

# St. Andrew's Anglican College

Senior School – Overall  
Placement (OP)

# Overall Placement (OP) and Field Placements (FP)

- When a student finishes Year 12, they will receive a QCE and a Tertiary Entrance Statement if OP eligible.

What is “OP-eligible?”

- A student must complete 5 authority subjects, 3 of which must be continuous over the 2 years, and sit the QCS test
- The Tertiary Entrance Statement will report an Overall Position (OP) between 1 and 25, and up to 5 Field Positions on a scale of 1 to 10.

- Field Position is a measurement of the type of skills you have been able to display, and thus a narrow course selection will mean that you may not receive 1 or more FPs.
- An example of statistics: In 2005, there were 27025 students eligible to receive an OP. 2.37% received an OP1 (640 students). 16.42% of OP eligible students (4437) were in the OP1 – 5 range. 40% of students eligible received an OP10 or better.

- An OP is basically a ranking of all students independent of the subjects chosen. As can be seen, approximately 27000 students split into 25 bands mean that there are many students in each band (In 2005, for example, 1517 students achieved an OP14).
- Field Positions help to “fine tune” each band. Each QSA subject is weighted depending on how much that subject contributes to that field.

# Fields

- **Field A:** Extended written expression involving complex written analysis and synthesis of ideas
- **Field B:** Short written communication involving reading, comprehension and expression in English or a foreign language
- **Field C:** Basic numeracy involving simple calculations and graphical and tabular interpretation
- **Field D:** Solving complex problems involving mathematical symbols and abstractions
- **Field E:** Substantial practical performance involving physical or creative arts or expressive skills

*In 2006, for example, English is weighted 5, 4, 1, N/A, and 4, while Physics was weighted 1, 2, 5, 5, and 2.*

# **Tertiary Institutions will follow a process something like this:**

- Check applicants eligibility (i.e. subject prerequisites met)
- Use OP results for establishing a cut-off OP level
- Use FP results to determine between those on the cut-off OP level
- Use alternate means if necessary (i.e. portfolio, interview)

# How are OPs calculated?

- The Viviani review of the system of Tertiary entrance procedures in Queensland (1990) stated that simplicity and fairness were incompatible. As a consequence, the process is complex.
- The raw ingredients are the subject results for each student. The aim is to compare these subject results with those of all other students, regardless of the combination of subjects undertaken by each student or the school they attended. This is achieved by scaling.

- Scaling aims to position 2 sets of results on a scale such that they are equivalent. For example, what does it mean to be the best student of Geography at Collingwood High School? How do the standards and abilities of the Geography class at CHS compare to those of the Physical Education class? How do the standards and abilities of the students at CHS compare to those of the students at Lindeman Island Grammar School?

- The difficulty inherent in the system is that students with different overall capabilities choose different subject combinations and attend different schools.
- How can the QSA compare and rank these?

- Teachers are usually very good at comparing the achievements of students in their own school, but not so good at agreeing on a fine graduation of standards applicable to all students in the subject in the State. Teachers determine the Levels of Achievement of all students in their class. The second step is to place students in a rank order, where the gap between students is just as important as their position within the ranking.
- In Large Group subjects (>13 students) the top student is always given 400, the lowest student is always given a 200. Appropriate numbers are allocated to all students in between depending on their rank order and gaps. These are called Subject Achievement Indicators (SAIs).

- Small (<9) and Medium sized groups (<14) follow a slightly different approach. The **Levels of Achievements** are considered as the SAIs, or otherwise the 400/200 approach would provide unstable results.
- It is neither advantageous or disadvantageous to have many or few Small (or Intermediate or Large) groups. The key is where a student finishes in that subject group

# Stage 1 scaling: within school

Aims to remove the effects of different students choosing different subjects within each school

- Scale the SAIs for each subject so that they are comparable, using the QCS results for the groups of students in each subject (using the mean and standard deviation of the QCS results in that group). These are now called “scaled SAIs”.

- Scaling adjusts for the capability of groups, not for differences in subject difficulty. Taking the mean as a reference point, the spread of capability is also considered. A high average does not necessarily imply a higher top scaled SAI.
- **THERE IS NO AUTOMATIC ADVANTAGE IN CHOOSING SUBJECTS WITH MORE CAPABLE STUDENTS!**

**Display 1: Example of Subject Achievement Indicators (SAIs) and illustration of first stage of scaling of a large group**



- Small groups are scaled slightly differently (subject groups  $< 9$ ). Scaled boundaries between LoA's are calculated from all the scaled large subject groups in that subject – the boundaries between VHA, HA, SA etc. The rungs are then spaced between the scaled “boundaries”. These give scaled values for each level and rung, which in turn provides each student's scaled SAI. Intermediate groups (10 to 13 students) take a combination of large and small group processes.

- Finally, a student's best 5 scaled SAIs are averaged to give their Overall Achievement Indicator (OAI). These compare students at the same school.

# Scaling between schools

- The OAI's are then recalculated so that their average and spread match the average and spread of the QCS results. This is done for every school, resulting in scaled OAI's.
- Finally, OP's are determined by ranking statewide scaled OAI's into 25 bands.

# How are Field Positions calculated?

- The same SAIs as previously used, but the questions in the QCS Test are grouped to represent their applicability to each of the 5 fields. There are then 5 baseline measures. Each student has 5 field scaling scores from their QCS results. A separate scaled SAI is calculated for each student on each of the 5 fields. (In reality, 6 sets of scaled SAIs are calculated from each set of SAIs).

- A weighted average is taken over each eligible student's best scaled SAIs whose subject weights for that field sum to 15 (remember the field weightings earlier on for each subject). Each scaled SAI is multiplied by the relevant subject weight for that field, the results are added from best to worst until the weights of subjects included sum to 15, and then divided by 15 to get an average Field Achievement Indicator (FAI). The FAIs are then grouped into 10 bands.

**Display 12: Example calculation of one student's B-Field Achievement Indicator (B-FAI) where each subject has been taken for four semesters**

| Subject  | B-Scaled SAI | Subject Weight |   |
|--|--------------|----------------|---|
| F  | 205          | 3              | Count best set of Scaled SAIs whose weights sum to 15 |
| G  | 179          | 5              |   |
| H  | 164          | 2              |   |
| I  | 157          | 4              |   |
| J  | 152          | 3              |   |
| -----  |              |                | Note: Last SAI weighted only 1 to take sum to 15      |
| K  | 144          | 3              |   |
| $B - FAI = 1/15 \{ (205 \times 3) + (179 \times 5) + (164 \times 2) + (157 \times 4) + (152 \times 1) \} = 174.53$ |              |                |   |

**Note 1:** Where students have studied some subjects for less than four semesters, they count as one-quarter of a subject for each semester. In this context 'three subject equivalents' means equivalent to three subjects each weighted 5 and each taken for four semesters.

**Note 2:** It has not been possible to discover a suitable way of doing a second stage of scaling for FAIs. The resulting decrease in precision has been taken into consideration in the broader banding of FPs.

**Note 3:** For this calculation, the B-Scaled SAIs must be ranked from highest (top of column) to lowest (bottom of column).

**Will students with five SAIs of 400 obtain OP1?**

Not necessarily. In fact, usually not. An SAI of 400 refers only to the highest achieving student in that subject in that school. This student may not be the best student overall in the school, let alone among the top two per cent in Queensland overall.

**Can students see what SAIs were awarded?**

Schools are required to make available to students in each subject a complete listing of students and their SAIs. This allows students to check that SAIs have been awarded fairly. Queries about SAIs should be directed to the school. SAIs are a school responsibility.

**Can you predict an OP just from Levels of Achievement?**

There is a strong overall relationship for the State between students' OPs and average Levels of Achievement. But this is not a precise relationship for individual students.

**Is a low achiever in a high achiever group advantaged?**

No. The scaling procedures are self-adjusting for the membership of the group. The relative gap between the low achiever and other members of the group is retained in the scaling. Evidence of this is seen in the VLA ranges in Display 8 which shows the average ranges of Scaled SAIs across the Levels of Achievement for all large groups in the State (in five subjects). Students can obtain relatively low Scaled SAIs in any subject. How low is determined by their actual performance relative to others.

**Is there a bias in favour of maths and science students?**

All subjects are weighted equally in OP calculation. However, some subjects tend to attract more capable students, those who achieve better on subjects generally and on the QCS Test. Their SAIs will be scaled higher because the competition is tougher. There is no benefit in joining such groups and performing badly. The calculations are based on actual relative achievement and are self-adjusting for group membership.

**Can a student do poorly on the QCS Test and obtain a high OP?**

Yes. The opposite is also possible. A student's result on the QCS Test has no direct effect on that student's OP. It is important to realise that the QCS Test results are used in the scaling procedures only to determine where the group fits on the baseline scale. What matters for the individual student are the SAIs.

# And Finally...

## **How can students ensure they get the best results?**

OPs and FPs depend on student achievement. Where the competition in a subject is weak, top OPs and FPs will be reached only by performing outstandingly, relative to that group; quality of performance should be gauged by how well the best students in the State could perform in the subject and in that school if they tried their hardest and were given encouragement and opportunity to excel.