal text can be found in Finnish and Swedish from the website maintained by the Ministry of Justice: <http://www.finlex.fi>

General texts about education in Finland can be found from the English website of Ministry of Education and Culture: <http://www.minedu.fi/OPM/Koulutus/?lang=en>

Other resources and references

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http://www.minedu.fi/export/sites/default/OPM/Koulutus/koulutuspolitiikka/vireilla_koulutus/opiskelijaksio_tto/liitteet/Muistio_opiskelijavalinnat.pdf

[2] A letter to study counsellors from the Finnish National Board of Education (2013), viewed: 27.1.2014, http://www.oph.fi/download/151793_opokirje_3_2013.pdf

[3] Website of Ministry of Education and Culture, viewed: 12.7.2013, <http://www.minedu.fi/OPM/Koulutus/lukiokoulutus/?lang=en>

[4] Website of Ministry of Education and Culture, viewed: 12.7.2013, http://www.minedu.fi/OPM/Koulutus/ammattilinen_koulutus/?lang=en

[5] Website of Ministry of Education and Culture, viewed: 12.7.2013, http://www.minedu.fi/OPM/Koulutus/yleissivistavae_koulutus/hallinto_ohjaus_ja_rahoitus/?lang=en

[6] Statistics Finland (2007), Education in Finland: more education for more people, viewed: 12.7.2013, http://www.stat.fi/tup/suomi90/marraskuu_en.html

[7] Website of Ministry of Education and Culture, viewed: 12.7.2013, <http://www.minedu.fi/OPM/Koulutus/koulutuspolitiikka/?lang=en>

[8] Koulutusnetti.fi: Education information site hosted by National Board of Education, viewed: 12.7.2013, <http://www.koulutusnetti.fi/?path=lukiokoulutus>

[9] Balinski, Michel & Sönmez, Tayfun, 1999. "A Tale of Two Mechanisms: Student Placement", Journal of Economic Theory, Elsevier, vol. 84(1), pages 73-94, January.

[10] Kouluta.fi: Data site maintained by the Finnish National Board of Education, viewed: 16.7.2013, https://www.kouluta.fi/koulutadw/faces/app/startupDWReports.jspx?report_id=18

[11] The Ministry of Employment and the Economy (2013), Nuorten yhteiskuntatakuu 2013 – Työ- ja elinkeinoministeriö, viewed: 12.1.2013, www.tem.fi/files/32290/TEMrap_8_2012.pdf

MiP Country Profiles downloadable from matching-in-practice.eu

MiP Country Profile 1. Cantillon, Estelle (2011), [Matching practices for elementary schools – Belgium \(French-speaking region\)](#).

MiP Country Profile 2. Kübler, Dorothea (2011), [University admission practices – Germany](#).

MiP Country Profile 3. Irving, Rob (2011), [Matching practices for entry-labor markets – Scotland](#).

MiP Country Profile 4. Kiselgof, Sofya (2011), [Matching practices for universities – Ukraine](#).

MiP Country Profile 5. Biró, Péter (2011), [University admission practices – Hungary](#).

MiP Country Profile 6. Biró, Péter (2012), [Matching practices for secondary schools – Hungary](#).

MiP Country Profile 7. Chen, Li (2012), [University admission practices – UK](#).

MiP Country Profile 8. Chen, Li (2012), [University admission practices – Ireland](#).

MiP Country Profile 9 Cantillon, Estelle and Koen Declercq (2012), [University admission practices – Belgium](#).

MiP Country Profile 10. Chen, Li (2012), [Matching practices for elementary schools – Ireland](#).

MiP Country Profile 11. Chen, Li (2012), [Matching practices for secondary schools – Ireland](#).

MiP Country Profile 12. Manlove, David (2012), [Matching practices for primary and secondary schools – Scotland](#).

MiP Country Profile 13. Merlino, Luca Paolo and Antonio Nicoló (2012), [Matching practices for elementary schools – Italy](#).

MiP Country Profile 14. Merlino, Luca Paolo and Antonio Nicoló (2012), [Matching practices for secondary schools – Italy](#).

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MiP Country Profile 16 Hiller, Victor and Olivier Tercieux (2013), [Matching practices in secondary schools – France](#).

MiP Country Profile 17 Calsamiglia, Caterina (2014), [Matching Practices for elementary and secondary Schools – Spain](#).

MiP Country Profile 18 Lauri, Triin, Kaire Põder, and André Veski (2014), [Matching practices for elementary schools – Estonia](#).

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MiP Country Profile 22 Cantillon, Estelle (2015), [Matching practices for secondary schools – Belgium \(French-speaking region\)](#).