Top of the Bench 2018-19 recommendations

Following a review of the Top of the Bench (TOTB) competition during 2017, the Royal Society of Chemistry’s Education Division Council approved recommendations to:

- Improve inclusion and diversity
- Increase staff support for Local Sections running regional heats
- Ensure TOTB is a positive and equal experience for all students taking part

These recommendations should be implemented (if appropriate) by Local Sections for the regional heats that start in autumn 2018. After evaluation of the national final in spring 2019, a further iteration of recommendations may be provided. Following the spring 2020 national final, a review for the future of the competition will be undertaken.

Improve inclusion and diversity

In February 2018, we launched our ‘Diversity landscape of the chemical sciences’ report. This report draws together the available data and evidence relating to the current state of diversity in the UK chemical sciences. It identifies gaps and questions that still need to be answered, and sets out commitments for our future focus as an organisation. Further details about our inclusion and diversity strategy and the report can be found on our website.

As representatives of the Royal Society of Chemistry, it is expected that Local Sections uphold our values of inclusion and diversity. Chemistry should be for everyone and we are committed to promoting and supporting inclusion and diversity across our education activities. It has been identified that a lack of diversity of the students taking part in the TOTB competition needs addressing, in particular the low number of state schools participating and the gender imbalance in the national final.

<table>
<thead>
<tr>
<th>Year</th>
<th>% state schools</th>
<th>% registered Male/Female/Other</th>
<th>Winning school</th>
<th>Top 6 schools</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>School type</td>
<td>% female</td>
</tr>
<tr>
<td>2017</td>
<td>34</td>
<td>68 / 32 / not collected</td>
<td>Independent</td>
<td>0</td>
</tr>
<tr>
<td>2018</td>
<td>39</td>
<td>67 / 32 / 1</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Table 1: School type and gender for National Finals 2017 and 2018

Table 1 shows there has been a small increase in the number of state schools entering the national final in 2018 but this figure still needs improvement. The gender imbalance has remained static, with just 32% of the students entering identifying as female in the last two years. Unfortunately due to the large amounts of snowfall covering most of the UK, the 2018 final was cancelled; hence we do not have the data for the top 6 schools or winning school.

We understand that the demographic of the winning school is not in our control, however we believe that through positive action a more diverse range of schools and students can be encouraged to take part in the regional heats, resulting in a more balanced representation in the national final.
**Gender**

To address the gender imbalance we would recommend that Local Sections **invite schools to submit teams that are broadly representative of their school's gender balance**

We appreciated that we cannot insist on teams having an equal number of different genders (for example a single sex school) which is why we ask Local Sections to work with their participating schools to ensure that the team that is submitted is broadly representative of their schools gender balance. To be more inclusive, we would also encourage Local Sections to update their regional heat entry forms when asking about gender, for example:

What is your gender?

- Female
- Male
- Other

There will not be any changes to the rules regarding the year groups of students entering as shown in Table 2.

| England and Wales | Two students from Year 9  
|                   | One student from Year 10  
|                   | One student from Year 11  |
| Scotland          | One student from S2  
|                   | Two students from S3  
|                   | One student from S4  |
| Northern Ireland  | Two students from Year 10  
|                   | One student from Year 11  
|                   | One student from Year 12  |
| Republic of Ireland | Two students from Third Year  
|                      | One student from Transition Year  
|                      | One student from Fifth Year  |

**Table 2: TOTB team compositions**

Please note:
- Team members must be in these school years for both the regional heat and the final
- Schools cannot nominate students who have taken part in the competition previously
**School type**

To address the imbalance of school type in the competition we would recommend that Local Sections **encourage more state schools to enter their regional heats**.

Attracting a broader range of schools to enter your regional heat can be a challenge, especially if the same schools historically have always entered. The following barriers have been identified:

- **Contacting state schools and getting interest from state schools**
  - This can be addressed by sending personal invitations to local state schools with information about the event. A list of schools in your area can be found using the website [www.schoolswebdirectory.co.uk](http://www.schoolswebdirectory.co.uk). Your Local Education Coordinator may be able to help with contact names or an introduction. It may also be possible for your Education Coordinator to help promote your regional heat through their newsletters or local teacher events. Raising the media and public profile of the event may also help.

- **Independent or grammar schools fill up school places first**
  - This can be addressed by having a phased invitation process where state schools have priority registration or you may wish to reserve places for state schools.

- **Travel costs for schools to attend regional heats**
  - This can be addressed by the Local Section applying to the Outreach Fund for financial support to cover travel expenses enabling more schools to attend. You may also wish to consider holding a remote regional heat by sending schools a postal or online quiz.

- **Schools needing teacher cover to attend a regional heat**
  - This can be addressed by considering running your regional heat in the evening or weekend to avoid the need to teacher cover (please note the Outreach Fund will not fund teacher cover). This will also avoid getting permission to take students out of lessons.

**Additional needs**

A student’s additional needs should not be a barrier to participation in the competition and everyone should have the opportunity to take part. Local Sections are encouraged to communicate to schools that their event is **accessible to all and they can accommodate students with additional needs**. Should you need advice on how to accommodate students with additional needs please contact [education@rsc.org](mailto:education@rsc.org)

**Summary: Improve inclusion and diversity**

In order to help us monitor the impact of these recommendations, it would be greatly appreciated if all Local Sections could provide at the end of their regional heat a summary of schools type, gender and additional needs as shown in table 3 below. If preferred this can be emailed to a Local Section as an excel spreadsheet or the information will be happily accepted through the post if that is more convenient.
Table 3: Regional heat school and team summary

Please note names, year group, ages, date of birth of the students are not required and it is not necessary to identify which student in the team has additional needs. If it is not possible to collect the information then please leave this section blank.

**Increase staff support for Local Sections running regional heats**

*Assist in finding more volunteers outside the Local Section committee*  
Organising and running a TOTB regional heat can be a considerable amount of work. Should you need more volunteers please contact education@rsc.org and we will be able to contact members of your Local Section to let them know of the opportunity to get involved.

*Assistance finding practical facilities (if required)*  
Should a Local Section decide to organise a practical element in their regional heat, we hope finding a suitable venue will not be a barrier. Depending on the type of practical, there are a range of venues that could be considered suitable. For example, a school laboratory, local university or science centre. These venues can normally be hired at very low-cost or can even be negotiated free of charge. If you require help in finding practical facilities then please contact education@rsc.org and we will do what we can to assist. If the regional heat does feature a practical component safety needs consideration, for example will students need to bring their own lab coat or lab specs? Completing a risk assessment appropriate to the format of the regional heat is crucial prior to the competition. Please see our risk assessment for events webpage for information regarding risk assessments and how to complete the appropriate documentation.

*Provide information on financial support available from the Outreach Fund (if required)*  
If a Local Section requires financial support to run their regional heat, they are welcome to apply to the Outreach Fund. This fund provides financial support to members, individuals and organisations in order to enable them to run chemistry-based public and schools engagement activities. Full details about funding categories, eligibility, criteria, restrictions and deadlines are available on the Outreach Fund website. As detailed in the restrictions, the Outreach Fund is not able to cover the cost of supply cover for teachers, teacher stipends or salaries or equipment to run a regional heat if the cost of the equipment forms the majority of the grant. Please note, the Outreach Fund is competitive and funding for a regional heat is not guaranteed. If you have any further questions about the Outreach Fund please contact education@rsc.org.
**Encourage Local Section organisers to use their Local Section logo on materials**

To ensure that our Local Section volunteers are recognised for their work in organising and running a regional heat, we would encourage TOTB organisers to use their Local Section logo on any printed or electronic materials produced.

Many Local Sections have created their own regional heat event name that has become well known in the local area. We are keen that Local Sections continue to use their existing regional heat name, but for consistency across all heats, we ask if details are submitted into the RSC events database that organisers use the format:

‘Top of the Bench Regional Heat: <insert name of regional heat>’

**Ensure TOTB is a positive and equal experience for all students taking part**

TOTB regional heats normally take place between October and the end of January and we find that the competitions vary across all regions. To ensure that the competition is a positive and equal experience for all students taking part we would recommend that Local Sections (where possible) organise a competition that has a similar format to the national final.

At the national final, all students undertake a written paper and a practical activity. The students sit individual papers appropriate to their age. The papers test the students understanding, not knowledge. Students work collaboratively as a team for the practical activity with marks allocated based on a submitted report. We would therefore recommend a combination of a written paper/quiz and a practical element as the basis for a regional heat. As recommended by our members, a previous year’s national final papers will be available to download from Learn Chemistry so Local Sections and schools can see an example of what to expect. This is in progress and it is anticipated that they will be available soon.

To help support our Local Sections, as recommended by our members we have also created a shared regional heat resource bank. This is secure and held on the RSC internal network to which only staff involved in the competition and our Education Coordinators have access. Should a Local Section require any ideas for their regional heat please contact education@rsc.org or your local Education Coordinator, and we will search the collection on your behalf, and provide by email the appropriate resource. Please be assured, to avoid any teachers or students being in possession of your resources, we will only take a request from a member who is involved in TOTB. If there is any doubt, the TOTB organiser will be contacted to confirm the request. We ask that the resource bank is not shared with any teachers or students. As a disclaimer, we will not be undertaking any quality assurance of the resources and when these are shared it will be made clear they are from the named Local Section and not created or moderated by staff.

We appreciate that it may not be possible to organise a regional heat in this standard format as every Local Section has different resources and expertise, as well as a varying geographical spread of schools that attend. If you would like advice about trialling a different format, please contact education@rsc.org.