

Analysis of PELI[®] User Satisfaction Questionnaire
Technical Report No. 19

Katherine Bravo Aguayo
Mary Abbott
Ruth A. Kaminski

Suggested Citation

Bravo Aguayo, K., Abbott, M., & Kaminski, R. A. (2015). Analysis of PELI User Satisfaction Questionnaire (Technical Report 19). Eugene, OR: Dynamic Measurement Group.

Author Note

The authors thank the administrators, staff, students, and parents of participating preschool programs for their effort and support during the course of this study. Correspondence regarding this manuscript should be addressed to Katherine Bravo Aguayo, Dynamic Measurement Group, 859 Willamette St., Suite 320, Eugene, OR 97401; Email: kbravo@dibels.org.

Introduction

A significant body of research supports the idea that preschool children should learn the foundational skills that support learning to read in elementary school (e.g., NELP, 2009) and children that struggle to learn these skills should receive additional instructional support (Abbott, 2011; Greenwood, Carta, Atwater, Goldstein, Kaminski, & McConnell, 2012; Zilkowski & Goldstein, 2008). In addition, it is a commonly held tenet among early childhood educators and researchers that educational materials used to assess and teach literacy in preschool should not simply be a downward extension of those used for school-age students, but rather designed for use with young children. Therefore, the authors of the Preschool Early Literacy Indicators sought to develop a technically adequate, developmentally appropriate screening assessment of early literacy skills that could identify children in need of instructional support in preschool.

The PELI is comprised of four subtests: Alphabet Knowledge, Comprehension, Vocabulary-Oral Language, and Phonological Awareness. These skills were selected based on a body of research supporting their instruction in preschool classrooms as well as their importance as foundational reading skills (e.g., Cabell et al., 2011; NELP, 2009). Sound technical adequacy data supports PELI's use as a reliable and valid assessment of preschool literacy skills in terms of assessment content across and within forms and in comparisons with other early literacy assessments (e.g., Kaminski, Abbott, Bravo Aguayo, Latimer, & Good, 2014). Such sound technical adequacy is not merely a desirable feature, it is a critical foundation for any educational assessment. For an assessment tool to actually be used, however, it must also be feasible and useful for end users. Social validity refers to the importance and acceptability of a product or practice as perceived by the consumer. Evidence of social validity is usually obtained through survey feedback (Foster, & Mash, 1999; Luiselli, & Reed, 2011).

To gain evidence of the social validity of the PELI, the authors incorporated consumer feedback from surveys in the early research and development of the PELI (Bravo Aguayo & Kaminski, 2010). Over five years of research on the PELI culminated in a study to establish preliminary benchmark goals for the PELI subtests and composite score during the 2012-2013 school year. The preliminary goals were validated by further research during the 2013-2014 school year. Both studies utilized the PELI test materials that reflect the final content of the assessment. In the spring of 2013 and 2014, all assessors involved in the research project were invited to provide voluntary and confidential user satisfaction data about their experience using PELI in its final stage of development. The user satisfaction sub-study of the PELI benchmark goals research was designed to answer the following questions:

1. Do teachers and administrators think the PELI adequately assesses and informs instruction of a variety of early literacy skills in preschool?
2. Are the test procedures used in the PELI appropriate for preschool children?
3. Did the PELI reports provided for research partners by DIBELSnet help to identify students in need of support and plan instruction to meet that need?
4. How could future editions of the PELI be improved?

This technical report presents the analysis and interpretation of data related to these questions.

Method

Participants

PELI user satisfaction questionnaires were completed by 121 administrators, teachers, and assessors. Demographic data relative to the questionnaire respondents were not collected in order to maintain anonymity. Demographic data for students enrolled in sites participating in the PELI benchmark goals study were collected by a survey sent home to families during the 2012-2013 and are included in Table 1. Of the 31 programs participating in the benchmark goal study, 28 returned the surveys for some or all students, providing demographic data for a total of 1,266 children (46% of the total). Participating sites were located in states that represent every U.S. census region.

Table 1. Demographic data as reported by respondents in the 2012-2013 PELI benchmark goals study

Demographic	%
<i>Sex</i>	
Male	53%
Female	46%
<i>Ethnicity</i>	
White	75%
Black	8%
Hispanic/Latino	17%
Asian	2%
American Indian/Alaska Native	1%
Hawaiian/Pacific Islander	0%
Multi-racial	4%
<i>Primary Language Spoken</i>	
Other than English	9%

Note. Surveys may contain incomplete data or multiple selections for some questions; total percentages may not equal 100.

Measure

PELI User Satisfaction Questionnaire (PUSQ). The questionnaire was comprised of 17 items related to the utility of the PELI for assessing preschool literacy skills and planning literacy instruction in a manner appropriate for preschool children (see Table 2). The questionnaire was developed by the test authors and was based on other questionnaires that have been used to evaluate products in the DIBELS family of assessments. Questionnaire items include statements such as, "The skill areas assessed by the PELI adequately covered the early literacy and language skills that I teach in preschool" and "I would suggest using PELI to other preschool teachers." The first 14 questions asked participants to select their level of agreement with each statement on a Likert-type scale of 0 to 5, ranging from strongly disagree (0) to strongly agree (5). The remaining questionnaire items asked participants to provide comments to three open-ended questions that asked about the most beneficial component of the PELI, the least beneficial component, and suggestions for improvement.

Procedures

PUSQ data were collected in the spring of 2013 and 2014. Research coordinators at each school district or preschool program were sent an email with the link to an online survey created using Survey Monkey. Coordinators received instructions to forward the survey link to all educators that had administered the PELI assessment at their site. The first page of the survey that appeared prior to the actual questions communicated that the survey was voluntary and confidential. Participants were not incentivized to complete the survey. A total of 121 educators completed the survey across the two years of the study, 31 in 2013 and 90 in 2014.

Results

The questionnaire data were examined first by calculating the means and standard deviations for each question. Respondents' degree of agreement with each statement were converted to numerical values for the purpose of this analysis. These data are reported in Table 2. Not all participants answered every question on the survey, resulting in a variable n for each question. The actual number of respondents for each question is included in Table 2.

The highest mean, (4.01) was observed for item 1, "The skill areas assessed by the PELI adequately covered the early literacy and language skills that I teach in preschool" and item 7, "I found the information from the PELI helpful in planning classroom activities that teach comprehension." The lowest mean score (3.69) was, reported for item 2, "I found the format of the PELI to be developmentally appropriate," and item 14, "The reports provided by DIBELSnet were useful in planning literacy instruction."

The second analysis looked at the number of responses for each rating on the quantitative survey items (items 1-14). These numbers were graphed and are reported for each question in Figures 1 to 14. The percent of responses for each rating is reported in addition to the number of responses. The results of the response frequency analysis are reported below for each relevant questionnaire item.

In addition, the survey provided the opportunity for participants to leave comments for each quantitative survey item. Too few respondents chose to do so to allow for a meaningful analysis of the comments, although all comments are reported in conjunction with the corresponding quantitative data for the survey items.

Table 2. Descriptive Statistics for PUSQ Items

Item	Question	<i>n</i>	M	SD
1	The skill areas assessed by the PELI adequately covered the early literacy and language skills that I teach in preschool.	120	4.10	0.67
2	I found the format of the PELI to be developmentally appropriate.	121	3.69	1.34
3	I found the test items of the PELI appropriate for assessing early literacy and language skills.	121	3.84	0.89
4	I found the information from the PELI helpful in planning classroom activities that teach phonological awareness.	118	3.97	0.77
5	I found the information from the PELI helpful in planning classroom activities that teach alphabet knowledge.	118	3.74	0.95
6	I found the information from the PELI helpful in planning classroom activities that teach vocabulary/oral language.	118	3.85	0.80
7	I found the information from the PELI helpful in planning classroom activities that teach comprehension.	118	4.01	0.81
8	I would suggest using the PELI to other preschool teachers.	118	3.86	1.17
9	I like the procedures used in the PELI.	116	3.82	0.95
10	The PELI is a good way to assess students' strengths and weaknesses related to early language and literacy.	116	3.75	0.95
11	PELI reflected a broad range of skill level.	120	3.92	0.86
12	Overall, the PELI would be beneficial for planning early literacy/language instruction.	117	3.83	0.94
13	The reports provided by DIBELSnet were useful in identifying students that may need early literacy support.	114	3.83	1.01
14	The reports provided by DIBELSnet were useful in planning literacy instruction.	113	3.69	0.88

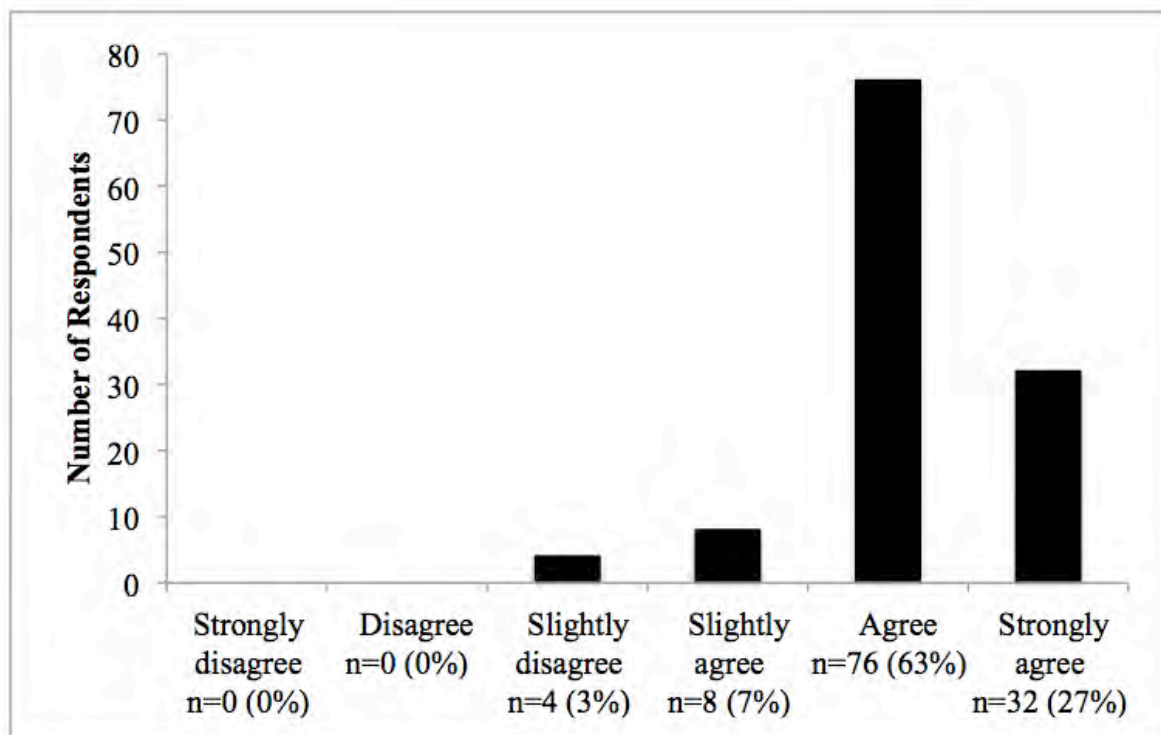
Note. Participants were allowed to skip questionnaire items, resulting in a variable *n* for each question. Scale: 0=strongly disagree, 1=disagree, 2=slightly disagree, 3=slightly agree, 4=agree, 5=strongly agree.

Quantitative Items

Item 1: The skill areas assessed by the PELI adequately covered the early literacy and language skills that I teach in preschool.

All but four participants indicated some degree of agreement with this statement. The largest number of participants ($n=76$, 63%) selected "Agree." The four participants that disagreed with the statement all selected "Slightly disagree" as their level of agreement. Overall, 97% of participants indicated some level of agreement with the statement and 3% indicated disagreement.

Figure 1. Response Frequency for PUSQ Item 1



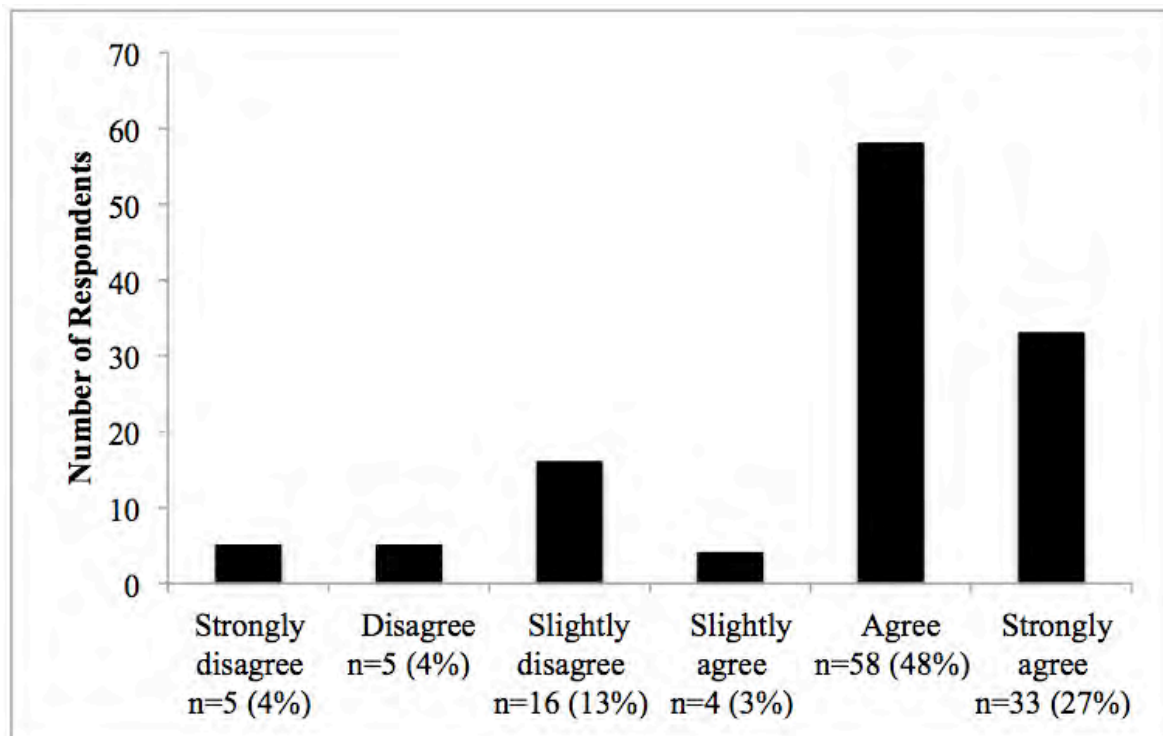
Nine users provided comments for item 1. Those comments were: 1) I would like to see it also assess letter sound knowledge and rhyming; 2) It does not include rhyming; 3) We are finding it is limited in the phonological awareness section - it only tests onset and ignores earlier PA skills and beginning concepts earlier in the continuum. Many students may have scored below benchmark in this area because they did not yet have foundational concepts, such as

beginning, middle, last, same, different, etc.; 4) Does not look at print awareness; book knowledge...holding book title page, etc.; 5) I used this tool as an assessor, not a teacher. But, it did cover skills the teachers seemed to be teaching; 6) I'm not a teacher, but an AEA staff; 7) It would be nice to have a rhyming section; 8) Weren't a (sic) first, but after completing PELI in the fall seen (sic) areas of weakness that we then concentrated on to improve; and 9) I wish the PELI could have done something with rhyming.

Item 2: I found the format of the PELI to be developmentally appropriate.

The response "Agree" received the highest number of responses (n=58, 48%) for item 2. A total of 95 participants indicated some level of agreement with the statement and 26 participants indicated a level of disagreement with the statement. Five participants strongly disagreed with the statement. Overall, 79% of respondents expressed agreement with the statement and 21% expressed disagreement.

Figure 2. Response Frequency for PUSQ Item 2

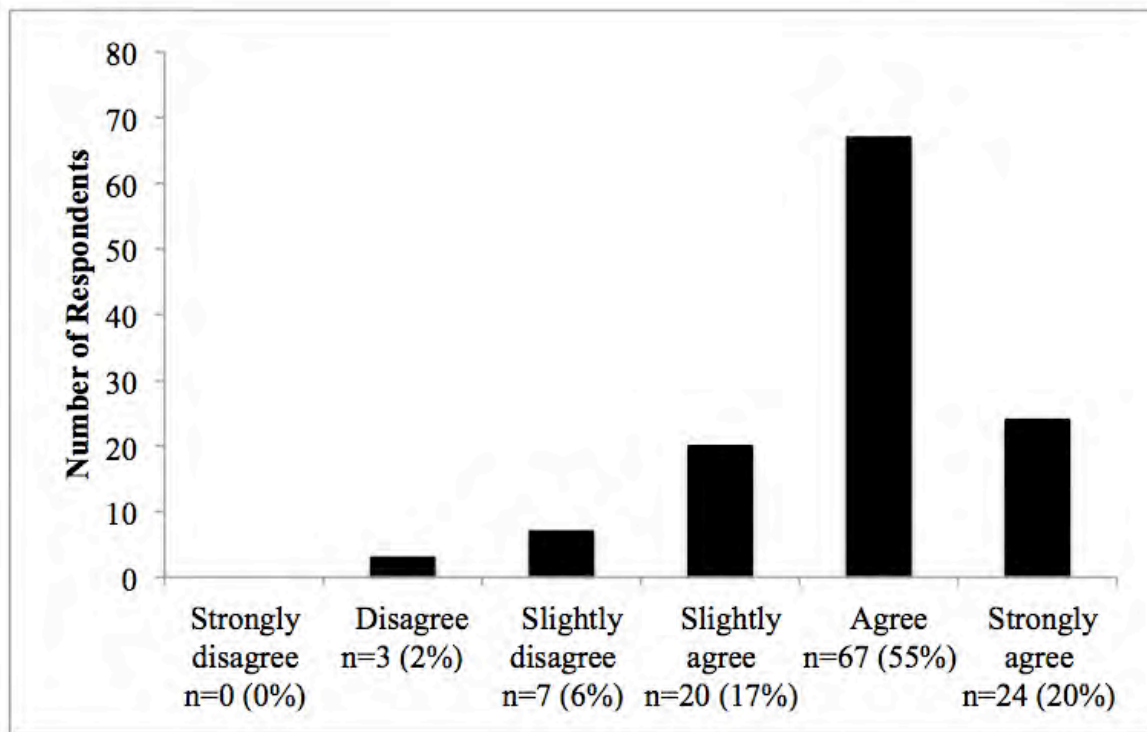


Four users provided comments for item 2. Those comments were: 1) Some of the questions were puzzling to children; 2) The amount of time it takes to administer this assessment is age-appropriate for the students. It is nice for teachers, too, because we can get this done without taking away from instructional time; 3) Love the story format and colorful pictures! and 4) Some test items in the vocabulary section were unknown to our PK students.

Item 3: I found the test items of the PELI appropriate for assessing early literacy and language skills.

Of the 121 participants, 111 (92%) participants indicated a degree of agreement, although 20 of those selected "Slightly agree." The majority of respondents selected "Agree" for the statement ($n=67$, 55%). Ten respondents indicated some degree of disagreement with this statement. Overall, 92% expressed a level of agreement with item 3 and the remaining 8% expressed a level of disagreement.

Figure 3. Response Frequency for PUSQ Item 3

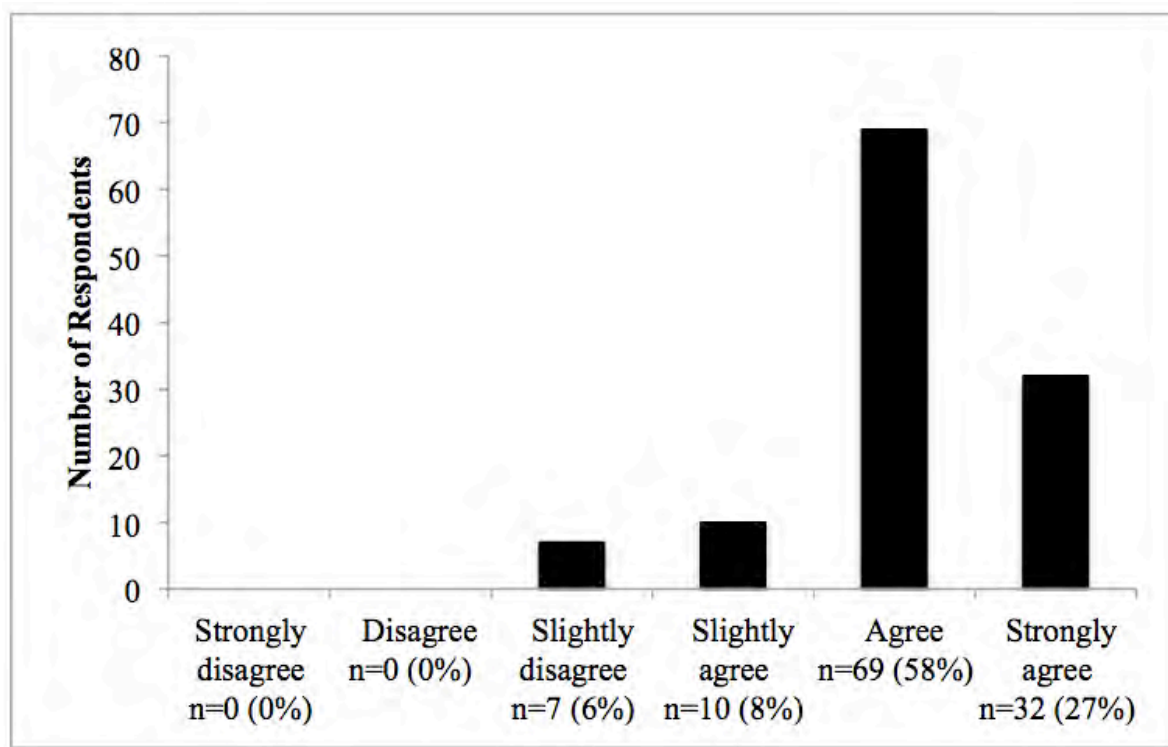


Nine users provided comments for item 3. Those comments were: 1) Way to (sic) many variables, with the sentence structure and things. I think if they knew what it was it should count not a 1-5. Example blender being called juicer; 2) I believe it would be appropriate to assess letter sound knowledge and rhyming, too; 3) I think some of the vocabulary words should be open to other words such as card for tag in Grandma's Birthday; 4) I really think because it is presented as a story and all of the areas surround that it makes it simpler for the student as well as engaging. I do find that some of the vocabulary is not appropriate and is limited. Some of the vocabulary is not universal and may be geographically dependent. It is also limited in the acceptable responses for vocabulary. We have also found the "when" question to be extremely difficult for our students. We feel that the other test items come up multiple times and possibly the "when" also should, or it should be more descriptive. 5) I would like to see rhyming assessed, as well; 6) I found some of the vocabulary to be very regional. Some of our preschoolers in Iowa had trouble with things like "avocado"; 7) Some items appear to be more regionally relevant. In Iowa we do not have fountains, merry-go-rounds or see-saws in our parks. The later two have been removed for insurance reasons, and water would freeze. Some items in the picture that were to be named were extremely small and difficult to point to; 8) Some of the story context seemed easier than others. For instance, the grocery store, school, and birthday party were relevant for all students. The beach and playground stories (vocabulary words selected especially) were unfamiliar to many students; and 9) Having lived all over the country, I think the vocabulary was very regional and somewhat over the top for kids living in poverty with little exposure to some of the experiences associated with some of the vocabulary.

Item 4: I found the information from the PELI helpful in planning classroom activities that teach phonological awareness.

The majority of respondents (n=69, 58%) selected "Agree" when asked if the PELI was helpful for planning phonological awareness instruction. An additional 32 (27%) strongly agreed with the statement. Of the seven that expressed disagreement with item 4, all indicated only slight disagreement. The total overall percent of agreement was 94% and the total percent of disagreement was 6%.

Figure 4. Response Frequency for PUSQ Item 4

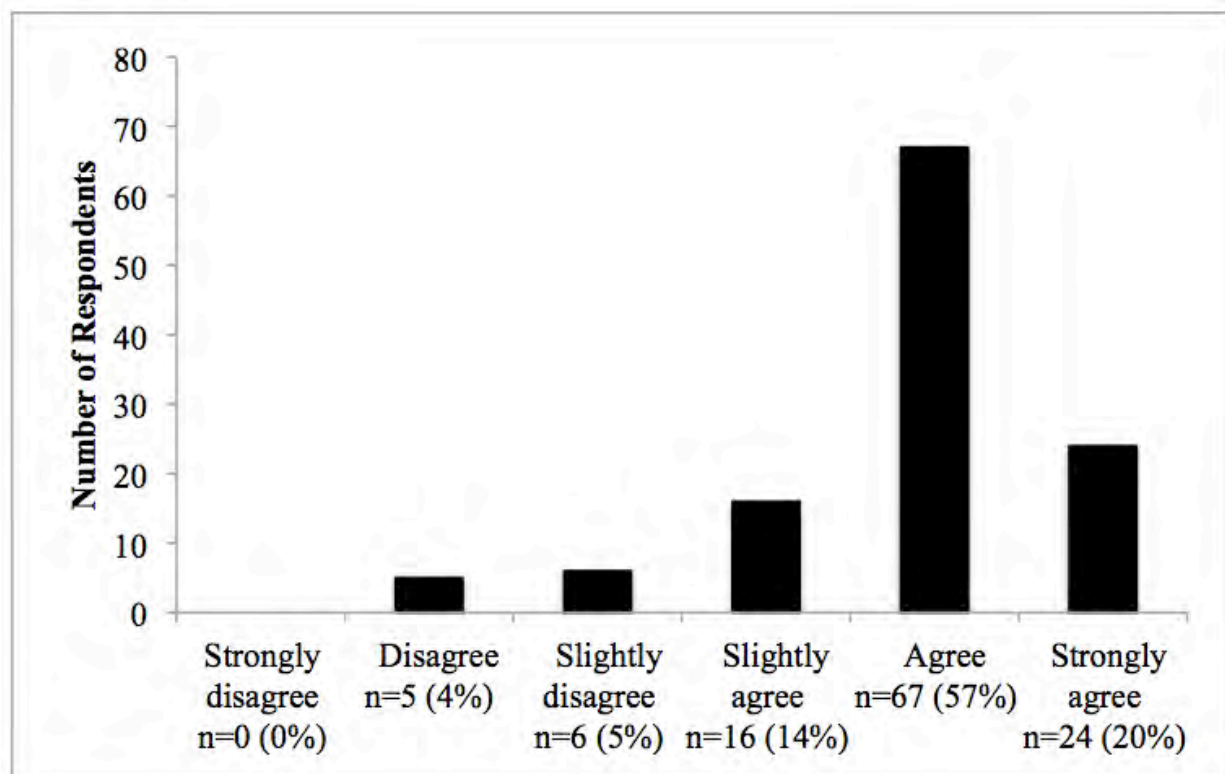


Three users provided comments for item 4. Those comments were: 1) I feel it gave me a good idea of if students could do onset, but if students were unable to I had to do a separate assessment to figure out where they were on the continuum; 2) Does not give ideas for planning; and 3) I can't answer this. I am not a classroom teacher. I used as an assessor only.

Item 5: I found the information from the PELI helpful in planning classroom activities that teach alphabet knowledge.

The majority, 67, selected "Agree." Eleven participants expressed some disagreement with item 5, with six selecting "slightly disagree" and five selecting "disagree". Overall, 91% agreed at some level with the statement and 9% indicated a level of disagreement with the statement.

Figure 5. Response Frequency for PUSQ Item 5



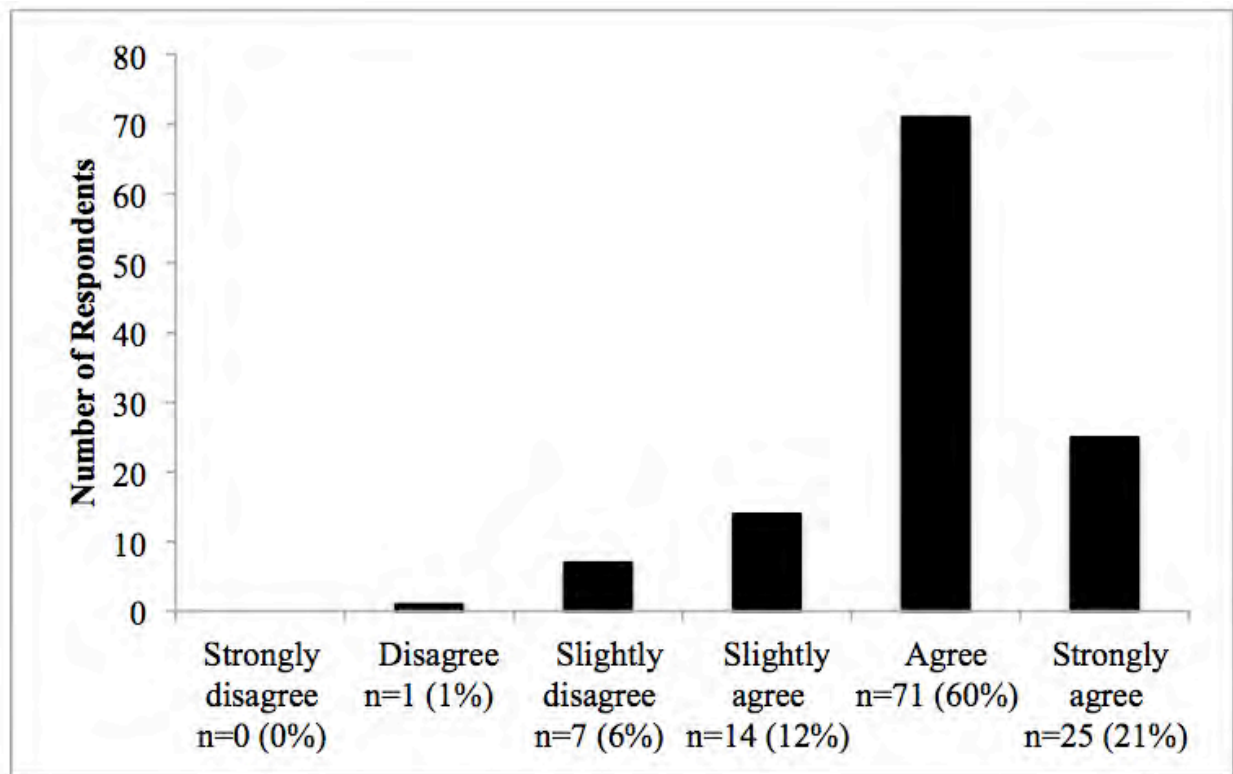
Four users provided comments for item 5. Those comments were: 1) I like how the alphabet knowledge is presented. The only difficulty I found was the discontinuation rule - this allows for much variability for some student's scores. Just because they got the first few wrong, does not mean they know 0 letters; 2) It tells you how many letters students know, that's it. Doesn't differentiate upper and lower case, etc.; 3) While not a classroom teacher, what I noticed

as an assessor was that the letters were always the same. As in, if they always upper case in every book or lower case. The scores were stable because once the child knew the letter they didn't have to know the other case. They should be changed between upper and lower cases between books; and 4) I like the mixed upper and lower case probes, but the same letters were always upper or lower, would be more helpful if it was mixed.

Item 6: I found the information from the PELI helpful in planning classroom activities that teach vocabulary/oral language.

For the question relating to the utility of PELI for planning vocabulary and language instruction, most participants selected "Agree" ($n=71$). An additional 25 strongly agreed with the statement. That contrasted with one participant selecting "Disagree" and seven selecting "slightly disagree." Overall, 93% of the participants agreed with the statement and 7% disagreed.

Figure 6. Response Frequency for PUSQ Item 6

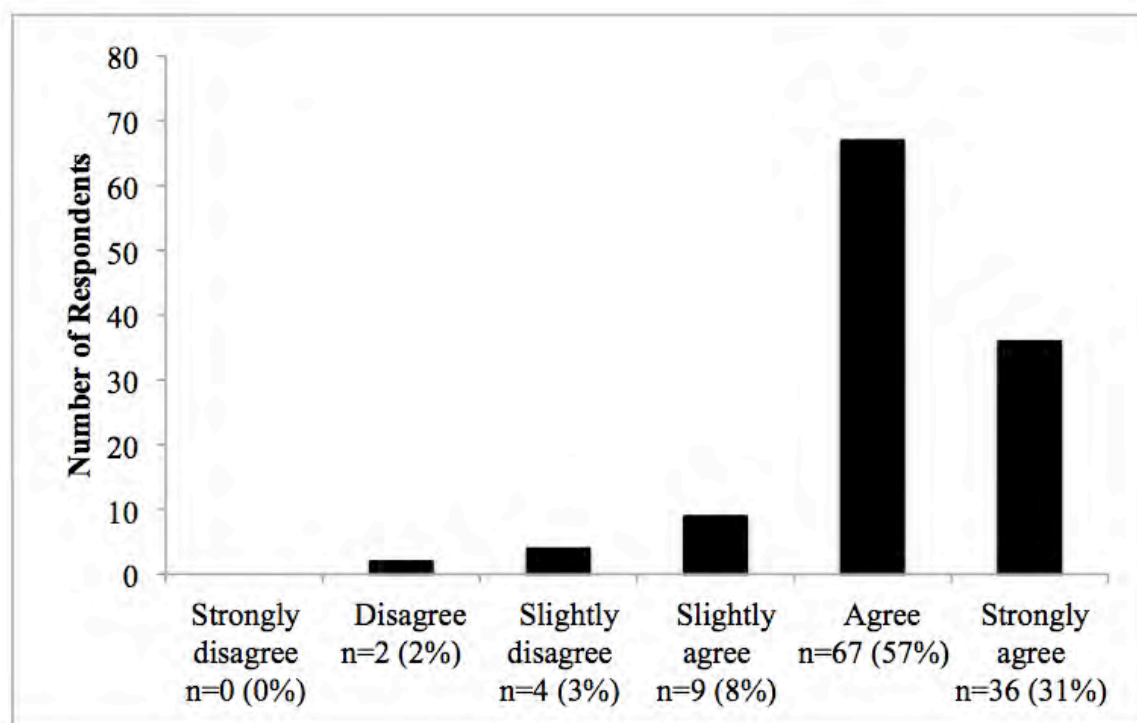


Four users provided comments for item 6. Those comments were: 1) Again, not a teacher in the classroom, don't know the answer to this; 2) Some of the vocabulary from the test appeared to be somewhat regional in nature. Children in the Midwest were not as familiar with some of the vocabulary presented; 3) I was glad to see that the language scoring changed because at first it seemed like a child could give a really random response to "tell me everything you can about" and if their language structure was good, they scored well despite going off on an unrelated tangent; and 4) It was somewhat limited because it only assessed items related to the beach, birthday, and kitchen.

Item 7: I found the information from the PELI helpful in planning classroom activities that teach comprehension.

For the final question that asked about the PELI's ability to plan instruction for an individual early literacy skill, the majority, 67, selected "Agree." Overall, the percent of participants that expressed agreement with the statement was 95%, with 5% of participants expressing some degree of disagreement.

Figure 7. Response Frequency for PUSQ Item 7

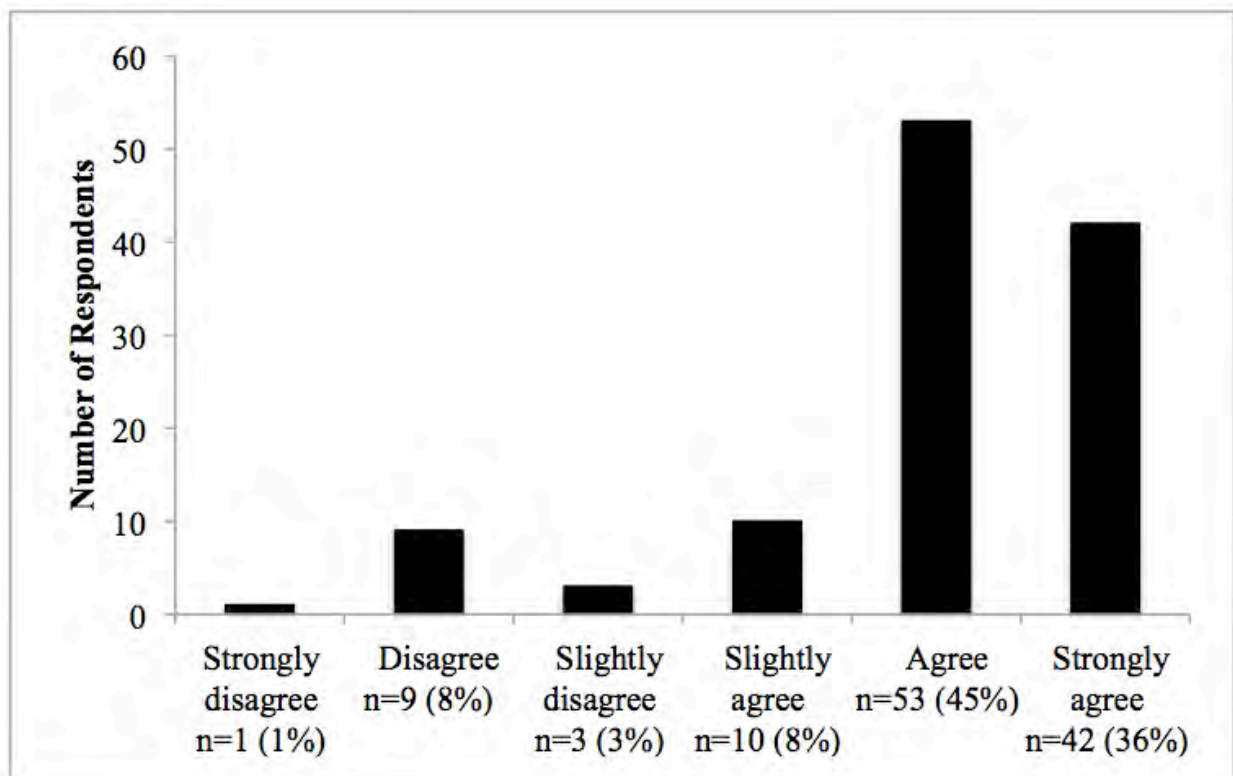


Four users provided comments for item 7. Those comments were: 1) The ESL kids didn't get it at all; 2) I absolutely love the comprehension piece, very important!; 3) Again, not a teacher in the classroom, don't know the answer to this; and 4) Did not like the "when" question - thought it was not developmentally appropriate.

Item 8: I would suggest using the PELI to other preschool teachers.

For item 8, a high number of participants ($n=42$) strongly agreed with the statement, with an additional 53 selecting "Agree." Thirteen respondents indicated a level of disagreement, with one participant selecting "strongly disagree." Overall, 89% agreed with item 8 and 11% disagreed with the item.

Figure 8. Response Frequency for PUSQ Item 8

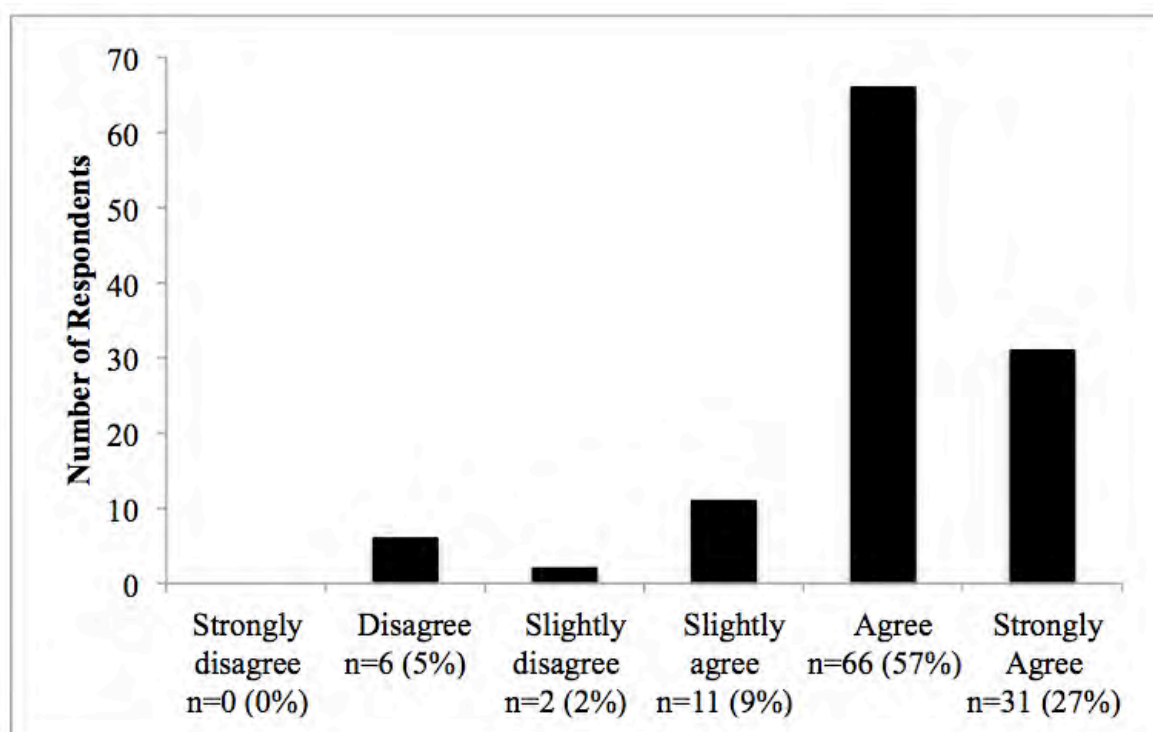


Five users provided comments for item 8. Those comments were: 1) Not because of the PELI just because I think we assess these kids to death. If it took the place of a couple tests then yes; 2) Love the story format and that it keeps most students (sic) attention; 3) Again, not a teacher in the classroom, don't know the answer to this; 4) I piloted the PELI with two of my preschool programs. I hope to use the assessment with my remaining preschools in the fall; and 5) It was very time consuming.

Item 9: I like the procedures used in the PELI.

For this item, as with all other items, the majority of participants (66) selected "Agree." Eight respondents (7%) indicated a level of disagreement, with two of those selecting "Slightly disagree" and six selecting "Disagree." Overall, 93% agreed with the statement and 7% of respondents disagreed with the statement.

Figure 9. Response Frequency for PUSQ Item 9.

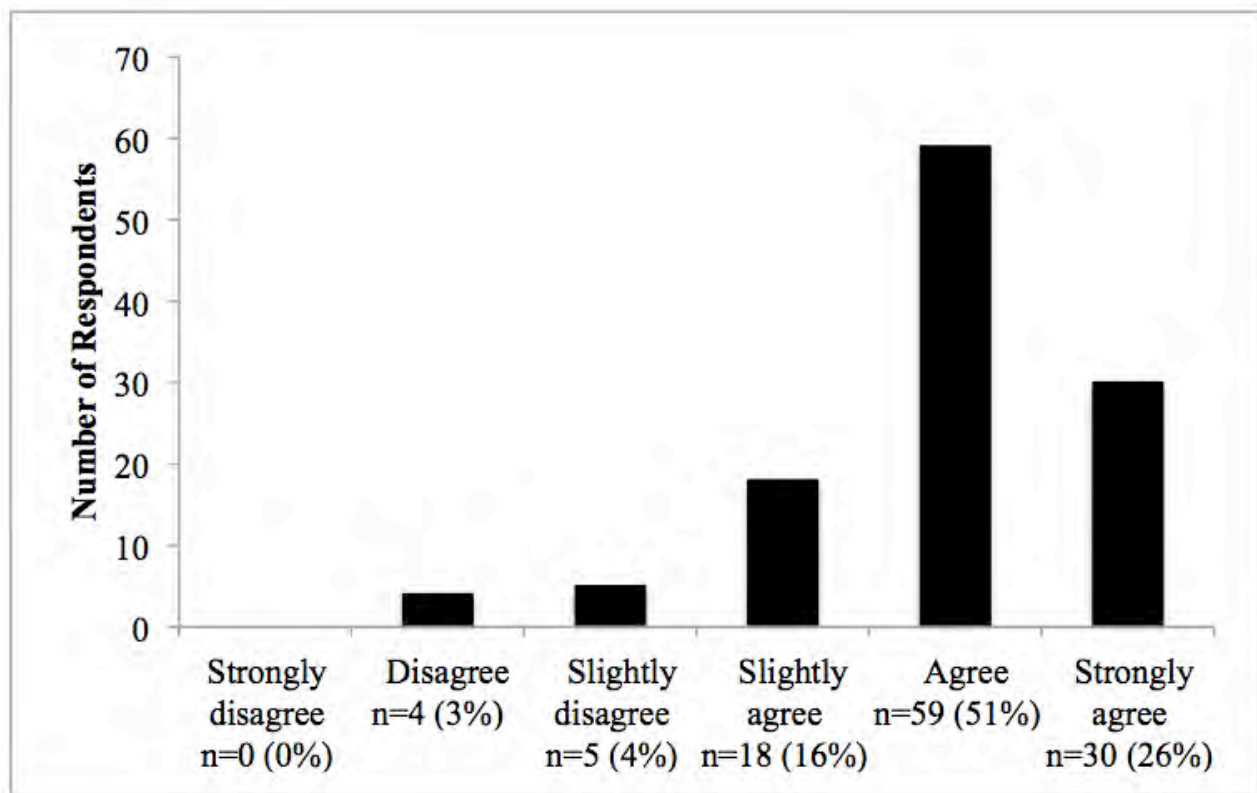


Three users provided comments for item 9. Those comments were: 1) I think the time allotted was off, especially the first round of testing. The second went quicker and the third was right on; 2) I found that students had difficulty transitioning to DIBELS as they (sic) AK subtest is timed and they are asked to follow the lines rather than find the letters they know; and 3) I understand that the assessment has to have all of the components but it took a lot of time to administer.

Item 10: The PELI is a good way to assess students' strengths and weaknesses related to early language and literacy.

For item 10, 59 participants indicated "Agreed" for the statement and an additional 30 selected "Strongly agree." The lowest rating given, "Disagree," was selected by four respondents and an additional five selected "Slightly disagree." The overall percent of participants that agreed with item 10 was 92% and 8% disagreed with the item.

Figure 10. Response Frequency for PUSQ Item 10



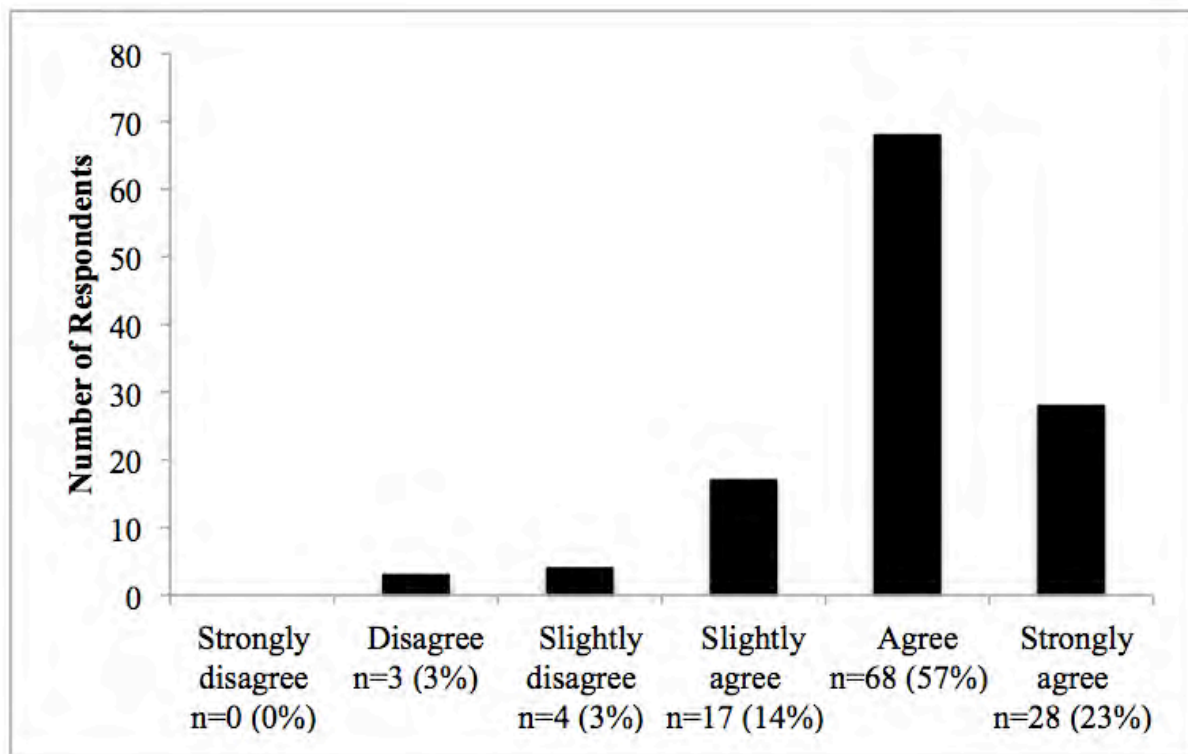
Four users provided comments for item 10. Those comments were: 1) I think the stories should be revised to reflect these kids lives. Making grandma a necklace or a candle really???? 2) Although I have a few reservations related to test items, I feel it is the most engaging test I have given. I feel the book format is excellent for assessing preschoolers and like how comprehensive it is. I also like that I can give it quickly 10-20 minutes (depending on the

student); 3) Some of the pictures (while I understand the need for Tier 1, 2, and 3 pictures/vocabulary), the pictures were difficult to tell WHAT the picture was, and not appropriate for some of our lower income kids/parts of the country; and 4) Thank you so much for developing this instrument! It the perfect assessment tool for this population.

Item 11: The PELI reflected a broad range of skill level.

The majority, 68, selected Agree for item 11. Only seven participants responded with a level of disagreement, three at the level of "Disagree" and four at "Slightly disagree." Overall, 94% of participants indicated that they agree with the statement and 6% indicated disagreement.

Figure 11. PUSQ Response Frequency for Item 11

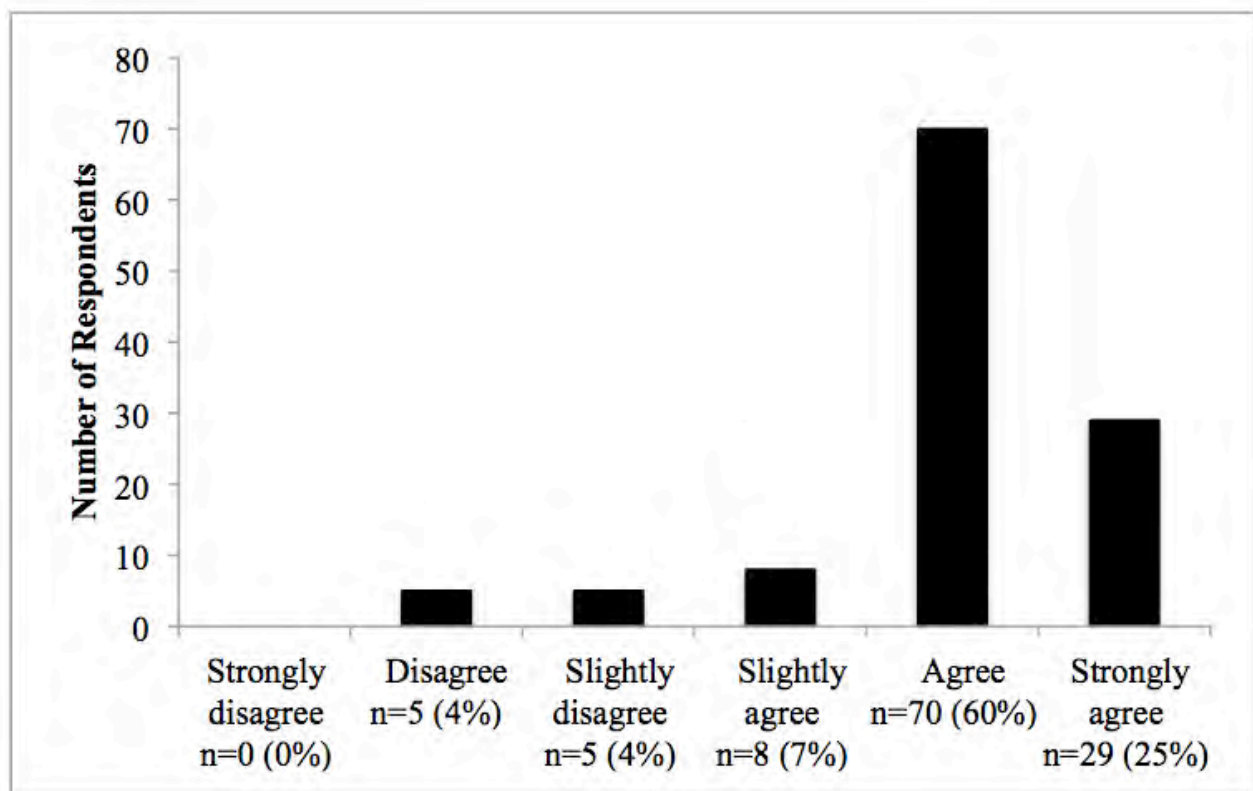


One user provided a comment for item 11. That comment was: 1) For the most part, it did provide a range of Tier 1, 2, and 3 vocabulary.

Item 12: Overall, the PELI would be beneficial for planning early literacy/language instruction.

Seventy participants, the majority, selected "Agree." Ten participants disagreed with item 12, half ($n=5$) selecting "Disagree" and the other half selecting "Slightly disagree." Overall, 91% agreed with the statement and 9% disagreed.

Figure 12. Response Frequency for PUSQ Item 12

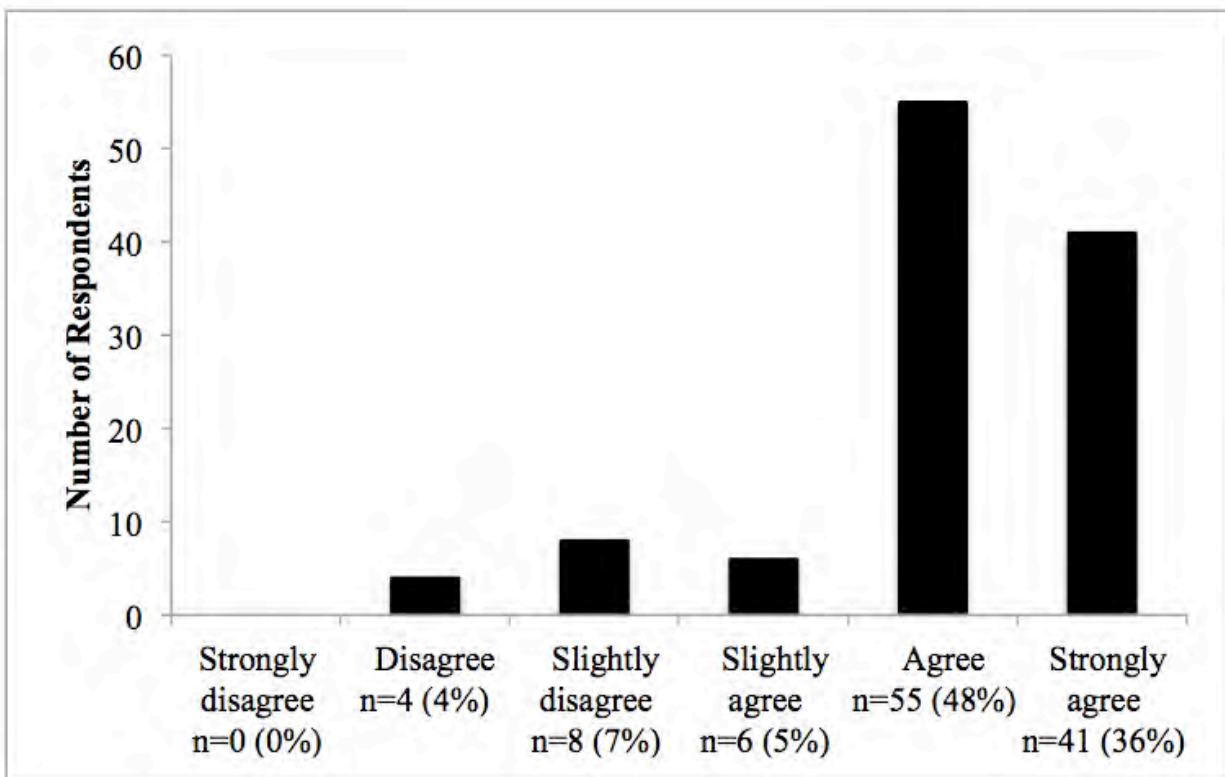


One user provided a comment for item 12. That comment was: 1) Most of the time, the teachers were not surprised by the results but occasionally they had a few eye openers. That's the beauty of this.

Item 13: The reports provided by DIBELSnet were useful in identifying students that may need early literacy support.

A high number of participants, 41 (36%), strongly agreed that the DIBELSnet reports provided for PELI helped identify students in need of support. An additional 55 selected "Agree" for item 13. Of the participants that disagreed, four selected "Disagree" and eight selected "Slightly disagree." Overall agreement with the statement was reported at 89% and the overall disagreement was reported at 11%.

Figure 13. Response Frequency for PUSQ Item 13

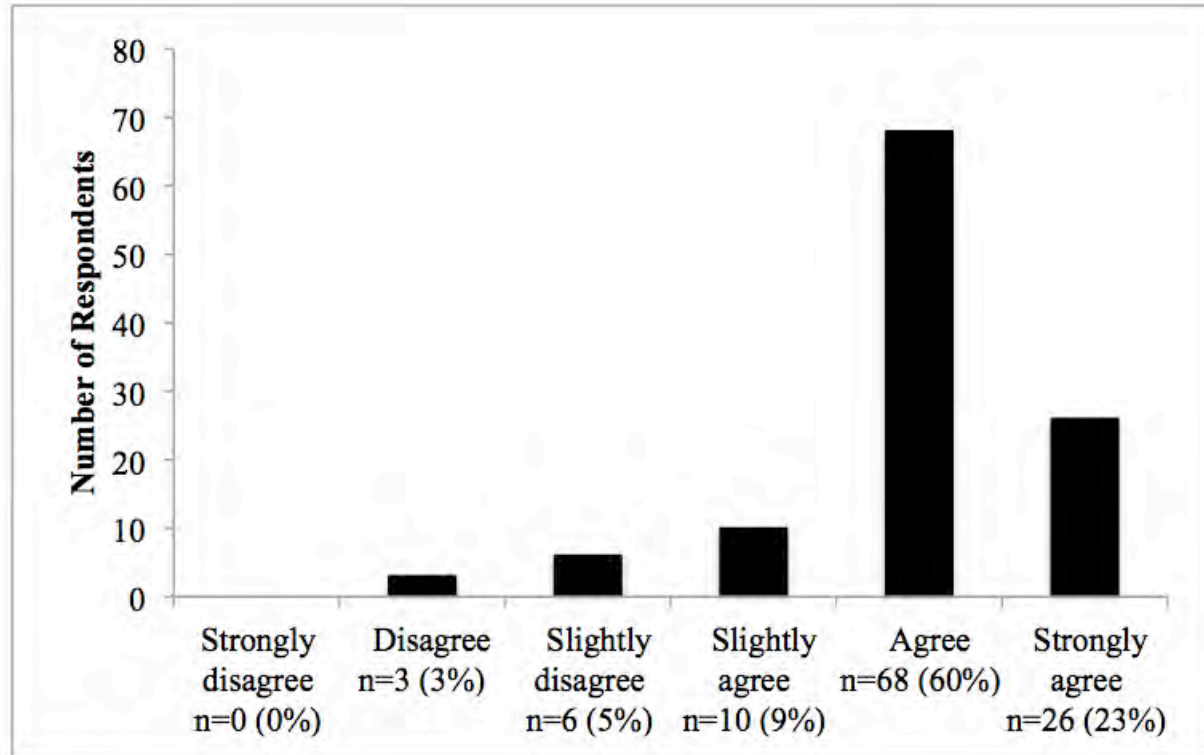


Eight users provided comments for item 13. Those comments were: 1) I think that naming 20 alphabet letters in the winter is a huge jump from the fall and should perhaps be the end of the year goal; 2) This gave myself and my preschool teacher a good idea of the students that needed extra instruction - lends itself to RTI nicely. It helped us see what skills they lacked.

It was helpful for students the teacher was unaware had gaps in their skillset; 3) I was not part of the report process, I don't know this; 4) Never used; 5) My district had me send them the information to enter onto Dibelsnet, I was unable to use it directly- this is a district issue, not a (sic) issue on your end; 6) The teachers and administration found these reports extremely beneficial.; 7) I have not been able to obtain the individual reports; and 8) I never had access to these. No fault of yours, though.

Item 14: The reports provided by DIBELSnet were useful in planning instruction.

Figure 14. Response Frequency for PUSQ Item 14



The final quantitative item of the PUSQ had a majority of participants, 68, select "Agree". A smaller number of participants selected "Strongly agree" (26) and "Slightly agree" (10). Nine participants indicated disagreement with item 14. The overall percent of agreement was 92% and 8% of the participants disagreed with the statement.

Three users provided comments for item 14. Those comments were: 1) I was not part of the report process, I don't know this; 2) I would like a break down of each classroom overall scores with a percentage of tiered instructional needs; and 3) No access.

Open-Ended Items

For the final analysis, comments made on the three open-ended questions that concluded the survey were examined and grouped into themes. Tables 3, 4, and 5 include the verbatim anecdotal comments for the three open-ended questions.

For the first question, "The most beneficial component of the PELI is:", 87 participants provided a comment. Consumer comments were divided into the eight different categories: 1) the format of the assessment, 2) the reports generated by DIBELSnet, 3) the benchmark goals and/or the ability to identify students' early literacy skill level, 4) the Comprehension subtest, 5) the Phonological Awareness subtest, 6) the Vocabulary-Oral Language subtest, 7) the Alphabet Knowledge subtest, and 8) General/Other. When respondents indicated more than one component as the most beneficial, each component was counted under the relevant category. One response included more than three categories and was reported as "Other." In terms of length of comments, 64% (n=56) gave brief, one-word or simple phrase responses such as "Comprehension" while 36% (n=31) provided a more in-depth, anecdotal response. The number of responses by category is provided in Table 3 along with the corresponding anecdotal responses, which are reported verbatim. When an anecdotal response included comments for two or more categories, only the portion of the comment that related to the category in question is reported. The category with the highest number of participants stating it was the most beneficial component was the Comprehension subtest (n=22, 25%) and lowest number of responses for most beneficial was Alphabet Knowledge (n=5, 6%). While only 12 participants made a

comment pertaining to the benchmark goals and/or the ability to identify student's skill level, that category had the highest number of anecdotal responses (9). The general/other category included responses such as "the entire assessment" and "the skills it covers." It also included one response of "Nothing."

The second open-ended question, "The least beneficial component of the PELI is:", received a total of 78 responses and was categorized into eight different response types: 1) Time, 2) Materials, 3) Age appropriateness, 4) the Vocabulary-Oral Language subtest, 5) the Comprehension subtest, 6) the Alphabet Knowledge subtest, 7) the Phonological Awareness subtest, and 8) General/Other. The Materials category was used to group response related to concerns about the materials when a particular subtest was not specified. This included comments related typos, concerns about particular form themes or pictures, and one comment specific to the PELI training materials and assessment manual. Similar to PUSQ Item 15, responses that indicated more than one component as the least beneficial were counted under each relevant category. One response included more than three categories and was reported as "Other." For this item 40% (n=31) of respondents gave anecdotal feedback, while 60% (n=47) gave responses of one word or a brief phrase. The number of responses by category is provided in Table 4 along with their related, verbatim anecdotal responses. When an anecdotal response included comments for two or more categories, only the portion of the comment that related to the category in question is reported. In terms of the least beneficial components, 22% (n=17) identified the Vocabulary-Oral language subtest. Of those, two specifically mentioned the Picture Naming section and two specifically mentioned Tell About. The participants commented that the vocabulary words selected were regional and/or not appropriate for their students. The general/other category included responses such as "scoring the papers," "Articulation" and "the

dibels net reports". It also included one response of "All" and four responses of "None," "Nothing," or "NA." There were also two anecdotal responses in the General/Other category where the respondent said that they found all components of the PELI useful.

For the final open-ended question, "Suggestions for improvement:", a total of 63 participants responded to the question and the responses were grouped into eight different categories: 1) Time, 2) Materials, 3) Age appropriateness, 4) Vocabulary-Oral Language, 5) Comprehension, 6) Alphabet Knowledge, 7) Phonological Awareness, and) General/Other. Requests for the inclusion of skills not already included in the PELI were categorized under Materials, as were comments related to illustrations, formatting, typos, and generic comments about the assessment where a specific subtest was not referenced. The Other category included two suggestions for a DIBELSnet parent report, very generic feedback, and two comments that included more than three response categories. Although the smallest number of participants responded to this open-ended question, it elicited the highest percentage of anecdotal feedback with 59% ($n=37$). The category with the highest number of responses suggesting a need for improvement was Materials with 21 comments. Eight of those comments related to making changes to the stories. There were 20 responses about Vocabulary-Oral Language with the majority of the commenters voicing that the pictures were challenging or inappropriate for some preschool students ($n=11$).

Table 3. PUSQ Item 15 Responses by Category

Category	<i>n</i>	Anecdotal responses to, The most beneficial component of the PELI was:
Assessment Format	11	<ul style="list-style-type: none"> • "I love the story book format!" • "The amazing format that is presented as a story and that there is no timing involved as in the Dibels." • "I like the story book format. Thank you for breaking up the comprehension piece and the vocab/phonological pieces!" • "It's very 'kid-friendly.' Kids enjoyed reading it. They thought it was like a book. Very colorful." • "I think that the colorful pages, fun stories and wonderful illustrations all add students interest in the PELI. My students would actually ask when I would work with them."
Benchmark Goals/ Identification	12	<ul style="list-style-type: none"> • "Gave us set goals to work on." • "Overall awareness of knowing where students are." • "Gives a good overall screening of early literacy skills." • "You can see how the children are improve (sic) or not." • "The amount of knowledge it provides you about your students and their early literacy skills." • "The ability to compare student performance with their peers." • "Give a good, quick picture of a child's ability." • "Good overall picture of foundational pre-reading skills." • "Identifying areas of student need or where instruction may need to be changed due to weaknesses in scores. Helps with using DATA to guide and plan instruction! The two classrooms in which PELI was administered yielded very different scores. My teacher and I talked about differentiating instruction for the classrooms to address the big areas of need as well as plan for instruction for individual as well."
DIBELSnet Reports	11	<ul style="list-style-type: none"> • "The reports were great, easy to read and very helpful for identifying students needing extra support at a glance." • "The reports helped with planning target instruction."
Comprehension	30	<ul style="list-style-type: none"> • "Comprehension questions and seeing what the students understand about the story."

Category	<i>n</i>	Anecdotal responses to, The most beneficial component of the PELI was:
		<ul style="list-style-type: none"> • "The comprehension using the story. Although the first story was very difficult to understand." • "It was wonderful to be able to see children's reading comprehension and also explain to parents to give them some tools to use when reading to their own children to make them more likely to succeed."
Phonological Awareness	10	<ul style="list-style-type: none"> • "The beginning sounds section was particularly helpful in grading my students." • "I really liked the phonological awareness piece of this because it was something our teachers were not doing and they got to see what it looks like short term to teach this skill and watch their kids absorb it."
Vocabulary-Oral Language	9	<i>No anecdotal responses.</i>
Alphabet Knowledge	5	<i>No anecdotal responses.</i>
General/Other	17	<ul style="list-style-type: none"> • "The test was administered consistently to all students that took it." • "How is helps prepare students for the assessment they'll do in kindergarten." • "The variety of skills is good." • "The whole test because it helps us figure out what each child needs to work on." • "All the information is beneficial." • "The focus on phonemic awareness, oral language, and comprehension that haven't been focused on as much as alphabet knowledge in the past." • "It is short, it is easy to learn to give." • "I can't really single out the most beneficial component. We found all four areas to provide useful information." • "It was an assessment that could be explained to parents and how they could help their child better with literacy development."

Note. Based on responses from 87 participants. Some responses included and were counted across multiple categories.

Table 4. PUSQ Item 16 Responses by Category

Category	<i>n</i>	Anecdotal responses to, The least beneficial component of the PELI is:
Time	7	<ul style="list-style-type: none"> • "The PELI took too much time. Students had a difficult time sitting still throughout the whole assessment." • "The time it takes to administer the assessment seems a little long for this age level. It took us 10-15 minutes per student."
Materials	7	<ul style="list-style-type: none"> • "Some story themes were easier for students." • "We just did: The Grocery Store - there are several typos and the pics are kind of creepy. I wouldn't ask any of them for help!" • Some of the instructions during training disagreed with the manual given to us." • "Some of the drawing, vocabulary, and scenes were poorly chosen: e.g. some vocab picture were poorly drawn, avocado and other vocab seemed inappropriate, the grocery story has an outdoor scene like a market." • "Pictures in the book are a bit odd (computer generated) and aren't totally realistic." • "Some of the questions on the assessment were misleading for the students."
Age Appropriateness	2	<ul style="list-style-type: none"> • "It is hard for the 3 year olds to complete. It might be more age appropriate for 4 year olds."
Vocabulary-Oral Language	17	<ul style="list-style-type: none"> • "One (sic) the vocab and oral if the child can't name what it is. Then most times they can't tell me about it." • "The vocabulary portion is difficult for some students who have not yet been exposed to certain materials (ex: space). • "I didn't like the way the sentence part was graded."
Comprehension	12	<ul style="list-style-type: none"> • "The content knowledge of some stories can be a bit too abstract for young children (ex. a trip to outer space).* • "Some of the questions were very hard for my students." • "Under comprehension - 'when did the story happen?' Even my very capable students didn't answer this questions correctly." • "The question - When did the story happen? None of my children new (sic) the answer to that question

Category	<i>n</i>	Anecdotal responses to, The least beneficial component of the PELI is:
		<p>in any of the books."</p> <ul style="list-style-type: none"> • "The question: When did the story happen. Every child missed it almost every benchmark! It's worded poorly." • "Some of the comprehension questions were difficult for all students."
Alphabet Knowledge	12	<ul style="list-style-type: none"> • "For 3 year olds to pick from a mass area of upper and lower case letters tends to be too overwhelming."* • "Alphabet knowledge because it does [not] have all the letters for the children to identify. Upper case A is not lowercase a. Bb, Dd, Ee, Ff, Gg, Hh, Ii, Jj, Ll, Nn, Qq, Rr, Tt, so how can you actually determine what the (sic) letters the children identify." • "Not something that is necessary for preschoolers to know most of their letter names by the end of the year. Some know the letter sound before they know the name." • "Letter page can be overwhelming." • "The alphabet letters always being the same case. This doesn't really test if they know ALL their letters. There are many differences in how upper and lower case letters look. Vary the letters among books. Or add more letters and put both upper and lower case in all the books if you want a truly accurate picture of how many letters the kids know." • "We already worked on this and have our own recording sheet so we were testing our students twice each trimester on alphabet knowledge and it just seemed time consuming and not necessary for us since we already check this with each and every child 3 times a year."
Phonological Awareness	9	<ul style="list-style-type: none"> • "Word Parts -- Many of our students in the 3's room could not complete this section." • "The word parts section is good, but I wonder if this needs to be included."
General/Other	16	<ul style="list-style-type: none"> • "I knew most of the information that the PELI told me by the second week of schools. It was kinda silly for me to take 20 minutes testing each child even though I already knew who was struggling and who wasn't. The PELI just take too long to administer per child and once a child meets benchmark, there is no need to test them again." • "The way the benchmark testing is completed by strangers to our children who have special needs and are very often super shy and therefore do not show their true knowledge or ability level." • "I found every component of PELI to be beneficial."

Category	<i>n</i>	Anecdotal responses to, The least beneficial component of the PELI is:
		<ul style="list-style-type: none"> • "There really isn't a part that I do not find useful." • "I thought each component was beneficial, they just need to be refined." • "The vocabulary words and fill in the missing word part should be more open to other good substitutions. Also I think letter names are overly emphasized and that letter sounds should be equally important, however, I would not like to see the test be any longer since it already takes a good chunk of time."

Note. Based on responses from 78 participants. Some responses included and were counted across multiple categories. *Responses came from same participant, but were categorized and reported separately.

Table 5. PUSQ Item 17 Responses by Category

Category	<i>n</i>	Anecdotal responses to, Suggestions for improvement:
Time	5	<ul style="list-style-type: none"> • "The test is too long for these students. It would be nice to have something a little shorter and quick to assess their strengths and weakness (sic)." • "Make shorter. The children have a hard time focusing by the end of it." • "It's a great tool, just time consuming." • "Make a shorter test for 3 year olds."*
Materials	21	<ul style="list-style-type: none"> • "Some of the stories were hard for my students to relate to (outerspace)." • "Using stories that do not require abstract thinking and use more real world concepts and ideas in terms of the three year old mind and experiences." • "Students cannot tell you everything they know about an object and then switch over to first sound fluency. They need to be broken up into different days." • "Avoid typos and make sure pictures are very clear and specific from the perspective of a 4 year old." • "That the books are more related to what the children know." • "Some of the stories had typos that should be fixed. This is difficult for ELL students; something that we can do for them when they speak in their home language." • "The art is just awful. Sorry but it really is not good. Perspective was weird in several pictures and the people were very odd looking."** • "Poor illustrations. Some do not align with story content." • "Make the stories more fun, and more realistic for these kids and there (sic) everyday life." • "The students didn't seem to relate well to the first story. But again, was it because they were so immature? or the story wasn't relatable?" • "Needs a MUCH improved scoring guide...and LOTS of work on the scoring guidelines for the tell about it section."***
Age appropriateness	3	No anecdotal responses

Table 5. PUSQ Item 17 Responses by Category

Category	<i>n</i>	Anecdotal responses to, Suggestions for improvement:
Vocabulary-Oral Language	20	<ul style="list-style-type: none"> • "A site to type in sentences and they score them. I always am second guessing my scoring. The picture for Trip to Outerspace were a little hard for students to explain and see." • "Some of the words seemed specific to dialect: example: cabinet vs. cupboard. One counted, the other did not. This is minor for overall score but it was frustrating to mark a child down when we felt they knew the answer." • "Allow for more flexible answers on the vocabulary section - for example, water for water bottle or shoes for sandal/flip flops, etc." • "I feel throwing a pineapple and horseshoe onto a picture of a birthday party was allowing the children to use their prior knowledge of a birthday party to associate the pictures." • "More relevant topics fro (sic) our students (based on age and environment), make sure picture are not overlapping for vocabulary." • "Consider different vocab than some chosen; have the picture be more clearly, accurately drawn." • "Some of the vocabulary items were not relevant to preschoolers (e.g. horseshoe, avocado, tag, cooler, anchor, wing)."* • "Select better vocabulary and more 'current' pictures. (i.e. the merry-go-round - think those are outlawed, now)." • "Some of the vocabulary items could have been a bit bigger. Again, some of the vocabulary was unfamiliar to children in the Midwest." • "The pictures in the vocab naming were often quite small and I found myself giving frequent directions like 'what's that little red thing right there (touch with a stylus).' In Grandmother's Birthday the balloons are red and green which is a bad combination for a child who is red/green color blind. One of my students had no idea what they were supposed to be."
Comprehension	10	<ul style="list-style-type: none"> • "Parts of the story were unfamiliar (e.g. how many ids put olives on a pizza? Don't think many of them even know what an olive is; the story about the grocery store wasn't a grocery store, it was an outdoor market).*** • "Re-write some of the re-tell sentences because they were misleading and really vague (hard to answer) sometimes." • "Fix up the questions, such as the 'when' question, as well as comprehension questions that reference

Table 5. PUSQ Item 17 Responses by Category

Category	<i>n</i>	Anecdotal responses to, Suggestions for improvement:
		<p>something and is confusing with the picture."</p> <ul style="list-style-type: none"> • "The comprehension part should be a separate assessment from the language part." • "Change 'When did the story happen?' to something different. Like, What season did this story take place?" • "Some inference comprehension questions were difficult for all students, regardless of skill level."
Alphabet Knowledge	6	<ul style="list-style-type: none"> • "I very much did not like how alphabet knowledge was assessed. I think all of the letters are too small and too close together. If we could show them one letter at a time, I know that my students would have gotten higher scores. Because I just tested them 1-2 weeks before the PELI and they all were able to identify more letters." • "Test capital and lower case letter separately. That way we know which lower/uppercase letters we need to work on."
Phonological Awareness	4	<ul style="list-style-type: none"> • "We were also wondering if there was a way to have a discontinue rule for the phonemic awareness section. Some students are spending time on this task when they are not even at the point of understanding what to do with it." • "The section of the test where the children played a "game" of putting the beginning sounds/first part of words into the bag wasn't necessary. My children found it frustrating when they couldn't slide the cards in easily. They wanted to just look at the cards then proceed to the next." • "The object that we were supposed to attach to use as a recepticle (sic) for the phonological awareness activity never fit on the page the way it was supposed to. Several of my students really were distracted by that whole pocket idea and the lines not fitting together."
General/Other	10	<ul style="list-style-type: none"> • "I don't understand what the composite score section is all about." • "All alphabet letters must be tested for alphabet knowledge to be accurate. A book that is relevant to a preschool child. Family, friends, pets, grocery store, The test needs to be shorter, too long for 3-4 years old. Is this really necessary for preschool age children? All children grow and develop at their own individual rate and pressuring a child to sit with a teacher for 15-30 minutes to do a test is not "DAP". We need to take observations and watch children though play and exploring to gather the data. The last test was completed the first week of May and chidlren (sic) still have 5 weeks of school to learn. I don't think we need 6 hours to go over results of the testing when we could wait and assess the children closer to the end of the year." • "Overall, wonderful assessment! Would like to participate in it again next year!"

Table 5. PUSQ Item 17 Responses by Category

Category	<i>n</i>	Anecdotal responses to, Suggestions for improvement:
		<ul style="list-style-type: none"> <li data-bbox="604 293 1331 334">• "I'd love to see a parent report for the PELI on DIBELS.net." <li data-bbox="604 342 1919 513">• "Comprehension questions can be improved to align with Common Core and book awareness skills (left to right progression). Need more examples of student responses to score more accurately without being subjective. I feel many assessors are still scoring comprehension and vocab not accurately. Change C6 - when question to a setting question. Can ask a simple print concepts question (left to right; top/bottom); Maybe 1 benchmark story can be an informational text about animals."

Note. Based on responses from 63 participants. Some responses included and were counted across multiple categories. *, **,

***Responses came from same participant, but were categorized and reported separately.

Discussion

The purpose of gathering PELI user satisfaction data was to evaluate the assessment's social validity and to determine if any further changes need to be made to the PELI based on consumer comments. Based on our work and others who promote the data-driven decision-making process (e. g., Zilkowski & Goldstein, 2008; Carta et al.,1991) a key goal of the PELI development was to provide teachers with a tool for planning instruction. Question 1 of the study investigated teachers and administrators perceptions about how well the PELI assesses and informs instruction. It also examined the utility of the PELI for instructional planning on a variety of early literacy skills. Survey items that addressed research question 1 were items 1, 4, 5, 6, 7, 10, 11, and 12. For all of these PUSQ items participant agreement was above 90% (range 91% to 97%).

When looking at the questions that addressed planning instruction across the four assessed skills, the PELI displayed a high percent of agreement. The lowest, at 91%, was for item 5, which was for alphabet knowledge. This could be due to the fact that the instruction of the alphabet is simpler than the other skills due to the limited nature of the skill area, e.g., students only need to learn 52 letter symbols (26 upper and 26 lower) to master the domain. For vocabulary/oral language and phonological awareness (items 4 and 6), the overall percent of agreement observed was 93% and 94%, respectively. The highest percent of agreement at 95% was expressed for item 7, the statement related to comprehension.

Item 1, which stated that the PELI assessed the language and literacy skills taught in preschool, had the highest percent of agreement across the entire survey. Total, 97% of participants agreed with the statement. Of the 3% that expressed some level of disagreement, all indicated only slight disagreement. We believe this positive consumer data indicates good social

validity in terms of the PELI covering the essential early literacy and language skills that are predictive of future reading success as noted in the NELP (2008).

Research question 2 addressed the appropriateness of the PELI test procedures for preschool children. Both researchers and national organizations dedicated to early childhood education have advocated for the benefits of teaching early literacy skills to preschool students in a developmentally appropriate way (e.g., NAEYC, 1998; New, 2003; Bodrova, Leong & Paynter, 1999; Phillips, Clancy-Menchetti, & Lonigan, 2008, Huffman & Speer, 2000). As the purpose of screening assessments such as PELI is to guide preschool literacy instruction, it is equally important to adhere to developmentally appropriate practices while testing (NAEYC, 2004). Survey questions that addressed question 2 are items 2, 3, 8, and 9 with the respective percentages of agreement at 79%, 92%, 89%, and 93%.

It is encouraging that item 3 had a 92% agreement rate for addressing the appropriateness of the PELI to assess early literacy and language skills. Also encouraging is the finding that the item with the highest number of "Strongly agree" responses was item 8 that asked if respondents would recommend PELI to other preschool educators. Forty-two participants strongly agreed (36%) with an additional 53 (45%) marking "Agree." For item 9, 93% agreed that they liked the procedures in the PELI. Good social validity on this item is especially important because the establishment of standardized procedures is a key component in the PELI. Knowing that 93% of the teachers and administrators are in agreement on this item further validates other technical adequacy data on the validity of PELI (e.g., Kaminski, et al., 2014).

We found item 2 to be interesting. It specifically asked respondents about the developmental appropriateness of the PELI and had the lowest overall percent of agreement (79%) across the survey. Comments connected to that item did not illuminate the reason for such

a rating. However, when collecting community ratings, community values often come into play (Luiselli & Reed, 2011). The preschool community is populated with identifiable and diverse subgroups, some of which have opposing viewpoints on the social importance and acceptability of testing preschoolers with assessments like the PELI. It is possible that for some preschool educators, any sort of direct assessment seems incongruous with developmentally appropriate practices. Also, despite a shift toward teaching and assessing literacy skills in preschool as a developmentally appropriate practice (Pretti-Frontczak, Carta, Dropkin, Fox, Grisham-Brown, Edwards, et al., 2013; NAEYC, 1998; NAEYC, 2004; NAEYC, 2009), many educators continue to avoid early literacy in preschool due to the belief that doing so is not developmentally appropriate (Dickinson, 2002).

Research question 3 (items 13 and 14) examined the utility of PELI reports from DIBELSnet to help identify students in need of support and plan instruction to meet that need. Item 13 addressed the usefulness of DIBELSnet reports to identify students that may need early literacy support and had 89% agreement. Item 14 addressed usefulness of the reports for instructional planning and agreement was observed at 92%. Both items suggest positive consumer feeling about DIBELSnet's ability to provide reports that help identify children who may need additional instructional intervention and plan instruction accordingly.

We used the open ended questions at that end of the survey to address research question 4, which was about potential improvements that might be made to further editions of the PELI. Items 15 and 16 asked respondents to comment on the most and least beneficial components of the PELI and item 17 requested suggestions for improvement. Many participants offered suggestions for improvement and most were aligned with previously observed comments and quantitative data from the PUSQ. Five comments for both PUSQ item 16 and item 17 also

indicated a misunderstanding of the scoring rules, such as comments that indicated frustration at not being able to score a synonym as correct in the V/OL and Cloze sections (e.g., "cupboard" for "cabinet."). This information was helpful to the test authors and gave direction for improvements to the Assessment Manual and training materials for PELI.

Implications

A review of all data from the PUSQ resulted in some important changes to the PELI testing materials. First, all materials underwent a careful review for typos by editors who were not involved in the development of the materials based on comments that the materials contained typos. Several commenters also remarked that the pocket page was difficult to attach and too small to easily fit the Phonological Awareness picture cards. In subsequent PELI books, the pocket was extended to a full half page and pre-attached to the assessment books using extra strength double-sided tape. The Assessment Manual and training materials also underwent revisions for consistency and to significantly increase the directions for scoring Tell About. Finally, one vocabulary word was changed (merry-go-round) based on a comment that the item had been "outlawed" and the authors confirmed that they were no longer used on many playgrounds due to safety concerns.

Feedback that reflected a misunderstanding of the scoring rules prompted the authors to include the most common synonyms on the actual scoring sheets as well as emphasize assessors' ability to count synonyms as correct in the training materials for PELI. Finally, two forms were specifically mentioned across multiple survey items as problematic in terms of vocabulary and theme difficulty. This feedback influenced the authors to use both of these books as benchmark or interim forms at the PK4/5, rather than PK3/4, grade level when selecting the final order of the PELI assessment books.

Several suggestions for improvement could not be made due to the difficulty of assessing a sufficient variety of early literacy skills in a brief amount of time. A number of comments (12) requested that additional skills or items (e.g., additional letters) be included on the PELI, while an almost equal number of comments (13) expressed that the assessment took too long and/or the time should be shortened. This decision was supported by the large number of participants that agreed with PUSQ item 1, which stated that PELI adequately assessed the early literacy and language skills taught in preschool.

A recurring observation made by the authors when examining the PUSQ data was the need for assessors to receive high-quality professional development prior to utilizing PELI. Many comments appeared to stem from a lack of understanding about the conceptual bases of PELI, such as the idea that the subtests are brief indicators of broader skill constructs and therefore not all preschool early literacy skills are included on the assessment. Data-based decision making is also relatively new to early childhood education, which further necessitates professional development as a critical prerequisite to PELI use (Ball & Trammell, 2011; DeBaryshe & Gorecki, 2007; Jackson, Pretti-Frontczak, Harjusola-Webb, Grisham-Brown, & Romani, 2006).

Limitations

There were several limitations with this study. One limitation was the relatively small sample of educators who participated in the electronic questionnaire relative to the number of classrooms that participated in the PELI data collection, which was 217 in 2012-2013 alone. Since responding to the survey was voluntary, it may be that the teachers and administrators who responded strongly liked or disliked the assessment. As such, it is possible that our conclusions are not representative of all teachers' perspectives about the PELI.

In addition, we did not have a way to link student-level demographic data to the teachers that responded to the survey. The degree to which the sample of children tested on the PELI is or is not representative of the actual participant school demographics is unknown to us. Despite these limitations, we believe that there was enough consistency in the feedback among those who responded to the survey to see patterns of customer beliefs and to establish that the PELI has strong social validity.

Finally, sites electing to participate in PELI research are more likely to approve the procedures and test items used in the PELI. The decision to participate in research was often made by site administrators and not necessarily the teachers who administered the assessment and utilized the data. Thus, having teachers who used the PELI respond to the survey was critical to establishing social validity. However, we have no specific knowledge that this lack of choice did or did not affect the number of assessor responses. Future studies of PELI user satisfaction might benefit from capturing the number of teachers/assessors who experienced initial buy-in for the PELI, versus those for whom the assessment was mandated by program administrators.

Conclusion

Overall, consumers generally found the PELI to be a worthwhile tool to use for screening and monitoring preschool children's early literacy and language skills. The addition of professional development on the use of this kind of assessment within a data-based decision making model would only increase the usefulness of the PELI by early childhood educators. Evidence of social validity combined with previous documentation of reliability and validity throughout the development of the PELI further supports that the PELI is an appropriate, research-based tool for use in preschool programs.

References

- Abbott, M. (2011): A Research-to-Practice View of an Early Literacy PD Model. *NHSA Dialog: A Research-to-Practice Journal for the Early Childhood Field*, 14(4), 327-331.
- Ball, C. R., & Trammell, B. A. (2011). Response-to-intervention in high-risk preschools: Critical issues for implementation. *Psychology in the Schools*, 48, 502-512.
- Bodrova, E., Leong, D., & Paynter, D. E. (1999). Literacy standards for preschool learners. *Educational Leadership*, 57(2), 42-46.
- Bravo Aguayo, K., & Kaminski, R. A., (2010). [PELI user satisfaction survey]. Unpublished raw data.
- Cabell, S. Q., Justice, L. M., Zucker, T., & Kilday, C. R. (2009). Validity of teacher report for assessing the emergent literacy skills of at-risk preschoolers. *Language, Speech & Hearing Services in Schools*, 40(2), 161-173. doi: 10.1061/09/4002-0161
- DeBaryshe, B. D., & Gorecki, D. M. (2007). An experimental validation of a preschool emergent literacy curriculum. *Early Education and Development*, 18, 93-110.
- Dickinson, D. K. (2002). Shifting images of developmentally appropriate practice as seen through different lenses. *Educational Researcher*, 31(1), 26-32.
- Foster, S. L., & Mash, E. J. (1999). Assessing social validity in clinical treatment research issues and procedures. *Journal of Consulting and Clinical Psychology*, 67(3), 308-319.
- Greenwood, C. R., Carta, J. J., Atwater, J., Goldstein, H., Kaminski, R., McConnell, S. R. (2012). Is a Response to Intervention (RTI) approach to preschool language and early literacy needed? *Topics in Early Childhood Special Education*, 33, 48-64.

- Huffman, L. R., & Speer, P. W. (2000). Academic performance among at-risk children: The role of developmentally appropriate practices. *Early Childhood Research Quarterly, 15*(2), 167-184.
- Jackson, S., Pretti-Frontczak, K., Harjusola-Webb, S., Grisham-Brown, J., & Romani, J. M. (2009). Response to intervention: Implications for early childhood professionals. *Language, Speech, and Hearing Services in Schools, 40*, 424-434.
- Kaminski, R.A., Abbott, M., Bravo Aguayo, K., Latimer, R., & Good, R.H. (2014). The Preschool Early Literacy Indicators: validity and benchmark goals, *Topics in Early Childhood Special Education, 34*(2), 71-82.
- Luiselli, J. K., & Reed, D. D. (2011). Social validity. In S. Goldstein & J. A. Naglieri (Eds.) *Encyclopedia of Child Behavior and Development* (pp.1406). NY, NY: Springer.
- Nancollis A, Lawrie B, Dodd B. (2005). Phonological awareness intervention and the acquisition of literacy skills in children from deprived social backgrounds. *Language, Speech, and Hearing Services in Schools (4)*, 325-35.
- NAEYC. (2009). *Where we stand - NAEYC and IRA: On learning to read and write*. A joint position statement of the National Association for the Education of Young Children and the International Reading Association. Retrieved from <http://www.naeyc.org/files/naeyc/file/positions/WWSSLearningToReadAndWriteEnglish.pdf>.
- NAEYC. (2004). *Where we stand - NAEYC& NAECS/SDE: On curriculum, assessment, and program evaluation*. A joint position statement of the National Association for the Education of Young Children and the National Association of Early Childhood Specialists

in State Departments of Education. Retrieved from

<http://www.naeyc.org/files/naeyc/file/positions/StandCurrAss.pdf>.

National Association for the Education of Young Children (NAEYC). (1998). Learning to read and write: Developmentally appropriate practices for young children: A joint statement of the International Reading Association and the National Association for the Education of Young Children. *Young Children*, 53(4), 30-46.

National Early Literacy Panel. (2009). *Developing early literacy: Report of the National Early Literacy Panel*. Washington, DC: National Institute for Literacy.

New, R. S. (2003). Early literacy and developmentally appropriate practice: Rethinking of paradigm. In S. B. Neuman & D. K. Dickinson (Eds). *Handbook of early literacy research, Volume 1* (pp. 245-262). New York, NY: Guilford Press.

Phillips, B. M., Clancy-Menchetti, J., Lonigan, C. J. (2008). Successful phonological awareness instruction with preschool children: Lessons from the classroom. *Topics in Early Childhood Special Education*, 28(1), 3-16.

Pretti-Frontczak, K., Carta, J. J., Dropkin, E., Fox, L., Grisham-Brown, J., Pope Edwards, C., & Sandall, S. (2013). *Frameworks for response to intervention in early childhood: Description and implications*. Retrieved from

http://www.naeyc.org/files/naeyc/RTI%20in%20Early%20Childhood_0.pdf

Ziolkowski, R. A., & Goldstein, H. (2008). Effects of an embedded phonological awareness intervention during repeated book reading on preschool children with language delays. *Journal of Early Intervention*, 31, 67-90.