



School Technology Needs Assessment (STNA)

SERVE Center
at the University of North Carolina
at Greensboro

Interpreting STNA Data – STNA Version 3.0

Once the educators in your school have completed the School Technology Needs Assessment (STNA), you can access a data report through a URL that will be provided by the SERVE staff member who helped you set up the survey. The next step will be to review and study the data and to use the findings to improve the use of technology in your school in ways that will enhance teaching and benefit students.

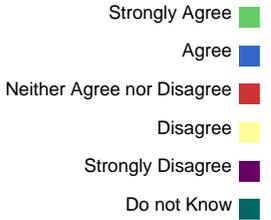
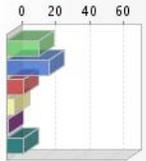
About STNA Response Rates

When you receive email notice of the web address for your school's online report, you will also be provided with a response rate for your STNA—the percentage of staff members completing the survey, based on the expected number of respondents that you provided when your survey was set up.

Since STNA combines all staff members' responses and reports data at the school level, it is very important that nearly everyone in your building actually complete the instrument. While there are no hard or fast rules, if fewer than 90% of *staff members working directly with students* respond, then it is entirely possible that your results do not accurately represent “what is going on with technology” in your school. Interpretations of results based on a low response rate will not be well-founded so it is not a good idea to make important planning decisions based on them.

Reporting Form of the Web-Based STNA

Items in STNA version 3.0 and later use two different *response sets*—the range of options that may be selected by people completing the needs assessment. Most use a *Likert-type* response set from which school staff members choose to indicate how strongly they agree with a statement. This is reflected in the form of the online STNA Report:

Vision and Shared Leadership “In my school...”	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Do not Know		Response Total
2) The vision for technology use has been effectively communicated to the community.	27.1% (19)	35.7% (25)	14.3% (10)	7.1% (5)	1.4% (1)	14.3% (10)		70



The Teaching and Learning portion of the STNA (Section III) uses a “how often” response set, and the report form reflects that as well:

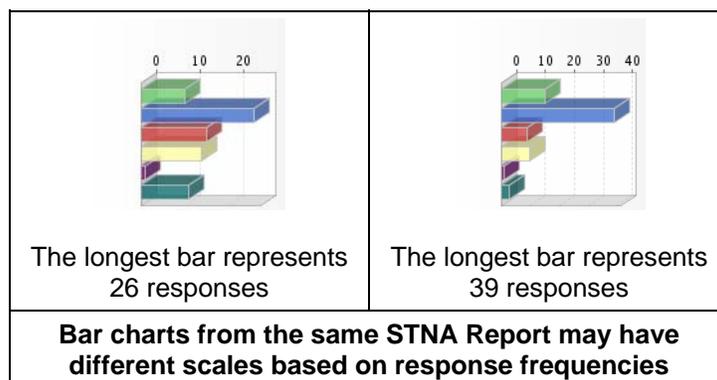
Vision and Shared Leadership “In my school...”	Daily	Weekly	Monthly	Once per Grading Period	Never	Do not Know	Daily ■ Weekly ■ Monthly ■ Once per Grading Period ■ Never ■ Do not Know ■	Response Total
2) The vision for technology use has been effectively communicated to the community.	27.1% (19)	35.7% (25)	14.3% (10)	7.1% (5)	1.4% (1)	14.3% (10)		70

For both types of items, the STNA Report provides the *percentage* of staff members who selected a given response based on the Response Total (the number of people completing the survey, at right in the tables), and the *frequency*—the raw number who selected each option—shown in parentheses below the percentage.

Frequencies are also illustrated in bar charts, with a color-coded legend provided at the top of each report table. These charts are a handy visual summary of responses, and can be thought of as a “profile” of the responses for each item. Educators who have used the STNA Report in the past indicate that these profiles are useful for reviewing and sharing complex information in ways that are easy to interpret.

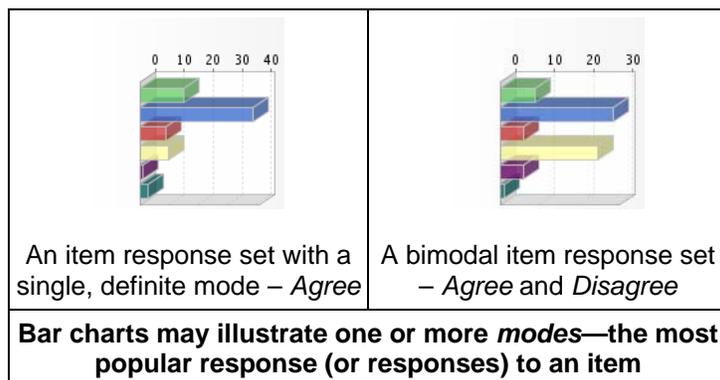
Limitations of STNA Data

It is important to note that the scale at the top of each bar chart is generated automatically, based on the number of responses (the frequency). Keep in mind as you compare results from charts with different scales, that bars that look the same do not necessarily show that the same number of staff members selected each response:



Frequencies and percentages are types of *descriptive data*, which simply present a description of the results in summaries that are intended to be easy to understand. It is important to note that this is as far as

true mathematical analysis of STNA responses should go. For example, is not good practice to assign number values to responses (e.g., Strongly Agree = 5, Agree = 4, etc.) in order to determine the *mean* (the “average”) of multiple STNA item responses. It is appropriate, however, to report the *mode* of a set of responses (the most common response for an item), noting that responses may be *bimodal* for some items—having two peaks illustrated in the bar chart. A bimodal bar chart indicates disagreement and potential conflict among staff members, and a situation that likely warrants additional information gathering before any decisions are made on the issue examined by that STNA item:



Interpreting STNA Item Profiles

Interpretation is simplified by the design of STNA, in which all items are stated such that one end of the scale is inherently “positive.” This is the case because each construct examined by the STNA is thought to be beneficial to successful implementation of technology in teaching and learning settings. This means that it is generally “good,” if a large number of staff members reporting that they “Strongly Agree” with a STNA item statement, or that they do something “Daily” with technology in their classrooms.

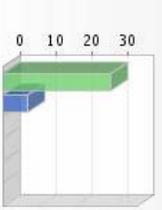
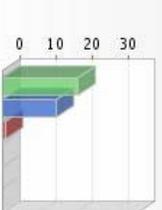
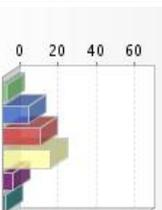
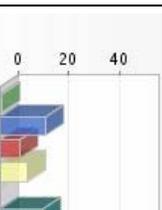
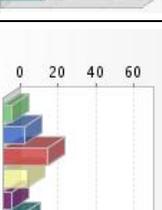
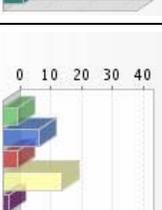
Note that the “Do Not Know” response is neither positive nor negative but simply indicates a lack of awareness about the substance of the item. It may be possible, for example, that “An effective long-range school technology plan is in place,” but that few staff members know about it. The frequency with which this response is selected illustrates “awareness” of the substance of the item at hand among staff members, and can help illustrate their needs, such as for additional communication from evaluation or technology planning teams.

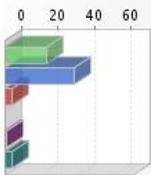
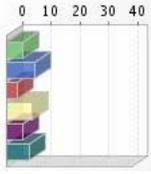
Examples of Appropriate Interpretations

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 report in whatever ways will be useful to answer the questions you care about.

Review the following table of profiles, and then examine your STNA report for similarities. Think critically about the results for each item, and watch for bar charts that stand out as different from others. Perhaps most importantly, please understand that your report may potentially raise more questions than it answers, by bringing to light issues that will require additional focused discussion with building-level stakeholders.



<p>Strongly Agree – </p> <p>Agree – </p> <p>Neither Agree nor Disagree – </p> <p>Disagree – </p> <p>Strongly Disagree – </p> <p>Do Not Know – </p>	<p>Interpretations Reasonably Grounded in the Profile</p> <p>For Likert-type items, “Strongly Agree” to “Strongly Disagree,” plus “Do Not Know”</p> <p><i>All sample profiles are from actual online STNA results</i></p>
	<p>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 needs are being met in the area examined by the item.</p>
	<p>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.</p>
	<p>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 a priority.</p>
	<p>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. This suggests that a large portion of the staff is not fully informed about its substance. It may be that they did not recognize a key term in the item, or that in their position they do not have access to some information necessary to respond. In this case, gathering additional information about why the respondents do not know might prove helpful.</p>
	<p>5. This profile more closely resembles the <i>normal</i> 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 be that the staff as a whole does not have strong feelings 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.”</p>
	<p>6. For this item, more 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.</p>

	<p>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. For example, further inquiry in the form of focus group interviews might help planners understand why a few staff members are responding so negatively to this item, recognizing that STNA reports do not show responses from individual staff members.</p>
	<p>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 inferences from this profile alone.</p>

Repeated Use of STNA

It is completely appropriate to chart changes in staff needs by administering the STNA periodically and comparing profiles for key items over time. If this would be useful to your school's planning efforts, please notify SERVE staff members that you are doing a "repeated STNA" so you are sure to get the same version of the survey as was previously used.

Sharing STNA Results

Because respondents always want to know how their thinking compares to that of the entire group, and that the information they provide is valued and used, you should share your STNA results with a report back to the staff members who completed the survey. Reporting STNA results back to staff members will likely increase response rates in future surveys, and should engender buy-in for whatever evaluation or planning activity the survey is supporting.

Review of STNA results will also serve to remind educators of "what is important" where technology use in your school is concerned. Constructs examined by the School Technology Needs Assessment are grounded in research of best practices with technology in teaching and learning settings so, while you may have specific priorities in your building, it may be useful for educators to see how they are collectively doing things that should be beneficial to their students.

Tables and bar charts from the online STNA report may be copied and pasted into documents or presentations, for distribution to any stakeholder group interested in the results—staff members, parents, students, district administrators, school board members, or even members of the community.

STNA Validity and Reliability

Results from the STNA study revealed the following:

1. Data analyses showed each of STNA constructs and subconstructs to have high internal consistency reliability (alpha ranged from .807 to .967). This indicates that STNA is a high quality survey instrument that provides schools and districts with information that can be used to make decisions about each of the constructs and subconstructs.
2. Due to careful attention to relevant literature while developing STNA, an exploratory factor analysis provided strong support for the validity and reliability of the constructs identified within STNA.

