A program evaluation of the Language Lab™: Response to intervention program for teaching grammar, vocabulary, and storytelling

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ABSTRACT

This program evaluation study addressed the struggle of local elementary school speech-language pathologists (SLPs) in a school district to provide evidence-based intervention in language for students below grade level as required by the U.S. Department of Education. Recently, Language Lab™ was published to address the needs of oral language intervention prior to special education testing. The district in this study adopted the program. The purpose of this program evaluation study, based on the American Evaluation Association evaluation standards, was to determine if the Language Lab™ program goals were met in the areas of utility, feasibility, and accuracy. The study was grounded in social learning theory. The research questions explored SLPs' perceptions of the components of the program that were effective in reducing the need for special education evaluation and improving oral language and narrative skills. A sample of 10 SLPs, who implemented Language Lab™ on elementary campuses in the district, responded to an electronic survey. Survey responses for rated items were descriptively reported and open-ended responses were coded based on program goals and analyzed for common themes to answer the research questions. The SLPs reported Language Lab™ as an effective program based on improved student oral language skills and a reduction in referrals for special education evaluation. Because the program goals also met the evaluation standards, recommendations were for Language Lab™'s continued use as a language intervention. Positive social change might occur as SLPs in schools use evidence-based interventions such as Language Lab™ to improve students' learning of oral language skills and decrease unnecessary placements in special education.

Keywords: special education, oral language skills, speech therapy, language interventions

INTRODUCTION

In an age of heightened educational accountability, school districts are expected to provide intensive intervention to general education students who struggle academically. Many students who struggle in school have difficulty reading, and a significant number of those have weak or under developed language learning systems (Paul, 2007). Locally, a school district in southeast Texas was faced with the problem of not having evidence-based intervention strategies or programs that focused on oral language intervention with general education students who had difficulties with oral language skills. An intensive language intervention program was recently published for use with students struggling with oral language development. This study was a qualitative program evaluation of a newly published intervention program, Language Lab™: Response to Intervention for teaching grammar, vocabulary, and storytelling. In the district of study, Language Lab™ was implemented by speech-language pathologists (SLPs), with general education students who were not meeting grade level expectations in language. The SLPs reported the effectiveness of the learning strategies in Language Lab™ as well as the overall effectiveness of the program. The findings of this program evaluation were formulated into an evaluation report including recommendations and guidelines to assist SLPs in the implementation of the program in school districts with children who have weak or under- developed language learning systems.

Definition of the Problem

When the U.S. Congress authorized the No Child Left Behind (NCLB) law in 2002, it included emphasis on improving education through standards-based reform and performance-based accountability. The 2004 reauthorization of the Individuals with Disabilities Education Act (IDEA) resulted in greater alignment between the two federal education laws. Both NCLB and IDEA emphasized the use of scientifically based instructional methods and required intensive intervention before referral of a student for special education evaluation to identify a possible disability. The local district's requirement was in accordance with the 2004 National Center for Education Statistics and Individuals with Disabilities Education Act (U.S. Department of Education [USDE], 2004) which set forth the requirement that school districts provide general education intensive intervention prior to referral of students for special education testing.

Teacher accountability for student performance and the requirement to provide intensive intervention for general education students struggling to master grade level standards resulted in heightened responsibility for teachers. They must have met the needs of struggling learners who were potential candidates for placement in special education. Students who struggle in reading may also exhibit poor language skills. Therefore, educators often turned to SLPs for assistance with language skills in order to improve reading skills. SLPs are viewed as experts in language development and have a vital role in providing guidance to educators and students regarding oral language skill development as the foundation for reading and writing.

Locally, the school district struggled to meet the federal mandate to provide intensive intervention in the area of oral language prior to referring a student for special education evaluation. Nationally, school-based SLPs struggled to meet these same federal mandates. Without intensive intervention, students who had difficulty with oral language were often referred for a special education evaluation and placed in special education services. Over-

identification of language disabilities may contribute to speech impairment being a high-incidence disability category under IDEA.

In response to the need for an evidence-based program that focused on oral and narrative language skills, Language Lab™ was recently developed and piloted in the district of this study. The program consists of a screener that identifies students who may benefit from the program and evidence-based intervention strategies for the teacher or SLP to use to provide focused intervention in the language area(s) of need. The program also provides written instructions for implementing the program with fidelity and includes directions on collecting and effectively analyzing student progress by monitoring data. SLPs who implemented the program evaluated Language Lab™ according to the American Evaluation Association evaluation standards to determine the utility, feasibility, and accuracy of the program. The research questions that guided the study are:

- How effective were the instructional strategies in the program in reducing the need for referral for special education evaluation?
- In what ways did the program improve oral language and narrative skills?
- Which components of Language Lab™ were the most effective?
- In what ways were the printed instructions effective or ineffective in implementing components of Language Lab™?

REVIEW OF THE LITERATURE

Theoretical Foundation

An intensive language intervention program is grounded in the social learning theory of language development, the descriptive-developmental model, and the zone of proximal development (ZPD). Vygotsky, a Russian developmental psychologist, was known for emphasizing the importance of social interaction and collaboration as part of the learning process (Clabaugh, 2010). Vygotsky (1978) defined the ZPD as a process of learning and internalizing learning through varying levels of support by adults. The ZPD focused on the gap between a child's current level of functioning and the child's potential level of functioning. Based on the ZPD, the place where learning occurs was just above the student's current level of functioning (Clabaugh, 2010). Struggling language learners were functioning outside the oral and reading proficiency of their age group. Providing tiered instruction for these learners by a team of educators supports the precepts of Vygotsky and defines the teaching strategies of RTI that are mandated in 2004 by IDEA. Before intervention strategies are recommended, SLPs identify the skills needed to develop language for students who exhibit oral language deficits. Competent SLPs are trained to identify skills that are needed for students experiencing language problems. In addition to identifying skills in language development, the review of literature provides information on conditions that explain language development.

Two conditions that were most effective for the development of specific skills were (a) targeting language skills that were absent from the child's language system, and (b) targeting language skills that were used correctly part of the time (Nelson et al.,1996). When a child already exhibits correct language skills the majority of the time in their language system, these language skills should not be targeted in intervention (Fey, Long, & Finestack, 2003). The recommendations by Nelson et al. (1996) and Fey et al. (2003) identified language skills to

target in intervention based on Vygotsky's ZPD. Precisely identifying which language skills students can and cannot use and targeting interventions are paramount to eliminating the practice of over identifying students for special education. More specifically, Paul (2007) recommended that the highest priority of skills to target would be those that the student used 10% to 50% of occurrence in context. Also a high priority was targeting skills that occurred 1% to 10% of the time in context but were understood in receptive tasks (Paul, 2007). These skills would be considered in the child's ZPD. Selecting the most appropriate skills to target in intervention is critical for efficiently remediating student weaknesses. Targeting the skills in the proper sequence requires SLP knowledge of normal language development as well as knowledge of the individual student's language skills.

SLPs not only apply a broad-based knowledge of social learning theory to identify and instruct language deficient students, but also they can apply the descriptive- developmental model concept in developing teaching strategies. The descriptive- developmental model of language intervention was based on the concept that the normal sequence of language development was the guide or standard that was used to determine if a child's language skills were delayed or disordered (Paul, 2007; Wiechmann & Rudebusch, 2011).The descriptive-developmental model compared the child's language skills to the normal language development sequence. The language skills targeted for intervention were targeted in a step-by-step, incremental sequence.

Other language development theorists, such as Bloom and Lahey (1978) and Naremore (1997), defined a descriptive-developmental model also known as the communication-language approach. In this model, child language was described by various aspects of language including form, content, and use. The aspects of language form included skills in phonology, syntax, and morphology (Paul, 2007). Language content referred to word meaning and word meaning within a sentence. Language use referred to the pragmatics or social use of language in a child's language system (Bloom& Lahey, 1978). A child's language skills were compared to normal language development sequence to help define if interventions were needed and if so, what area of language needed intervention. In addition to Language Lab™ utilizing learning strategies that fostered language development through the social-learning theory, the program used the descriptive-developmental model to determine which language skills required intervention.

Language Lab™, which is a language intervention program that was based on the social learning theory, focused on the development of oral language skills based on the premise that they are foundational for the development of reading and writing. Most students who struggle with reading comprehension also demonstrate weak language comprehension skills, since reading comprehension is largely dependent upon language comprehension (Paul, 2007). Reading is a language-based skill that enters through a visual portal to access the language-processing system (Catts & Kamhi, 2005; Wallach, 2005). Since reading is a language-based skill, understanding meaning from reading uses the same processes that were used for understanding oral language (Paul, 2007). Language Lab™ used various evidence-based learning strategies such as scaffolding, pair share activities, and embedding language skills in context of connected speech to foster oral language skills, which in turn fostered reading comprehension skills. Using the descriptive-developmental language model, the SLP identified the current language skills of the student, as compared to normal language development and provided evidence- based instructional strategies to foster development of weak language skills in the student's ZPD.

By using the descriptive-developmental model to provide focused language intervention in RTI, the SLP was able to differentiate between a language disorder and a language delay. If the child's language skills were developing in the sequence of normal development but were developing at a slower rate, this was considered a language delay (Paul, 2007). If the child's language skills were not developing in the normal sequence and at a slower rate, this may be an indication of a language disorder. Another indication of a language disorder is language skills developing in the normal sequence but the student's language skills are not responding as expected in an RTI model. The American Speech-Language-Hearing Association (ASHA, 1993) defined a language disorder as impairment in comprehension and/or use of spoken, written, and/or other symbol systems. The disorder involved (a) the form of language (phonology, morphology, syntax), (b) the content of language (semantics), and/or (c) the function of language in communication (pragmatics) in any combination.

Language difference is another concept considered when analyzing the genesis and scope of a language disorder. A language difference may be identified in a child who is learning more than one language. Typically, one language will be the primary or first language. Often, language aspects or characteristics of the first language (L1) developed in the normal sequence but influenced the development of the second language (L2) (Seitel & Garcia, 2009). Language differences were considered to be normal or typical (Seitel & Garcia, 2009). The SLP must consider the child's language history, development, and characteristics in order to determine if the child has a true language disorder versus a language delay or difference. Vygotsky's and Bloom & Lahey's theories of learning are compatible with the concept of providing focused instruction in an intervention or prevention model. Providing intervention services can also be referred to as an RTI model.

Response to Intervention

Since the concept of RTI was a relatively new paradigm in public education, data was limited on its efficacy. NCLB and IDEA targeted the problem of over-identification of students with disabilities, but available instructional strategies were largely ineffective for accelerating learning and supporting students with mastery of grade level standards (USDE, 2001; 2004). The concept of RTI emerged as a response to these problems. An intervention process was required as part of general education in order to support students in general education. IDEA included emphasis on the requirement for evidence-based intervention practices through an RTI process to address the increasing number of students identified with the high incidence special education disability categories of speech impairment and learning disability (National Center for Education Statistics, 2004). NCLB raised a critical question among teachers and SLPs as to whether all of the students identified with a disability were truly disabled or whether these students simply had not been taught with high quality, evidenced-based instruction.

IDEA defined three elements of evidence-based intervention practices: (a) a requirement to use scientifically based instruction, (b) an ongoing evaluation of student responsiveness to intervention, and (c) the use of data for the purposes of decision- making (Mesmer & Mesmer, 2008). These requirements were the basis for the concept on which RTI was developed. Incorporating the premises described in IDEA, Ogonosky (2008) and Rudebusch (2008) defined the essential components of an intervention process, also known as RTI, as (a) a belief that all children can be taught, (b) an emphasis on early intervention, (c) a multi tier model, (d) the use of research-based instruction and intervention, (e) a problem-solving method for making

decisions, (f) a method of monitoring student progress, (g) the use of data for decision making, and (h) the use of various types of assessment. These eight elements define RTI.

METHOD

No Child Left Behind emphasized using evidence-based intensive interventions with struggling students prior to referring them for a special education evaluation; however, the district of study had no materials to address oral language. Expert SLPs wrote and published a new program, Language Lab™: Response to Intervention for teaching grammar, vocabulary, and storytelling (Language Lab™). To justify using this new program as a standard teaching tool in the district, a program evaluation was needed to determine the overall effectiveness of the program. The program evaluation was a qualitative study. The participants in the program evaluation were SLPs who had used Language Lab™ at their elementary campus. Participation was on a voluntary basis and anonymity was maintained throughout the study. SLPs gave voluntary consent for participation in the study through assumed consent by completing an anonymous electronic survey. SLPs reported on the improvement of students' language skills, the overall effectiveness of the program, the effectiveness of specific components of the program, and the ease of implementation of specific components of Language Lab ™ according to the printed instructions.

Data from an anonymous electronic survey were provided for analysis. The electronic survey consisted of open-ended questions and Likert scales which allowed the collection of data that answered the research questions. Steps were taken to maximize validity of the study through the use of clarifying the bias of the researcher and presenting information in themes developed from the data collected. The findings of the program evaluation were compiled and presented to the district. The results of the survey were provided to the publisher of the program in the form of an evaluation report following the completion of the project study. The evaluation report included recommendations for future implementation of the program.

Qualitative Research Design

Program evaluations are conducted for a variety of reasons. They may be used to justify funding for a program, to measure the effectiveness of a program, for advocacy purposes or to fulfill an accreditation requirement. Program evaluations may be qualitative, quantitative, or mixed-method in design. This program evaluation was qualitative in nature and designed to explore the beliefs and experiences of SLPs regarding the use of Language Lab™ with students on their campuses. Qualitative aspects of the utility, feasibility, and accuracy of the program were obtained in order to endorse or recommend improvements for using Language Lab™ with students who struggle with oral language skills. The expertise-oriented program evaluation was selected for four reasons: SLPs (a) understood the components of Language Lab™; (b) knew the distinctive, qualifying factors for participants; (c) were qualified to analyze data and (d) could evaluate the program as subjective, qualitative experts necessary for program evaluation. This program evaluation was aligned with U.S. Congress' emphasis on the need for scientifically based research practices for use with students. A program evaluation of Language Lab™ was justified in order to validate, provide recommendations for improvement, or refute the use of the program. Therefore, the goal of the Language Lab™ program evaluation was to evaluate the overall effectiveness of the program. The American Evaluation Association evaluation

standards were used to focus on utility, feasibility, and accuracy of the program. SLPs who had implemented Language Lab™ at their elementary campuses responded to the objective and subjective items of the survey and provided data to answer the research questions: (a) How effective were the instructional strategies in the program in reducing the need for referral for special education evaluation, (b) In what ways did the program improve oral language and narrative skills, (c) Which components of Language Lab™ were the most effective, and (d) In what ways were the printed instructions effective or ineffective in implementing components of Language Lab™, considering time sufficiency and clarity?

This study was designed to make clear connections between the research questions, program evaluation standards, survey questions, and the program objectives of Language Lab™. The research questions were developed as part of the program evaluation to determine if the Language Lab™ program objectives were met. Therefore, the research questions were designed to measure the participants perceptions as to whether the program reduced the number of referrals for special education evaluation and if the student's oral language skills improved. After these connections were made, the research questions were linked to each of the American Evaluation Associations standards of accuracy, feasibility, and utility. The survey questions were developed to elicit the perceptions of the participants regarding the validity, value, and efficiency of the program. A summary of the alignment of the research questions, Language Lab™ program objectives, survey questions, and program evaluation standards is summarized in Table 1. See Table 1 (Appendix)

Participants

The participants in this program evaluation were SLPs who were employed in the local district. The SLPs who had voluntarily implemented Language Lab™ on their elementary campus were informed of this program evaluation study. The group of SLPs who implemented Language Lab™ was given the opportunity to volunteer as participants in the program evaluation with assurance of anonymity. Assumed consent was used by informing the participants of their rights and that by completing the electronic survey they were giving their consent for participation. The number of SLP participants was determined by those who volunteered and completed the electronic survey. It was estimated that there would be 12 participants; therefore when 10 SLPs responded to the survey, the participation rate was considered high.

Data Collection

The participants in the program evaluation were instructed via email communication on how to access the online survey. Data collection from the survey was used to determine if the key objectives of the Language Lab™ program were met. These included the perceived effectiveness of (a) the instructional strategies, included in Language Lab™ for improving students' language skills, (b) Language Lab™ as an overall intervention program for improving students' oral language and narrative language skills, (c) specific components of Language Lab™, and (d) ease of implementation of specific components of the program according to the printed instructions.

Survey questions were based on the goals, intended outcomes, and instructional strategies contained in Language Lab™ as guidelines for the content of the questions. No pre-

existing survey was available because of the uniqueness of the program being evaluated. Three district SLPs from different districts established validity of the survey. The SLPs critiqued the survey questions to ensure that the questions would yield valid and relevant results. The electronic survey provided data that was analyzed for themes and inferences of the survey results.

Likert scales were used to rate the efficacy of the instructional strategies in Language Lab™, the overall effectiveness of Language Lab™, and the ease of implementation of the program components. A list of the specific components of Language Lab™ was provided and participants rated the program according to effectiveness. Open-ended questions were used to probe for a deeper understanding of the participants' experience regarding student improvement of language skills. All questions included in the survey were designed and linked to the program objectives as intermediate indicators of the program evaluation.

The data obtained were specifically designed to determine the beliefs of SLPs regarding the overall effectiveness of Language Lab™ as an evidence-based intervention program for students who were struggling with oral language skills. The survey was designed to target intermediate indicators of specific components of the program.

Data obtained on open-ended response questions were entered into qualitative software, Nvivo9, for analysis. The use of this software minimized validity threats in the analysis phase of the study by removing the potential of researcher bias.

FINDINGS

This program evaluation was designed to determine if the program objectives of reducing referrals for special education evaluation and improving student oral language skills were met. The survey questions were developed to answer the research questions in order to determine whether Language Lab™ was an effective, valid, and efficient intervention program for use with students who were struggling with oral language skills. The participants' responses to open-ended survey questions and ratings on Likert scales were used to answer the research questions which guided the study.

Research Question 1

How effective were the instructional strategies in the program in reducing the need for referral for special education evaluation?

In a response to intervention model, students either respond to the intervention provided or they do not respond to the intervention provided. Allen, Ukrainetz, and Carswell (2012) used the terms "good responders" and "poor responders". In this study, students were described as "responders" or "non-responders". The SLP participants were asked to classify the students who participated in Language Lab™ in one of three categories: (a) exited from intervention, (b) continued in intervention, or (c) referred for special education testing. The students who were exited from intervention and those who continued in intervention were considered responders to intervention. The students referred for special education testing were considered non-responders. Overall, the SLPs reported a combined percentage of 70.3% as responders. This was a combination of the students who were exited from the intervention process and students who continued in Language Lab either to finish the program or due to making progress but needing

extended time in intervention. In the non-responder group, 29.7% (n=102) of the students were referred for special education testing. See Table 2 (Appendix)

Therefore, the results indicated a 70.3% (n=242) reduction in referrals for special education testing due to the provision of intervention (see Table 2).

Based on this study, 15 hours of language intervention were sufficient for intervention for the students who were exited from the intervention process. The student's skills improved and they were demonstrating grade level oral language skills. Student's skills were measured through the use of pretest and posttest probes which allowed the SLP to note specific language skill improvement. For the students who improved their language skills or responded to intervention 90% (n=9) of the SLP participants reported that Language Lab™ was effective (40%, n=4) or very effective (50%, n=5) as an evidence-based intervention program. See Table 3 (Appendix)

Regarding the overall effectiveness of Language Lab™ for students who needed to continue in Language Lab™, 60% (n=6) of the SLP participants rated the overall effectiveness of the program as effective (40%, n=4) and very effective (20%, n=2).

Additionally it was noted that 40% of the SLP participants rated the overall effectiveness of the program as neutral (see Table 3). A possible explanation of these results was that the study did not require the SLPs to report on students who had completed the full Language Lab™ program. These results included students who were responding at the expected rate but needed to complete the program as well as students who were responding to the interventions but needed more than 15 hours of language intervention.

While the Language Lab™ intervention program was effective for identifying responders and non-responders, the SLP participants reported 29.7% (n=102) of the students who participated in the program were non-responders. These students were referred for special education testing for a possible speech-language impairment and/or other special education disability. Through the provision of intervention in Language Lab™, the SLPs were able to identify students who did not respond to intervention to determine whether they needed specialized instruction for a special education disability. Even though 29.7% (n=102) of the students were referred for special education testing, 70% (n=7) of the SLPs reported that Language Lab™ was an effective (40%, n=4) or very effective (30%, n=3) intervention program to use in an RTI model (see Table 3).

Even though the non-responder students (29.7%, n=102) were referred for a special education evaluation, it was important to know if the SLPs believed the data obtained during intervention was valuable as part of the evaluation data. Ninety percent (90%, n=9) of the SLPs reported that the data obtained in Language Lab™ as valuable data (40%, n=4) or very valuable (50%, n=5) data to use as part of the evaluation. See Table 4 (Appendix)

The data obtained on the student's pretest, posttest, and specific examples of student productions during the sessions helped identify strengths and weaknesses in the student's language systems. The data obtained regarding the student's response to language intervention allowed the SLP to compare the child's language skills to a normal development sequence to determine whether the student was demonstrating a language delay, language difference, or a language disorder.

In the open ended questions, one SLP made the comment that "selecting the right kids for intervention is key". She continued by explaining that the students, who performed very poorly on the pretest, may need to be referred for testing rather than participate in intervention. This feedback seemed to align with Paul (2007) who recommended targeting students who were correctly using the skill 10% to 50% of the time. These findings indicated a need for

future research regarding the selection of students who were most appropriate for a response to intervention program.

The survey questions were designed to address the program evaluation standards of utility, feasibility, and accuracy. Again, utility referred to the value of the program, feasibility referred to the efficiency of the program, and accuracy referred to validity of the program. An example of survey questions that addressed the utility of the program were questions that asked the SLPs about the value of the intervention data when a student was referred for a special education evaluation. The feasibility of the program was measured by the SLP reports of student progress and responsiveness to the intervention. Feasibility of the program was also measured through survey questions that asked the SLPs to rate the overall effectiveness of the program. The accuracy or validity of the program was measured by asking the SLPs about student outcomes. When a student's posttest probe scores improved it demonstrated the instructional components were valid in changing the students' oral language skills. Based on SLP responses, this program evaluation study supported Language Lab™ as an evidence-based intervention program for oral language skills. This was evidenced by the effectiveness ratings (see Table 3), reported value of the intervention data (see Table 4), and ratings of student responsiveness to the program (see Table 2). Based on these findings it was determined that Language Lab™ positively met the program evaluation standards of utility, feasibility, and accuracy.

Research Question 2

In what ways did the program improve oral language and narrative skills?

Through the use of visual inspection and qualitative software, Nvivo9, themes emerged from the SLPs responses. The SLPs were asked how the student's oral language (syntax) skills and narrative skills improved through participation in Language Lab™.

The information reported by the participants was used to meet the program evaluation standard of utility or value of the program. Common term searches revealed two common themes that emerged from the responses regarding the improvement in the area of syntax and generalization of the new skills to other settings or language contexts. Each respondent (90%, n=9) made a comment related to some form or type of improvement, except one (10%, n=1) respondent who did not answer this question. Various types of responses related to improvement included comments such as "syntax improved notably", "syntax improved by direct instruction", "some improved, especially with irregular past tense and plurals", and the "most gain was noted in the students' use of compound sentences, pronouns, prepositions, irregular past tense, and noun-verb agreement" (see Table 5). The second noted theme that emerged, which went hand in hand with the comments regarding improved skills, were references to generalization or carryover of the improved language skills. The participants made comments such as "students began self-correcting", "techniques were able to be carried over in the hallways…and at home"", students were able to generalize", "all of the students transferred the new skills from correct use in drill to correct use in connected language", and "objectives were evident in their conversational speech." See Table 5 (Appendix)

In regard to improvement in narrative skills, 90% (n=9) of the SLPs reported improvement through comments like "narrative skills improved…they could tell a story", "skills improved because they were taught the parts of the story", "students were able to elaborate more details", "students improved greatly", "students included more story grammar elements", and

"students engaged in improving their literacy skills". Also supporting improvement of skills, the responses from the SLPs referenced the carryover or generalization of skills. Comments related to generalization included statements like "teachers reported that there was carryover to the classroom", "they were able to answer in complete sentences", "students transferred this skill to show proficiency in narratives." See Table 6 (Appendix)

An additional theme was evident in the responses related to narrative skills. This dealt with references to teaching strategies that facilitated improvement in skills. The strategies mentioned included the use of visual prompts/supports, scaffolding, corrective feedback, and naturalistic modeling (see Table 6).

Based on the specificity and prevalence of comments from nearly every SLP participant regarding the various ways students improved their syntax or oral narrative language skills, the findings of this study supported the value or utility of Language Lab™. The void of negative comments or negative examples of ways students language skills changed also supported the findings that validated Language Lab™.

Research Question 3

Which components of Language Lab™ were the most effective?

Since this study was a qualitative program evaluation, the SLPs were asked to rate the effectiveness of each of the components of Language Lab™ relative to working on the specific target skills. The responses were reported using a Likert scale in order to determine which components of the program were rated as effective or very effective.

The responses served to meet the program evaluation standard of accuracy. The Language Lab™ Story Station was rated the most effective component of the program. Story Station was rated as very effective by 80% (n=8) and effective by 20% (n=2) of the SLPs. The second highest overall effectiveness ratings by the SLPs were for Skill Drill. Sixty percent (n=6) of the SLPs rated Skill Drill with an overall effectiveness rating of very effective and 30% (n=3) as effective. The other three instructional components received a combined effectiveness rating of effective and very effective to total 70% (n=7) (see Table 7). Based on SLP ratings for each of the instructional components of Language Lab™, conclusions were drawn that the instructional components validly addressed the students' oral language skill deficits. See Table 7 (Appendix)

Research Question 4

In what ways were the printed instructions effective or ineffective in implementing components of Language Lab™, considering time sufficiency and clarity?

As part of a program evaluation, it is important to include an evaluation of the mechanics of the program including the clarity of the printed instructions in the manual and the time allotted for each instructional component. By combining the SLP feedback on time sufficiency and instruction clarity, conclusions were drawn regarding the overall effectiveness and feasibility of the program in this regard. Therefore the program evaluation feasibility standard was addressed through this series of questions. In the printed instructions the amount of time needed for each station or component was provided for the reader. According to the survey results, the majority of the SLP participants rated the printed instructions either effective or very effective for each instructional component. Specifically, 80% (n=8) of the

SLPs rated the instructions for Skill Drill and Curriculum Connections as effective or very effective. For Talk Aloud and Listen 'n Learn printed instructions, 70% (n=7) of the SLP participants rated the clarity of the instructions as effective or very effective. The highest percentage of SLP participants (90%, n=9) rated the clarity of the instructions for Story Station as effective and very effective. See Table 8 (Appendix)

In regard to the sufficiency of the time allotted for each instructional component, the Listen 'n Learn station was rated the highest of all of the learning components. Ninety percent (90%, n=9) of the SLPs reported the time allotted for Listen 'n Learn as sufficient or very sufficient. The remaining participant (10%; n=1) reported the time allotted for Listen 'n Learn as neutral. The time allotted for Curriculum Connections was rated as sufficient or very sufficient by 80% (n=8) of the participants. The remaining two participants rated the time allotted for Curriculum Connections as neutral and somewhat sufficient. The Talk Aloud station was rated sufficient and very sufficient by 70% (n=7) of the participants for the time allotment. Two participants rated that time allotted for Talk Aloud as neutral and one (10%) rated it as somewhat sufficient. Only nine participants responded to the question regarding the time allotted for Skill Drill. A sufficient or very sufficient rating was given by 66.6% (n=6) SLPs for Skill Drill. While the Story Station was rated the lowest regarding time allotment, 50% (n=5) of the SLP participants rated the time allotted for as sufficient or very sufficient. This resulted in 30% (n=3) of the SLPs rating the time allotted for Story Station as not sufficient. Two participants (20%) rated Story Station as neutral for the time allotted. Since additional comments or explanations were not elicited for these questions, it was interpreted that those who stated the time allotment was insufficient meant that there was not enough time allotted for this learning station. See Table 9 (Appendix)

There were several possible variables that may have influenced or affected the time factor. These variables included the number of target skills the students were addressing, how low the students scored on the Language Lab™ screener, and the pacing of the SLP as she conducted the lesson in Story Station. For example, if a student did not get any items on the screener correct, they would have a higher number of target skills to address; therefore, it would be expected to require more time. Since this was an RTI program, the lessons were not intended to be slowly paced as one would do in a therapeutic session but should be presented at a normal pace in order to measure how the students responded to intervention.

CONCLUSIONS

Language Lab™ is an evidence-based intensive intervention program designed for use with students who are struggling to meet grade level expectations in oral and narrative language skills. In this qualitative study, an expertise-oriented program evaluation was conducted to evaluate Language Lab™ based on the American Evaluation Association evaluation standards that measure the utility, feasibility, and accuracy of the program. An anonymous electronic survey was conducted to collect data on the program. The data obtained through the survey were analyzed and the research questions were answered with thick descriptions of the SLPs experiences with the program.

Based on the findings of this program evaluation, the data gathered supported Language Lab™ as an evidence-based intervention program for oral language skills. The Language Lab™ program objectives of improving students' oral language skills and reducing the need for referral for special education evaluation through the use of evidence-based instructional

components were met. The goal of an RTI model was to determine if students responded to the intervention that was provided. The second objective of Language Lab™ was to reduce the referrals for special education evaluation. In this study 70.3% (n=242) of the students were classified as responders to the intervention provided through the use of Language Lab™. During this study, 38.1% (n=131) of students were exited from intervention and did not need a referral for a special education evaluation. The remaining 32.3% (n=111) students in the responder category continued in intervention therefore the final outcome regarding the need for a special education referral remained to be seen. Based on these two responder groups of students, the results indicated a 70.3% (n=242) reduction in referrals for special education evaluation as a result of intervention received in Language Lab™.

In this study, the SLPs consistently reported that the student's syntax and narrative skills improved. Therefore, this program evaluation supported Language Lab™ as an effective evidence-based intervention program for oral language skills. From a program evaluation standard perspective, the findings of this study provided data that validated Language Lab™ in all three areas of the American Evaluation Association program evaluation standards of utility, feasibility, and accuracy.

This program evaluation affected social change by substantiating an evidenced- based program that served as an early intervention program for students who were deficient in oral language skills. Students who responded to the instructional strategies presented in Language Lab™ avoided erroneous placement in special education. Not only were the students in the district of study provided the intervention for improvement of oral language skills and avoided special education placement, but also SLPs in a broader educational setting will benefit from using Language Lab™ as an evidence-based intervention program. An overarching social change will occur as districts comply with the requirements of NCLB and IDEA through the provision of intensive intervention to students who struggle to meet grade level expectations. Districts that implement Language Lab™ will acquire the means to leave no child behind specifically in the area of oral language skills.

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APPENDIX

Table 1

Connection Between Research Questions, Program Objectives, Survey Questions, and Program Evaluation Standards

Research Questions	Program Objectives	Survey Questions	Evaluation Standards
1. How effective were the instructional strategies in the program in reducing the need for referral for special education evaluation?	Reduce the number of referrals for special education evaluation	Questions 1-7	Feasibility Accuracy Utility
2. In what ways did the program improve oral language and narrative skills?	Improve oral narrative language skills	Questions 8-9	Utility
3. Which components of Language Lab™ were most effective?	Both objectives	Questions 10-14	Accuracy
4. In what ways were the printed instructions effective or ineffective in implementing components of Language Lab™, considering time sufficiency and clarity?	Both objectives	Questions 15-24	Feasibility

Table 2

Student Outcomes of Language Lab™ Intervention

	Responders				Non-Responders	
	Exited		Continued		Referred	
SLP Report	*n*	%	*n*	%	*n*	%
Students	131	38.1	111	32.2	102	29.7

Table 3

Overall Effectiveness Ratings for Students

Group Rating	Not Effective		Somewhat Effective		Neutral		Effective		Very Effective	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%
Exited students	-	-	-	-	1	10%	4	40%	5	50%
Continued students	-	-	-	-	4	40%	4	40%	2	20%
Referred students	-	-	2	20%	1	10%	4	40%	3	30%

Table 4

Value Ratings for Students Intervention Data

Rating	Not Effective		Somewhat Effective		Neutral		Effective		Very Effective	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%
SLP rating for value of data	-	-	-	-	1	10%	4	40%	5	50%

Table 5

Participant Comments Regarding Student Syntax

Respondent	Theme Improvement	Theme Generalization	Theme Strategies
SLP1	Syntax improved notably	Student's [sic] began self-correcting	
SLP2	Syntax improved	Techniques…carried over in the hallway…and at home	
SLP3	Syntax has improved	Students were able to generalize	
SLP4	Some improved, especially with irregular past tense Some continued to struggle		
SLP5		Students were able to self-correct	
SLP6	Most gain was noted	All of the students transferred Use in connected language	
SLP7	Students began to make connections		Natural modeling Corrective Feedback Scaffolding
SLP9	Students improved	Evident in their conversational speech	
SLP10			

Table 6

Participant Comments Regarding Student Narrative Skills

Respondent	Theme Improvement	Theme Generalization	Theme Strategies
SLP1	Narrative skills improved		Visual prompts
SLP2	Narrative language skills improved		Visual prompts
SLP3	Elaborated more details		
SLP4	Students improved greatly	Teachers reported carryover to classroom	
SLP5	Able to answer questions without verbal prompts Able to answer in complete sentences Comprehension of the material greatly improved Could retain the information		
SLP6	Develop their understanding of making predictions All students used the skills Showed proficiency Included more story grammar elements	Transferred skills	
SLP7	Immediate ability to recall Better understanding More confident with identifying story components	Show progress on their own Language link to literacy	
SLP8	Story telling skills improved Stories sequenced correctly Inclusion of story elements		
SLP9	Able to answer specific questions		
SLP10	Somewhat effective		

Table 7

Overall Effectiveness Ratings for Instructional Components

Instructional Component	Not Effective		Somewhat Effective		Neutral		Effective		Very Effective	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%
Skill Drill	-		1	10	-		3	30	6	60
Talk Aloud	1	10	-		2	20	1	10	6	60
Listen ‘n Learn	-		1	10	2	20	4	40	3	30
Story Station	-		-		-		2	20	8	80
Curriculum Connection	-		1	10	2	20	2	20	5	50

Table 8

Effectiveness Ratings of Clarity of Printed Instructions

Instructional Component	Not Effective		Somewhat Effective		Neutral		Effective		Very Effective	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%
Skill Drill	-		2	20	-		4	40	4	40
Talk Aloud	1	10	1	10	1	10	3	30	4	40
Listen ‘n Learn	1	10	1	10	1	10	4	40	3	30
Story Station	-		1	10	-		4	40	5	50
Curriculum Connection	-		1	10	1	10	4	40	4	40

Table 9

Time Sufficiency Ratings of Clarity for Instructional Components

Instructional Component	Not Sufficient		Somewhat Sufficient		Neutral		Sufficient		Very Sufficient	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%
Skill Drill	1.1	11.1	-		2.2	22.2	3.3	33.3	3.3	33.3
Talk Aloud	-		1	10	2	20	4	40	3	30
Listen ‘n Learn	-		-		1	10	6	60	3	30
Story Station	3	30	-		2	20	4	40	1	10
Curriculum Connection	-		1	10	1	10	5	50	3	30