A Quick Guide to ACT! SG:
Part 2 - Data Collection, Entry and Analysis

Data Collection

Before data collection, consider three research ethics issues: (i) data privacy and confidentiality; (ii) voluntary participation; (iii) parental informed consent, by:

- Limiting the extent of personal identifiers collected to only that which is necessary for the research purpose, e.g., collect only the last 4 characters of the NRIC number;
- Not coercing, forcing or setting conditions for youths such that they are compelled to complete the survey;
- Building in and obtaining the consent of parents for data to be collected from youths for research and evaluation, during consent for enrolment into the programme.

To improve data collection practices, please note these pointers:

- Pre-tests should always be conducted before the delivery of any service or programme activity to ensure an accurate representation of the baseline levels.
- Surveys are to be filled in by the youths themselves and not by their proxies e.g., youth workers, parents or teachers.
- If the youths have reading difficulties, upon request, a facilitator is allowed to assist by reading the items to them aloud; or provide broad examples of attitudes, thoughts and behaviours, consistent with the item, to increase understanding.
- To minimise instances of youths losing focus, it is recommended to schedule breaks instead of completing an entire survey at one go.
- Sample briefing script: We are giving you a survey to fill in. It has X questions that will ask you about your feelings, thoughts and actions. It will take about X minutes to fill in. This is important in helping us understand how the programme is helping you. Please answer honestly as there are no right or wrong answers and this is not a test. If there is anything which you do not understand, please let me know. I can come and help you. If you need a break at any time, let me know too. If you are willing and ready, you may begin the survey.
- During post-tests, do not give respondents a copy of their earlier pre-test responses.
- Post-tests should be administered at the end of a programme; if desired, additional post-tests can also be administered at intervals such as six months or one year after the programme has ended, to gauge the youths' developments over time.

Instead of hard copy forms, consider utilising electronic forms via the internet, using the QR codes or webpage links in the table. All collated data will come to CYGO and they can be converted into an Excel file and emailed to an agency upon request. This eliminates tedious data entry and minimises errors.

	Pre	Post
ACT! SG Tool	https://form.gov.sg/5c89ad4c77ef5300174c1eeb	https://form.gov.sg/5c91f86d6a5c75001012ddb4
ACT! SG (Sports) Tool	https://form.gov.sg/5c89fbbd77ef5300174c255d	https://form.gov.sg/5c9b4134b531f10010b94b90
ACT! SG (Arts) Tool	https://form.gov.sg/5c9d928113e4da00172e0ae7	https://form.gov.sg/5c9b4605b531f10010b94bf5

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Sections of the Tools

The ACT! SG Tool has only one single section, while the ACT! SG (Sports) Tool and ACT! SG (Arts) Tool have sections A, B and C:

	ACT! SG Tool	ACT! SG (Sports) Tool	ACT! SG (Arts) Tool
Section A: Measures how well the trainer inculcated values during sports/art activities	NA	15 Qns	15 Qns
Section B: Measures how well the participants demonstrated values during sports/art activities	NA	15 Qns	24 Qns
Section C: Measures the 13 skills under ACT domains	39 Qns		

The ACT! SG Tool has 39 questions that measure the 13 skills/outcomes under the Achieve-Connect-Thrive domains, with 3 questions measuring each skill/outcome, in this order: (1) Academic Achievement, (2) Critical Thinking, (3) Creativity and Innovation, (4) Goal Setting, (5) Positive Relationships, (6) Teamwork, (7) Leadership Development, (8) Community Connectedness, (9) Cultural Competence, (10) Active/Healthy Living, (11) Life Goals, (12) General Self-Efficacy, (13) Safety and Risk Awareness.

The above information will provide a basic understanding of how the questions are structured and sequenced, but this knowledge is not necessary for data analysis with the automated Excel formulas in the Data Analysis Template.

Data Entry

With the pre/post questionnaires completed by the programme participants, the data have to be entered into the Data Analysis Template (DAT), which has automated formulas to produce outputs such as the differences between pre and post-test scores, mean values, p-values, effect size, etc., for every indicator and domain.

In the spreadsheet, there are 'raw data' and 'cleaned data' tabs. The 'raw data' tab will capture the data in its original form, including incomplete or patterned responses. From there, data have to be categorised and filtered so that only the useful data will surface. This is done by looking through the data and assigning a number for different survey conditions. "0" would mean the survey was properly filled in and would hence be useful data. Conversely, surveys with incomplete or patterned responses (e.g. 1-1-1-1-1-1-1-1-1-1; 1-2-3-4-5-5-4-3-2-1) would not be useful.

After filtering, only the useful data will be copied and pasted into the "cleaned data" tab, in which the formulas will do the working. Do ensure the formulas work for every exact row by dragging it to cover every row of useful data, but not rows without data.

During data entry, be mindful that the DAT and Tools have different sequencing for the questions. The DAT first sequences the 39 questions (Section C of Tools) measuring the Achieve-Connect-Thrive domains, followed by the 15 questions in Section A of Tools) on how well the trainer applied the Game-For-Life principles, and lastly Section B of the Tools on how well the youths exhibited value-based behaviours.

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Data Analysis

A positive difference between the pre-test means and post-test means indicates an improvement. A bigger difference indicates a bigger improvement.

p-value < 0.05 implies the improvement is significant

This means there is less than a 5% chance that the programme did not bring about an effect. The lower the p-value, the more effective the programme was.

Next, the effect size tells how big the effect was from the programme.

0.2 to ≤0.5   = Small effect
>0.5 to ≤0.8   = Medium effect
> 0.8   = Large effect

Effect size measures the size of differences between pre-scores and post-scores. It is not related to how significant the change was, as the results might turn out insignificant due to a small sample size.