

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. This eliminates tedious data entry and minimises errors.

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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.

The cleaned data tab helps to convert reverse-coded scores as well. 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 Sports/Arts 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. A p-value of < 0.05 implies the improvement is statistically significant. This means there is less than 5% chance that the programme did not bring about an effect. The lower the p-value, the more likely that the difference between pre and post-test did not happen by chance.

If your result is statistically significant, you can next interpret the effect size, which tells you how big the effect was from the programme: The larger the effect size, the larger the magnitude of change between pre and post-tests. Effect size possibly indicates the impact and effectiveness of the programme.

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

Effect size is sensitive to sample size. The lack of statistical significant results or small effect size may sometimes be due to small sample size.

Norms Table

The norms table contains the scores of the ACT and Sports domains for the general youth population. It may be used as a benchmark for programmes using the ACT SG Tool and/or the ACT SG (Sports) Tool. A youth's mean score of a domain may be compared against the norms table for that domain to understand the youth's scores against the norms based on percentile.

Norms for the Sports domain refers to the first four Game For Life (GFL) competencies only (i.e., Confidence, Respect, Excellence and Compassion), as not all sports has a teamwork component. The Teamwork domain has a separate norm of its own.