School Technology Needs Assessment (STNA)
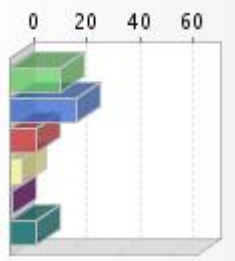
Interpreting STNA Data

Once the School Technology Needs Assessment (STNA, say, "Stenna") has been completed in your school, the challenge becomes using the data collected by the online system in ways that will ultimately benefit students.

Building-level planning teams can use STNA findings to inform changes to technology initiative implementations—particularly staff professional development activities.

About STNA Response Rates

Since STNA is designed to report at the school level, it is critical that a large majority of respondents in the building targeted for STNA implementation actually complete the instrument. While there are no hard or fast rules, if fewer than 90% of *staff members working directly with students* respond, it is safe to assume that the resulting data may not be truly representative of the entire faculty, and interpretations arising these data will not be well founded.

Reporting Form of the Web-Based STNA

CONDITIONS Technology Planning, Budgeting, and Evaluation	SA	A	N	D	SD	?	Strongly Agree (SA) ■ Agree (A) ■ Neither Agree nor Disagree (N) ■ Disagree (D) ■ Strongly Disagree (SD) ■ Do not Know (?) ■	Response Total
9) The budget for technology resources is adequate in size to support decisions arising from planning and to continuously update and replace technology systems as they become outdated.	27.1% (19)	35.7% (25)	14.3% (10)	7.1% (5)	1.4% (1)	14.3% (10)		70

The standard online STNA report will look similar to the table above, with the item number and detail in the leftmost column. Both the percentage and number of participants choosing each response option (the *frequency*, in parentheses) are listed in columns headed by the annotations SA (Strongly Agree), A (Agree), N (Neither Agree nor Disagree), D (Disagree), SD (Strongly Disagree), or ? (Do not know). The total number of responses for the item is indicated at the far right. The most useful feature of each item report row might be the color-coded frequency bar chart illustration—called a *profile* in this documentation and discussed at length below.

Interpreting STNA Item Profiles

Once the data collection period for your instrument has closed, you can access your STNA report through a URL that will be provided to your STNA manager—the individual responsible for managing your STNA implementation.

Rather than provide statistical analyses of responses, STNA presents *descriptive data*—results in terms of percentages and frequencies, illustrated using bar charts. Educators who have used the STNA report in the past indicate that these profiles are very useful in communicating complex information in ways that are easy to interpret. Any given profile might suggest a possible range of responses by your planning team, and comparisons of profiles within or between uses of STNA may further enhance your understanding of how schools staff members think about technology in your school.
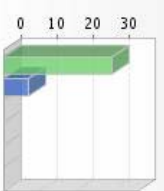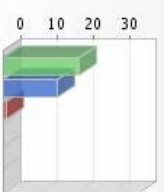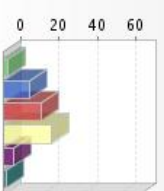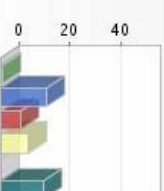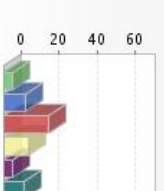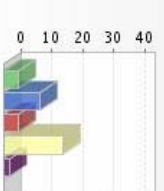
Interpretation is simplified by the design of STNA, in which all items are stated such that the "Agree" end of the scale is always "positive"—in the sense that the issue being examined is thought to be beneficial to successful implementation of technology in teaching and learning settings. If the issue addressed by an item is *not* a priority in your school, then that item may of course be ignored during interpretation.

Note that the "Do Not Know" response is neither positive nor negative but simply indicates a lack of awareness about the substance of the item. However, the frequency with which this response is selected illustrates "awareness" of the substance of the item at hand among staff members, and can certainly illuminate their needs (e.g., for additional communication from evaluation or technology planning teams).

Examples of Appropriate Interpretations

The following examples of STNA report profiles are provided to illustrate appropriate interpretations that you might reasonably make for planning purposes. Of course, your uses of STNA data are ultimately driven by the questions you are trying to answer. You may, for example be focusing on the use of technology resources, while another school is concerned with the degree to which professional development efforts translate into changes in teacher practice and student activities. Regardless, examine your STNA data in whatever way they will be useful to answer the questions you care about.

Review the following table of profiles during planning activities then examine your STNA report for similarities. Think critically about the information presented and bear in mind that your report may potentially raise more questions than it answers, by bringing to light issues that may require additional focused discussion with building-level stakeholders.

Strongly Agree – ■ (green) Agree – ■ (blue) Neither Agree nor Disagree – ■ (red) Disagree – ■ (yellow) Strongly Disagree – ■ (purple) Do Not Know – ■ (teal)	**Interpretations Reasonably Grounded in the Profile** For Enhanced Likert scale items, "Strongly Agree" to "Strongly Disagree," plus "Do Not Know" *All sample profiles are from actual online STNA results*
	1. All respondents either Strongly Agree or Agree with the statement in the item. Since all STNA items are worded positively, it is reasonable to infer that the staff's needs are being met in the area examined by the item.
	2. This profile indicates a staff that is responding positively to the item, but not as enthusiastically as in the above example. There is some room for improvement in the area examined but it may not be an immediate priority for building planners, if other items suggest areas of greater need. This profile is not different enough from the one above to allow for meaningful distinctions between the two.
	3. In this example, respondents as a group are feeling neutral to negative about the area examined by the item resulting in this profile. This response distribution represents an issue that should be an area of concern for building decision makers—assuming that the substance of the item is in fact a priority.
	4. In this profile, a large number of respondents report that they "Do Not Know"—that they do not have enough information to respond to the statement in the item—suggests that a substantial portion of the staff is not fully informed about its substance. It may be, for example, that they did not recognize a key term in the item, or that they do not have access in their position to pertinent information. Gathering additional information about why the respondents do not know might prove helpful.
	5. This profile more closely resembles the *normal* or bell-shaped curve, indicating a staff that is mixed in the nature of members' thinking about the area examined by the item. While it may simply be that the staff as a whole is ambivalent about the substance of the item, it would be useful to investigate further why people feel the way they do, including why a number chose "Do Not Know."
	6. For this item, a larger number of staff members do not agree with the statement provided, than agree with it. This profile suggests that substantial disagreement exists within the staff, making this an area of concern for decision makers. Nobody chose "Do Not Know," suggesting that awareness in this area is good.

	7. This profile illustrates that there are a very small number of individuals among respondents who feel very strongly negative about an area with which most respondents are satisfied. Further inquiry, in the form of individual interviews for example, might help planners understand why a few staff members are feeling so disaffected on this point.
	8. This profile represents a staff that is very mixed in members' thinking about the area examined by the item. Additional information will certainly be required to determine why people feel the way that they do about issues relating to this item—perhaps from focus group discussions. It is difficult to make any substantive inferences from this profile alone.

Decision makers may also elect to chart changes in staff needs by administering the STNA periodically and comparing profiles for key items over time. If this is the case, comparing item profiles across the weeks or months to chart changing perceptions among staff members would be an appropriate use of this data.

Professional Development Participation and Evident Need

Specific key constructs follow threads through the STNA sections. It is therefore possible to compare response profiles in Section IV (*Classroom Practices*) with those in Section III (*Professional Development Participation*) to gain some understanding of how educators' reported practices currently align with participation in inservice activities. For example:

Section III Professional Development Participation		Section IV Classroom Practices		
In the last 12 months…	Yes - ▇ No - ▇ Do Not Know - ▇	**In my classroom…**	Daily - ▇ Weekly - ▇ Monthly - ▇ Once per Term - ▇ Never - ▇ Do Not Know - ▇	*Interpretation*
3) I participated in professional development opportunities examining **student assessment** in technology-enhanced classrooms.	Low Participation	3) I apply performance-based **student assessment** to technology-enhanced lessons (e.g., student portfolios, student presentations).	High Need	*Current staff need is high in an area where they have not participated in professional development.*
6) I participated in professional development opportunities examining the uses of technology to improve individual **teacher productivity**.	Relatively High Participation	7) I use technology to support and increase **teacher productivity**.	Relatively Low Need	*Professional development in the past 12 months has addressed this area, in which classroom practice is also relatively common.*
Notes: The above interpretations presume that the constructs illustrated are in fact important to building planners. A lack of participation is not necessarily the same as lack of provision of professional development opportunities.				

In situations where your specific questions suggest that it would be appropriate to compare items, be aware that higher levels of inference will be required to do so. Given this, it will be necessary to think critically about how the findings of your specific STNA might answer your specific questions.

To extend the professional development example provided earlier, issues relating to the potential impact of professional development on classroom practice might be usefully determined by comparing the following items:

Section III Professional Development Participation	Section IV Classroom Practices	Construct Examined
Item 1	Item 1	Research
Item 2	Item 2	Finding Resources
Item 3	Items 3 and 4	Student Assessment
Item 4	Item 5	Learner-Centered Strategies
Item 5	Item 6	Security & Safety
Item 6	Items 7, 8, and 10	Teacher Productivity
Item 7	Item 9	Involving Parents