Beliefs on RtI Scale

Description & Purpose

Theoretical Background

Project staff developed the *Beliefs on RtI Scale* from the *Beliefs Survey* (also referred to as the *Beliefs on RtI Survey*) described in the first version of this manual. The *Beliefs on RtI Scale* represents a shorter version of the *Beliefs Survey*. The retained items that comprise the *Beliefs on RtI Scale* were selected based on psychometric analyses described below in the *Technical Adequacy* section. This chapter focuses primarily on the *Beliefs on RtI Scale*. For information on the full *Beliefs Survey* refer to the first version of the manual located on the Project website.

The **Beliefs on RtI Scale** is a self-report measure that was developed by Project staff to assess educators' beliefs about Problem-Solving/Response to Intervention (PS/RtI). Research suggests that educators' beliefs about issues such as student learning, styles of teaching, and instructional strategies impact their willingness to implement new practices (Fang, 1996; Sparks, 2002). Furthermore, scholars suggest that successful educational reform occurs when a moral imperative for change exists (Fullan, 2010; Sharratt & Fullan, 2009). The beliefs that educational leaders possess and communicate to other stakeholders are thought to play a crucial role in creating the climate for successful implementation of new practices (Sharratt & Fullan, 2009). These concepts suggest that what educators believe about the big ideas and fundamental practices of PS/RtI should be related to implementation of the model.

Description

The *Beliefs on RtI Scale* contains items designed to measure educator beliefs about student learning, the role of data in decision-making, and expectations for the effectiveness of instruction. The instrument consists of 19 items divided into two parts. Part I (Items 1-5) asks for background information (education and work-related) on the respondent. Part II contains items (Items 6-19) that take the form of belief statements to which respondents are asked to rate their extent of agreement/disagreement using the following response scale: *1= Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree*.

Purpose

The *Beliefs on RtI Scale* is intended to be used to inform consensus development in two primary ways. One purpose is to assess the impact of professional development efforts on educator beliefs about PS/RtI. The second purpose is to identify commonly held beliefs among educators that will likely help facilitate or hinder implementation efforts. Specifically, items on the *Beliefs on RtI Scale* provide ongoing information on educator beliefs regarding the academic abilities and performance of students with disabilities, data-based decision making, and the functions of core and supplemental instruction. Results from these domains can be used as indicators of the extent to which educators possess beliefs that create a climate supportive of implementing PS/RtI practices.

Intended Audience

Who Should Complete the Beliefs on RtI Scale?

School-Based Leadership Team (SBLT) members complete the *Beliefs on RtI Scale* individually. SBLTs are comprised of approximately six to eight staff members selected to take a leadership role in facilitating PS/RtI implementation in a school. Staff included on the SBLT should have the following roles represented: administration, general education teachers, student services, special education teachers, and content specialists (e.g., reading, math, behavior). SBLT members should receive training on the PS/RtI model including strategies for facilitating implementation (i.e., systems change principles and strategies referred to in the Introduction). Individuals on the team also should adopt roles and responsibilities to ensure efficient and productive planning and problem-solving meetings. Important responsibilities include a **facilitator**, **time-keeper**, **data coach**, and **recorder**, in addition to providing expertise in the particular content areas or disciplines listed above.

All instructional staff not represented on the SBLT also complete the instrument. Common instructional staff includes general education teachers, special education teachers, and those that assist with delivering curriculum and interventions to students (e.g., student services personnel, reading specialists, interventionists).

Who Should Use the Results for Decision-Making?

The SBLTs who complete the *Beliefs on RtI Scale* should receive the results for their school. District-Based Leadership Team (DBLT) members also should receive the results for the district's schools individually as well as aggregated at the district level. Members of the DBLT provide leadership to schools implementing PS/RtI practices. Examples of leadership provided by DBLT members include facilitating the creation of policies and procedures to support implementation, providing access to professional development targeting the knowledge and skills of educators in the district, and meeting with schools to review implementation and student outcomes. Staff included on the team mirror the SBLT in terms of representation of disciplines and roles and responsibilities.

Results of the *Beliefs on RtI Scale* also should be shared with instructional staff in the buildings that complete the instrument. Sharing the results with instructional staff can be used as a strategy for facilitating discussions about how the school should teach students, obtain input from staff regarding the school's PS/RtI initiative, and facilitate consensus building regarding the rationale for implementing PS/RtI practices.

Directions for Administration

Methods of Administration

The *Beliefs on RtI Scale* can be administered in venues such as trainings, staff meetings, or grade-level meetings. The scale also may be administered through

Facilitator: Responsibilities of facilitators tend to include preparation for meetings, ensuring participation and involvement of team members, encouraging team members to reach consensus regarding decisions being made, and keeping the conversations focused on the task being discussed (e.g., problem-solving student performance, planning for professional development).

Timekeeper: Timekeepers are responsible for providing periodic updates to team members regarding the amount of time left to complete a given task or discussion during meetings.

Data Coach: Data coaches provide assistance with interpreting data and using it to inform decisions.

Recorder: Recorders are responsible for taking notes for the purpose of capturing the important discussions and outcomes of meetings.

dissemination in staff mailboxes with directions for returning the scale. Finally, the instrument can be administered electronically through district supported or commercially available technology resources (e.g., SurveyMonkey®). Regardless of the method chosen to administer the scale, every effort should be made to ensure high return rates from SBLT and staff members to ensure that the information gathered adequately reflects the beliefs of the school. Following the procedures outlined below for providing directions to educators completing the scale is suggested regardless of the method used.

Directions to Educators Completing the Survey

Prior to administration, it is highly recommended that the building principal explain the reason that the *Beliefs on RtI Scale* is being administered, and why the information obtained is important to the school and district. The Florida PS/RtI Project staff have found that having principals explain the importance of collecting these data can lead to more complete and accurate information returned. After the *Beliefs on RtI Scale* is introduced by the school's principal, individuals responsible for administration (e.g., district-based PS/RtI Coaches, RtI Coordinators, DBLT members) should provide staff with a description of the scale, the purpose of collecting the data, how the data will be used, and specific instructions for completing the instrument. Specific instructions for completing the measure will vary based on the method used for administration. Regardless of the method selected, it should be clarified that the *Beliefs on RtI Scale* should be completed individually. It is also recommended that individual responses remain anonymous and that opportunities to ask questions be provided.

Frequency of Use

When determining how often educators should complete the *Beliefs on RtI Scale*, it is important to consider the resources available within schools and districts so that plans for data collection are adequately supported. Important considerations include the time needed for completion of the instrument; the time required to enter, analyze, graph, and disseminate data; the personnel available to support data collection, and other data collection activities in which SBLT members and school staff are required to participate. In other words, decisions about how often to collect Beliefs on RtI Scale data should be made based on the capacity to administer, analyze, and use the information to inform plans to scale-up PS/RtI implementation.

Although schools and districts will need to make adjustments given available resources, general recommendations for completing the *Beliefs on RtI Scale* are provided below. General recommendations are to administer the measure:

- Prior to beginning professional development targeting the beliefs of educators regarding PS/RtI.
- At the end of the first year of professional development activities to determine the extent to which beliefs changed..
- At least one time each subsequent year to monitor belief levels as implemen-

tation efforts continue. Administration at the end of each year can be used to provide information on the relationship between professional development activities and beliefs during the year as well as serve as a baseline for the impact of next year's activities.

In addition to measuring long-term changes in educators' beliefs, the measure can be administered at both the beginning and end of trainings targeting beliefs about PS/RtI. This procedure allows educators to measure the immediate, short-term changes in educators' beliefs as a result of the training provided. The information obtained can be used to inform the content and delivery of future professional development.

Technical Adequacy

Content Validity **Evidence**

To inform development of the original version of the *Beliefs Survey*, Project staff reviewed relevant literature, presentations, instruments and previous program evaluation projects to develop an item set that would be representative of beliefs important to consider when implementing PS/RtI practices. Next, a draft of the instrument was sent to an Educator Expert Validation Panel (EEVP), which consisted of 14 educators from varying disciplines (e.g., general and special education teachers, school- and district-level administrators, student support services personnel, content specialists) in a neighboring school district who had basic background knowledge in PS/RtI, for review. The Panel provided feedback on the representativeness of the beliefs covered by the instrument, clarity and quality of the individual items, and suggested modifications to items.

Project staff analyzed panel member feedback and made revisions to the survey using a structured process. Project staff considered 80% agreement among panel members that an item was relevant and well written as the criterion for retaining an item in its current form. When agreement from the panel members was below 80%, Project staff reviewed and discussed feedback from the respondents who disagreed with the item. Criteria used to determine whether suggestions should be incorporated into revisions included the extent to which recommended changes would improve the clarity of the item, change the intended meaning of the item, allow educators from other school districts to understand the item (i.e., terms suggested needed to be common to most school districts), and was accurate when feedback was provided about grammatical issues. Following any changes that were made, the suggested changes provided by EEVP members were compared to the revised item to determine if the disagreements had been resolved. Any members whose disagreements had been resolved were added to the members who initially agreed before recalculating the percentage of agreements with an item. This process resulted in the vast majority of items (80% of the original items) approximating or exceeding the 80% criterion of panel member agreement established for retaining an item. The remaining items were retained despite not attaining the 80% threshold because Project staff concluded that making the changes requested by Panel members would have either resulted in grammatical errors (e.g., replacing "data were" with "data was") or terminology not commonly used across school districts.

Content validity: Content-related validity evidence refers to the extent to which the sample of items on an instrument is representative of the area of interest the instrument is designed to measure. In the context of the *Beliefs on RtI Scale*, content-related validity evidence is based on expert judgment that the sample of items on the *Beliefs on RtI Scale* is representative of the educator beliefs facilitative of positive implementation of PS/RtI practices.

Construct validity:
Construct-related validity evidence refers to the extent to which the individuals' scores derived from the instrument represent a meaningful measure of a trait or characteristic. In the case of the *Beliefs on RtI Scale*, exploratory and confirmatory factor analyses were conducted to assess the internal structure of the measure as well as to develop evidence to support the validity of interpretations based on individuals' scores on the resultant factors. Results of the factor analyses suggest that the *Beliefs on RtI Scale* measures three underlying belief domains (or factors).

Construct Validity Evidence

Exploratory common factor analytic (EFA) and confirmatory factor analytic (CFA) procedures were used to determine the underlying factor structure of the *Beliefs on RtI Scale*. Data from surveys administered to 2,430 educators in 62 schools from eight school districts across Florida during the fall of 2007 were used to analyze the instrument. The dataset was randomly split into two halves with the first half of the data used to conduct the EFA and the remaining half used to conduct the CFA.

For the EFA, factors were extracted using the principal axis factor extraction method. Based on examination of eigenvalues and a scree plot, three factors were retained and rotated using an oblique rotation (Promax) to aid in the interpretability of the factors. Collectively, the three factors accounted for 73% of the common variance in respondent ratings of the belief statements. The resultant factors were labeled 1) *Academic Abilities and Performance of Students With Disabilities*, 2) *Data-Based Decision Making*, and 3) *Functions of Core and Supplemental Instruction* (see *Beliefs Survey: Table 1* in *Supplements*, page 59 for the final factor solution).

Project staff then used CFA procedures to examine the factor structure at the educator level using the second dataset derived from the fall 2007 administration. Maximum likelihood estimation and standard errors corrected for the nested data structure (i.e., educators nested within schools) were used in the analysis. The fit for each model was examined using the X^2 likelihood ratio statistic, Bentler's (1992) comparative fit index (CFI), the root mean square error of approximation (RMSEA; Steiger & Lind, 1980), and the standardized root mean square residual (SRMR). CFI values greater than or equal to .95 and SRMR and RMSEA values less than or equal to .08 (Hu & Bentler, 1999) were considered to indicate acceptable levels of fit. Furthermore, the Bayesian information criterion (BIC; Schwartz, 1978) was used to compare the relative fit of alternate models explored.

The fully unconstrained CFA model based on the EFA results (Model 1) did not converge. Exploration of the model statistics suggested some unusually high correlated errors among items that loaded on two of the factors - Academic Ability and Performance of Students with Disabilities and Functions of Core and Supplemental Instruction. The Academic Ability and Performance of Students with Disabilities factor included items that assessed beliefs regarding whether (1) students with learning disabilities achieve grade-level benchmarks, (2) students with behavioral problems achieve grade-level benchmarks, and (3) students with high-incidence disabilities (e.g., learning disabilities, emotional/behavioral disabilities) receiving special education services are capable of meeting grade-level benchmarks. The Functions of Core and Supplemental Instruction factor measured beliefs regarding (1) whether core instruction should be effective enough to result in 80% of students achieving benchmarks and (2) whether the primary function of supplemental instruction is to ensure students meet benchmarks. Each of these beliefs was measured for both reading and math which was the source of the correlated errors (i.e., responses to the aforementioned beliefs statements for reading and math were highly related). To address this issue, Project staff removed the items

that examined beliefs applied to math benchmarks from the analyses. This decision was supported by the fact that the majority of schools in the sample targeted reading instruction when implementing PS/RtI practices.

Removal of the math items resulted in the first model converging. The chi-square value for the first model indicated a significant lack of fit (X^2 = 1147.25, $p < .001$, df = 132). Other fit indices (CFI =.71, SRMR = .07, RMSEA = .08) also suggested a general lack of fit. Following further exploration of Model 1 statistics, four correlated errors were controlled for resulting in a better fitting Model 1. Specifically, Model 1 fit indices improved (CFI = .93, SRMR = .04, RMSEA = .04) and the BIC between the first iteration of the model and the second iteration decreased from 49,515.61 to 48,543.15. However, the CFI of .93 did not meet the established threshold. Therefore, Project staff decided to examine the items and their factor loadings.

Examination of factor loadings revealed a distinct pattern. Two of the factors (*Academic Abilities and Performance of Students with Disabilities*, and *Functions of Core and Supplemental Instruction*) had factor loadings that met or exceeded .48 for all items (item loadings ranged from .48 to .65). On the third factor (Data-Based Decision-Making), three of the items had factor loadings that fell below .40 (loadings ranged from .32 to .37). The three items examined beliefs statements regarding additional time and resources being allocated to students performing below benchmarks prior to allocating them to students at or above benchmark, and parent involvement in problem-solving and intervention implementation. Careful review of these three items suggested that the items were not critical to the conceptual composition of the factor. Project staff also examined the remaining 10 items to determine if items on the factor were critical to its conceptualization or resulted in redundancy (i.e., multiple items measuring similar beliefs). One item examining beliefs about general education teachers implementing more differentiated intervention with additional staff support was determined to not be critical to the conceptualization of the factor (this item's factor loading was .41). The loadings for the remaining 9 items ranged from .43 to .65. Thus, the decision was made to examine an alternate model in which these four items were removed. In the alternate model (Model 2), Project staff also controlled for four significant correlated errors between pairs of items identified when examining the fit of Model 1.

Model 2 fit the data better than Model 1. Although the chi-square value for Model 2 indicated a significant lack of fit (X^2 = 210.56, $p < .001$, df = 70), alternate fit indices less sensitive to sample size suggested acceptable levels of fit. The CFI of .95 met the typical cutoff value of .95 for this index. The SRMR of .04 and RMSEA of .04 were less than the cutoff value of .08 suggested by Hu and Bentler (1999). Furthermore, the BIC index for Model 2 was smaller (BIC = 38,509.46) than the BIC for Model 1 (BIC = 48,543.15). All factor pattern coefficients remained significantly different from zero ($p < .001$). Standardized loadings ranged from .49 to .64 for items that loaded on the Academic Abilities and Performance of Students with Disabilities factor (3 items), from .42 to .60 for the Data-Based Decision-Making factor (9 items), and from .58 to .64 for items that loaded on the Functions of Core

Internal consistency reliability: Internal consistency reliability evidence is based on the degree of homogeneity of scores (i.e., the extent to which the scores cluster together) on items measuring the same domain. In the context of the *Beliefs on RtI Scale*, an internal consistency reliability estimate provides a measure of the extent to which educators' who responded one way to an item measuring a belief domain (or factor) tended to respond the same way to other items measuring the same domain.

For example, if an educator selected *SA, N, A* when completing the 3 items that comprise the beliefs regarding "Academic Abilities and Performance of Students with Disabilities" domain, the values corresponding with those responses would be added together to obtain a total value of 12 (i.e., 5+3+4 = 12). The total value of 12 would be divided by the number of items (3) to obtain the average domain score (i.e., 12/3 = 4). An average domain score of 4 could be interpreted as the educator, on average, agreeing with belief statements regarding students with disabilities academic abilities and performance.

and Supplemental Instruction factor (2 items). Correlations between the factors were positive and significantly different from zero ($p < .001$). Specifically, Academic Abilities and Performance of Students with Disabilities and Functions of Core and Supplemental Instruction, Academic Abilities and Performance of Students with Disabilities and Data-Based Decision-Making, and Functions of Core and Supplemental Instruction and Data-Based Decision-Making correlated at .53, .62, and .63 respectively (see: *Table 2* in *Supplements*, page 61 for individual item loadings and standard errors by factor).

Internal Consistency Reliability

Internal consistency reliability estimates (as measured by Cronbach's alpha) for each of the three factors (domains) yielded by the factor analysis are as follows:

- **Factor 1** *(Academic Ability and Performance of Students with Disabilities)*: α = .71
- **Factor 2** *(Data-Based Decision Making)*: α = .78
- **Factor 3** *(Functions of Core and Supplemental Instruction)*: α = .54

Reliability estimates at the educator level for two of the factors (Academic Ability and Performance of Students with Disabilities and Data-Based Decision-Making) exceeded the typically accepted threshold of .70 (Nunnally, 1978). The reliability estimate for the third factor (Functions of Core and Supplemental Instruction) did not meet this threshold. However, when the construct is conceptualized at the school-level, reliability estimates for the third factor exceed .70 (Castillo, et al., 2012).

Thus, the results of the EFA and CFA procedures yielded a set of 14 items (belief statements) from the 27 items (belief statements) on the full *Beliefs Survey* that taps into educator beliefs in three domains: beliefs about *the academic ability and performance of students with disabilities*, beliefs about *data-based decision making*, and beliefs about *functions of core and supplemental instruction*. This set of 14 items constitute a shorter form of the *Beliefs Survey* instrument that covers all three domains measured by the instrument. This resultant 14-item set of beliefs statements was labeled the *Beliefs on RtI Scale*.

Scoring

Analysis of Responses to the Beliefs on RtI Scale

The Florida PS/RtI Project primarily utilizes two techniques for analyzing scale responses for evaluation purposes. First, the mean rating for each item can be calculated to determine the average belief level reported by educators that completed the *Beliefs on RtI Scale*. Second, the frequency of (i.e., frequency distribution) each response option selected (e.g., Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree) can be calculated for each item.

Calculating item means provides an overall impression of the belief level of those individuals within a school, district, etc. Calculating average beliefs can be done

at the domain (i.e., factor) and/or individual item levels. Examining beliefs at the domain level allows educators to examine general beliefs about (1) the academic abilities and performance of students with disabilities, (2) data-based decision-making, and (3) functions of core and supplemental instruction. A score for each of the three domains measured by the instrument may be computed for each respondent by calculating the sum of the ratings of the items that comprise the domain. These values can then be added together and divided by the number of items within the domain to **determine the average level of belief for each domain**. The items that comprise each domain are as follows:

- **Factor 1** *(Academic Ability and Performance of Students With Disabilities)*: Items 8, 9, 10.
- **Factor 2** *(Data-Based Decision Making)*: Items 11, 12, 13, 14, 15, 16, 17, 18, and 19
- **Factor 3** *(Functions of Core and Supplemental Instruction)*: Items 6 and 7

Average levels of beliefs also can be examined by item. Calculating the mean rating for each item within a domain allows key stakeholders to identify the extent to which educators agree with particular belief statements. This information can be used to identify specific beliefs held by educators that may facilitate or hinder implementation of PS/RtI practices, but does not provide much information on the variability of specific beliefs (see *Year 1 Evaluation Report*, *Beliefs* graphs [the exemplars referenced are based on the full version of the *Beliefs Survey*], pages 19-22).

Calculating the frequency of educators who selected each response option for an item, on the other hand, provides information on the range of belief levels. This information can be used to determine what percentage of respondents agree or disagree with a given belief. When making decisions about consensus levels, information on the number of educators who agree with statements consistent with PS/RtI practices can help inform decisions regarding moving forward with implementation (e.g., decide to address a belief or set of beliefs held by many educators or decide not to address the belief or set of beliefs because they did not agree with a given beliefs statement) (see *Year 2 Evaluation Report*, *Beliefs* graphs [the exemplars referenced are based on the full *Beliefs Survey*], pages 22-24).

It is recommended that key stakeholders analyze *Beliefs on RtI Scale* data in ways that best inform the evaluation questions they are asking. The data collected from the instrument can be used to answer a number of broad and specific questions regarding the extent to which educators agree with beliefs consistent with the PS/RtI model. To facilitate formative decision-making, stakeholders should consider aligning the analysis and display of the data with specific evaluation questions. For example, questions regarding general trends in beliefs regarding data-based decision-making across time may best be answered by calculating and displaying domain scores. Questions about specific beliefs across a school or district may best be answered by calculating and displaying the number of educators that report disagreement, neutrality, or agreement with the beliefs being evaluated. In other

words, identifying which evaluation question(s) are currently being answered will guide how to analyze the data and communicate the information to facilitate decision making.

Technology Support

School personnel should consider using district supported or commercially available technology resources to facilitate analyses of the data. Software and web-based programs vary in terms of the extent to which they can support administration of an instrument (e.g., online administration) and automatic analysis of data, as well as how user-friendly they are. Decisions about what technology to use to facilitate analysis should be made based on available resources as well as the knowledge and skills possessed by those responsible for managing and analyzing data from the scale.

Training Required

Training Suggested for Administering the Beliefs on RtI Scale

A brief training is recommended prior to administering the *Beliefs on RtI Scale*. Although administering surveys is common in school settings, issues such as specific administration procedures and the amount of questions administrators are likely to receive about survey content vary. Therefore trainings of individuals responsible for administering the measure should include the components listed below. The contents of this manual can serve as a resource for developing and conducting trainings on the *Beliefs on RtI Scale*.

- Theoretical background on the relationship between beliefs and whether educators will adopt new practices
- Description of the instrument including brief information on the items and how they relate to each other (e.g., domains of beliefs the items assess)
- Administration procedures developed and/or adopted
- Common issues that arise during administration such as frequently asked questions and how to facilitate better return rates from school settings

Training Suggested for Analyzing, Interpreting, and Disseminating Beliefs on RtI Scale Results

The knowledge, skills, and experience of educators in analyzing, interpreting, and using data for formative decision-making vary. If the stakeholders responsible for these activities possess the knowledge and skills required then training specific to the *Beliefs on RtI Scale* may not be necessary. However, should the stakeholders responsible for using the data lack any of the aforementioned skill sets, training and technical assistance is recommended. Topics that support might be provided on are listed below:

- Appropriate use of the survey given its purpose and technical adequacy
- Guidelines for analyzing and displaying data derived from the survey
- Guidelines for interpreting and disseminating the results

Interpretation and Use of the Data

Examination of Broad Domains

When examining the *Beliefs on RtI Scale* data (see ***Year 2 Evaluation Report***, *Beliefs* graphs [the exemplars referenced are based on the full version of the *Beliefs Survey*], pages 22-24), it is recommended to start by examining the 3 broad domains, or factors, measured by the survey (i.e., academic abilities and performance of students with disabilities, data-based decision-making, functions of core and supplemental instructional practices). Educators can examine graphically displayed data to evaluate trends in educator beliefs regarding each domain measured by the *Beliefs on RtI Scale*. Each of the methodologies for scoring mentioned above (i.e., calculating average beliefs at the domain and item levels and calculating the frequency/percent of educators who selected each response option at the item level) can be used to examine the broad domains. One methodology used frequently by Project staff when examining data on educators' beliefs is to take note of the percent of educators who reported strongly agreeing (5) or agreeing (4); the percent who reported a neutral view (3); as well as the percent of staff members who reported disagreeing (2) or strongly disagreeing (1) with beliefs within each domain. This type of visual analysis (an example of a graph displaying educator beliefs using this format is provided below) allows stakeholders to determine the extent to which educators tend to agree, disagree, or remain neutral regarding beliefs consistent with PS/RtI practices. This approach can be used to examine beliefs for any given administration as well as to examine trends over time.

Identification of Specific Needs

After examining data from the broad domains measured by the *Beliefs on RtI Scale*, it is recommended that teams examine responses to individual items. Stakeholders should consider examining graphically displayed data to determine levels of staff agreement with certain big ideas associated with a PS/RtI model. If a large number of staff disagrees with a certain belief or set of beliefs about PS/RtI practices, additional training and professional development can be developed to specifically target the big idea assessed by the relevant items. It is important to note that decisions about beliefs to target should be made based on multiple sources of information. In other words, discussions about the extent to which the data are consistent with stakeholder perspectives and other sources of relevant information should occur before deciding on a course of action. It also should be noted that while beliefs are a necessary component of consensus, they are not a sufficient condition. For example, educators can have strong, positive beliefs about PS/RtI practices, but not buy-in to implementation due to a number of factors such as a lack of time to focus on implementation, funding constraints, other competing initiatives, poor communication among staff, etc.

Data Dissemination to Stakeholders

It is recommended that the data be shared with DBLTs, SBLTs, instructional school staff, and any other relevant stakeholders as quickly and frequently as possible fol-

lowing administrations. Quick access to the data allows stakeholders in leadership positions (e.g., DBLTs, SBLTs) to discuss the results from the *Beliefs on RtI Scale*, develop and/or modify consensus-building goals, and design professional development activities to facilitate changes in educators' beliefs. SBLT members also may share their school's *Beliefs on RtI Scale* data with instructional school staff who are not members of the SBLT. SBLT members can use the data presented to facilitate consensus-building discussions and to obtain staff input regarding factors that contribute to the beliefs they reported.

One helpful strategy for facilitating discussions about *Beliefs on RtI Scale* data is to provide educators with guiding questions. The use of guiding questions is designed to facilitate discussions about issues such as current belief levels, additional professional development that might be necessary, and goals for developing staff consensus. Listed below are examples of guiding questions used by the Florida PS/RtI Project to facilitate discussions among SBLT members when examining data on their beliefs. The questions were developed to provide scaffolding when interpreting the data and focus discussions toward using the information to facilitate consensus building. However, stakeholders in leadership positions can generate additional guiding questions to better meet their particular needs.

- Did your building's beliefs change from the first to the second administration? If yes, in what areas did the greatest change occur?
- What do you think these changes mean in the context of implementing a PS/RtI model in your building?

School-Level Example of *Beliefs on RtI Scale* Data

The following example demonstrates how key stakeholders may use data derived from the *Beliefs on RtI Scale* to inform PS/RtI implementation. Data from the *Beliefs on RtI Scale* are displayed graphically. Following the graph, background information on the school's initiative and an explanation of what is represented on the graph is provided. Finally, ways in which the data were used by the school to monitor progress and identify needs is discussed. Importantly, although the example occurs at the school-level, the concepts discussed can be generalized to other units of analysis (e.g., district-level, state-level).
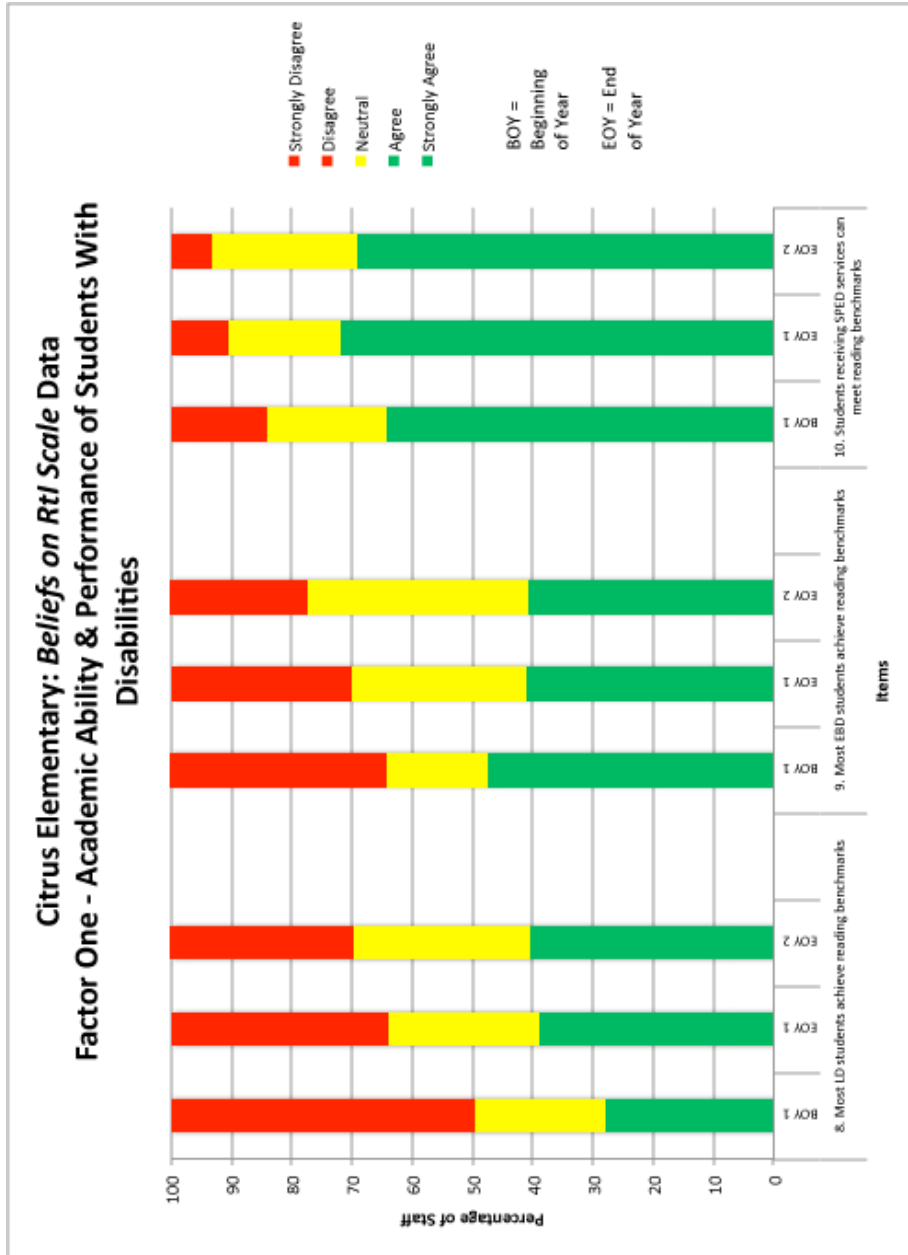
Figure 4. Example Beliefs on RtI Scale Graph.

Explanation of the Graph

The SBLT at Citrus Elementary wanted to assess the degree to which instructional school staff beliefs aligned with the core beliefs of PS/RtI. To evaluate staff beliefs, SBLT members decided to administer the *Beliefs on RtI Scale* at the beginning and end of the first year of PS/RtI implementation and at the end of the year thereafter. Figure 4 above displays data on beliefs regarding the academic abilities and performance of students with disabilities from the first two years of implementation. The three items that comprise the domain are displayed (i.e., items 8, 9, and 10). The three bars located above each item represent the level of agreement at the beginning of Year 1 (BOY 1), end of Year 1 (EOY 1), and end of Year 2 (EOY 2). For each bar, the green section represents the percentage of staff members who reported agreement (i.e., selected strongly agree or agree) with the specific belief statement, the yellow section represents those staff members who selected neutral for the specific belief statement, and the red section represents those staff members who disagreed (i.e., selected strongly disagree or disagree) with a specific belief statement. These data were shared with SBLT members and school staff shortly after each administration.

Citrus Elementary's Use of the Data for Decision Making

Examination of broad *Beliefs on RtI Scale* domains. When examining staff beliefs after each survey administration, Citrus Elementary SBLT members started by visually analyzing the data across items assessing the academic abilities and performance of students with disabilities. Immediately evident from the graph in Figure 4 is that the levels of agreement were on the low end for most items. Less than 50% of staff members agreed with two of the three belief statements across administrations. Agreement levels for the remaining item was substantially higher (exceeding 60% across administrations). Therefore, SBLT members decided that they needed to examine the specific items to determine why differences existed.

Identification of specific needs. The graph in Figure 4 above suggests that approximately 30-45% of staff reported agreeing (25-50% disagreed) with the belief statements assessed by items 8 and 9 across administrations. Approximately 65-70% of staff reported agreeing with the beliefs statements assessed by item 10. Following the first administration at the beginning of Year 1, SBLT members identified the fact that there seemed to be a large discrepancy between staff beliefs about students with disabilities current achievement of academic benchmarks (assessed by items 8 and 9) and their capability of meeting benchmarks with the right supports (item 10). Given this discrepancy, SBLT members decided to present the data reflected above to the staff. The data were presented with guiding questions to facilitate small group discussions before sharing out with the entire faculty. The guiding questions included questions about (1) why staff believed students with disabilities are capable of meeting academic benchmarks but are not currently doing so, (2) what factors contributed to the discrepancy, and (3) what could be done to address the identified factors. SBLT members then presented basic information on how the PS/RtI model can increase the performance of all students, including

students with disabilities. Finally, SBLT members shared information with staff about the school's PS/RtI initiative and indicated that future professional development activities would focus on practices associated with the model.

Monitoring of beliefs over time. Following each subsequent administration of the *Beliefs on RtI Scale*, Citrus Elementary's SBLT monitored how beliefs changed. Changes in the beliefs reported at the end of Year 1 and end of Year 2 varied by the belief assessed. A 10% increase in staff who agreed that students with learning disabilities met reading benchmarks occurred (item 8) across the two-year period. In addition to the increase in agreement levels, a decrease of approximately 20% of staff disagreeing with the same belief statement was observed. SBLT members discussed this trend and decided that the beliefs regarding students with learning disabilities meeting reading benchmarks was consistent with the school's AYP data (as well as other data sources) for students with disabilities. The SBLT concluded that the staff was starting to recognize that efforts to implement practices to improve the outcomes of all students resulted in increased performance of students with learning disabilities.

A slight increase in the percentage of staff (approximately 5%) who believed students with disabilities can achieve reading benchmarks occurred across the two-year period (item 10). Conversely, a slight decrease (approximately 5%) in agreement occurred during the same time frame for item 9. Item 9 assessed beliefs about whether students with emotional/behavioral disabilities achieve reading benchmarks. SBLT members discussed reasons why the increase noted for beliefs about students with learning disabilities did not occur for beliefs about students with emotional/behavioral disabilities. Potential reasons generated for the slight decreasing trend observed included that the school was focusing much more on reading when implementing PS/RtI practices than behavior (i.e., behavior problems not being addressed may be inhibiting student learning) and that fewer staff have had experience with students with emotional/behavioral disabilities. Potential reasons generated for the small changes in beliefs about the capability of students with disabilities included high levels of initial agreement, staff turnover, and that the approximately 30% of staff who did not agree may be rethinking their traditional ideas about the ability of students with disabilities to perform academically (the percent of disagreement decreased across the two years) but need additional time and information to believe they can perform. SBLT members concluded that more information was needed before a decision could be made regarding the reasons for the patterns observed and what, if anything, to do about the trends. In particularly, SBLT members wanted to compare beliefs regarding students with emotional/behavioral disabilities not meeting reading benchmarks with the actual outcomes of the students to determine how accurate staff perceptions were.

Blank Copy of Beliefs on RtI Scale

Beliefs on RtI Scale

1. **Your PS/RtI Project ID:** ⟶

    Your PS/RtI Project ID was designed to assure confidentiality while also providing a method to match an individual's responses across instruments. In the space provided (first row), please write in the last four digits of your Social Security Number followed by the last two digits of the year you were born. Then, shade in the corresponding circles.

⓪	⓪	⓪	⓪	⓪	⓪
①	①	①	①	①	①
②	②	②	②	②	②
③	③	③	③	③	③
④	④	④	④	④	④
⑤	⑤	⑤	⑤	⑤	⑤
⑥	⑥	⑥	⑥	⑥	⑥
⑦	⑦	⑦	⑦	⑦	⑦
⑧	⑧	⑧	⑧	⑧	⑧
⑨	⑨	⑨	⑨	⑨	⑨

Directions: For items 1-4 below, please shade in the circle next to the response option that best represents your answer.

2. Job Description:
    ○ PS/RtI Coach   ○ Teacher-General Education   ○ Teacher-Special Education

    ○ School Counselor   ○ School Psychologist   ○ School Social Worker

    ○ Principal   ○ Assistant Principal

    Other (Please specify): _____

3. Years of Experience in Education:
    ○ Less than 1 year   ○ 1 – 4 years   ○ 5-9 years

    ○ 10 – 14 years   ○ 15-19 years   ○ 20-24 years

    ○ 25 or more years   ○ Not applicable

4. Number of Years in your Current Position:
    ○ Less than 1 year   ○ 1 – 4 years   ○ 5-9 years

    ○ 10 – 14 years   ○ 15-19 years   ○ 20 or more years

5. Highest Degree Earned:
    ○ B.A./B.S.   ○ M.A./M.S.   ○ Ed.S.   ○ Ph.D./Ed.D.

    Other (Please specify): _____

1

Problem Solving/Response to Intervention   Beliefs on RtI Scale
Developed by the Florida PS/RtI Statewide Project — http://floridarti.usf.edu

<u>Directions</u>: *Using the scale below, please indicate your level of agreement or disagreement with each of the following statements by shading in the circle that best represents your response*.

①= **Strongly Disagree (SD)**
②= **Disagree (D)**
③= **Neutral (N)**
④= **Agree (A)**
⑤= **Strongly Agree (SA)**

	SD	D	N	A	SA
6. Core instruction should be effective enough to result in 80% of the students achieving benchmarks in reading.	①	②	③	④	⑤
7. The primary function of supplemental instruction is to ensure that students meet grade-level benchmarks in reading.	①	②	③	④	⑤
8. The majority of students with learning disabilities achieve grade-level benchmarks in reading.	①	②	③	④	⑤
9. The majority of students with behavioral problems (EH/SED or EBD) achieve grade-level benchmarks in reading.	①	②	③	④	⑤
10. Students with high-incidence disabilities (e.g. SLD, EBD) who are receiving special education services are capable of achieving grade-level benchmarks (i.e., general education standards) in reading.	①	②	③	④	⑤
11. General education classroom teachers should implement more differentiated and flexible instructional practices to address the needs of a more diverse student body.	①	②	③	④	⑤
12. The use of additional interventions in the general education classroom would result in success for more students.	①	②	③	④	⑤
13. Prevention activities and early intervention strategies in schools would result in fewer referrals to problem-solving teams and placements in special education.	①	②	③	④	⑤
14. The "severity" of a student's academic problem is determined not by how far behind the student is in terms of his/her academic performance but by how quickly the student responds to intervention.	①	②	③	④	⑤
15. The "severity" of a student's behavioral problem is determined not by how inappropriate a student is in terms of his/her behavioral performance but by how quickly the student responds to intervention.	①	②	③	④	⑤
16. Using student-based data to determine intervention effectiveness is more accurate than using only "teacher judgment."	①	②	③	④	⑤

2

Problem Solving/Response to Intervention   Beliefs on RtI Scale
Developed by the Florida PS/RtI Statewide Project — http://floridarti.usf.edu

	SD	D	N	A	SA
17. Evaluating a student's response to interventions is a more effective way of determining what a student is capable of achieving than using scores from "tests" (e.g., IQ/Achievement test).	①	②	③	④	⑤
18. Graphing student data makes it easier for one to make decisions about student performance and needed interventions.	①	②	③	④	⑤
19. The goal of assessment is to generate and measure effectiveness of instruction/intervention.	①	②	③	④	⑤

THANK YOU!

Problem Solving/Response to Intervention Evaluation Tool Technical Assistance Manual

Beliefs on RtI Scale: Table 1

Table 1
Promax Oblique Factor Solution of Statements from the *Beliefs on RtI Scale*

Item #	Item	Factor Loadings		
		I	II	III
10a	The majority of students with behavioral problems (EH/SED or EBD) achieve grade-level benchmarks in reading	**.83**	-.13	.08
10b	The majority of students with behavioral problems (EH/SED or EBD) achieve grade-level benchmarks in math	**.82**	-.11	.08
9b	The majority of students with learning disabilities achieve grade-level benchmarks in math	**.78**	-.12	.09
9a	The majority of students with learning disabilities achieve grade-level benchmarks in reading	**.77**	-.14	.08
11b	Students with high-incidence disabilities (e.g. SLD, EBD) who are receiving special education services are capable of achieving grade-level benchmarks (i.e., general education standards) in math.	**.56**	.39	-.21
11a	Students with high-incidence disabilities (e.g. SLD, EBD) who are receiving special education services are capable of achieving grade-level benchmarks (i.e., general education standards) in reading.	**.50**	.42	-.23
6	I believe in the philosophy of No Child Left Behind (NCLB) even if I disagree with some of the requirements.	.23	.21	.19
14	The use of additional interventions in the general education classroom would result in success for more students.	-.07	**.56**	.12
15	Prevention activities and early intervention strategies in schools would result in fewer referrals to problem-solving teams and placements in special education.	-.03	**.51**	.03
12	General education classroom teachers should implement more differentiated and flexible instructional practices to address the needs of a more diverse student body.	.16	**.45**	.06
24	A student's parents (guardian) should be involved in the problem-solving process as soon as a teacher has a concern about the student.	-.17	**.44**	.08
16	The "severity" of a student's academic problem is determined not by how far behind the student is in terms of his/her academic performance but by how quickly the student responds to intervention.	.13	**.44**	.00
23	Graphing student data makes it easier for one to make decisions about student performance and needed interventions.	-.02	**.42**	.07
21	Evaluating a student's response to interventions is a more effective way of determining what a student is capable of achieving than using scores from "tests" (e.g., IQ/Achievement test).	-.07	**.41**	-.01

Table 1
Promax Oblique Factor Solution of Statements from the *Beliefs on RtI Scale*

Item #	Item	Factor Loadings		
		I	II	III
17	The "severity" of a student's behavioral problem is determined not by how inappropriate a student is in terms of his/her behavioral performance but by how quickly the student responds to intervention.	.16	**.41**	-.04
27	The goal of assessment is to generate and measure effectiveness of instruction/intervention.	.07	**.40**	.13
25	Students respond better to interventions when their parent (guardian) is involved in the development and implementation of those interventions.	-.11	**.39**	.08
13	General education classroom teachers would be able to implement more differentiated and flexible interventions if they had additional staff support.	-.06	**.39**	.09
20	Using student-based data to determine intervention effectiveness is more accurate than using only "teacher judgment."	.01	**.35**	.07
22	Additional time and resources should be allocated first to students who are not reaching benchmarks (i.e., general education standards) before significant time and resources are directed to students who are at or above benchmarks.	-.10	**.31**	.06
26	All students can achieve grade-level benchmarks if they have sufficient support.	.21	.25	.08
19	Many students currently identified as "LD" do not have a disability, rather they came to school "not ready" to learn or fell too far behind academically for the available interventions to close the gap sufficiently.	.04	.23	.03
18	The results of IQ and achievement testing can be used to identify effective interventions for students with learning and behavior problems.	.08	.13	.12
8b	The primary function of supplemental instruction is to ensure that students meet grade-level benchmarks in math.	-.07	.07	**.79**
8a	The primary function of supplemental instruction is to ensure that students meet grade-level benchmarks in reading.	-.05	.08	**.79**
7b	Core instruction should be effective enough to result in 80% of the students achieving benchmarks in math.	.16	.10	**.65**
7a	Core instruction should be effective enough to result in 80% of the students achieving benchmarks in reading.	.17	.11	**.64**

Note. Only items with factor loadings > .30 were retained for each factor.
Items not loading on any of the 3 factors were items 6, 18, 19, and 26.

Beliefs on RtI Scale: Table 2

Table 2
Standardized Factor Loadings and Standard Errors for Items on the *Beliefs on RtI Scale*

Factor	Item #	Item	Estimate	Standard Error
SWDs	8	The majority of students with learning disabilities achieve grade-level benchmarks in reading	.49	.05
	9	The majority of students with behavioral problems (EH/SED or EBD) achieve grade-level benchmarks in reading	.52	.05
	10	Students with high-incidence disabilities (e.g. SLD, EBD) who are receiving special education services are capable of achieving grade-level benchmarks (i.e., general education standards) in reading.	.64	.05
DBDM	11	General education classroom teachers should implement more differentiated and flexible instructional practices to address the needs of a more diverse student body.	.60	.03
	12	The use of additional interventions in the general education classroom would result in success for more students.	.55	.04
	13	Prevention activities and early intervention strategies in schools would result in fewer referrals to problem-solving teams and placements in special education.	.55	.04
	14	The "severity" of a student's academic problem is determined not by how far behind the student is in terms of his/her academic performance but by how quickly the student responds to intervention.	.50	.04
	15	The "severity" of a student's behavioral problem is determined not by how inappropriate a student is in terms of his/her behavioral performance but by how quickly the student responds to intervention.	.48	.04
	16	Using student-based data to determine intervention effectiveness is more accurate than using only "teacher judgment."	.46	.04
	17	Evaluating a student's response to interventions is a more effective way of determining what a student is capable of achieving than using scores from "tests" (e.g., IQ/Achievement test).	.42	.05
	18	Graphing student data makes it easier for one to make decisions about student performance and needed interventions.	.47	.04

Table 2
Standardized Factor Loadings and Standard Errors for Items on the *Beliefs on RtI Scale*

Factor	Item #	Item	Estimate	Standard Error
	19	The goal of assessment is to generate and measure effectiveness of instruction/intervention.	.54	.03
FCSI	6	Core instruction should be effective enough to result in 80% of the students achieving benchmarks in reading.	.64	.04
	7	The primary function of supplemental instruction is to ensure that students meet grade-level benchmarks in reading.	.58	.05

Note. DBDM = Data-Based Decision-Making; FCSI = Functions of Core and Supplemental Instruction; SWDs = Academic Abilities and Performance of Students with Disabilities.