

## Developing Early Literacy Report

Good morning. My name is Andrea Grimaldi and I am the Senior Program Officer for Early Childhood Literacy at the National Institute for Literacy. I want to thank you all for being here and for joining us today for the release of Developing Early Literacy Report of the National Early Literacy Panel. For this report, it's going to be new information for some of you and for some of you in the audience I do know that this is a long time coming and you're interested and excited and waiting for us to be here today, so thank you and welcome very much. The National Institute for Literacy and the National Literacy Panel was convened in 2002 for the express purpose of summarizing scientific evidence on early literacy development. The National Institute for Literacy was the lead agency on this project and worked closely with cooperating agencies from the Partnership for Reading and with the National Center for Family Literacy, which did an outstanding job of coordinating the panel's work. And I would also like to take a little bit of time to acknowledge contributions from some very special people who were instrumental in the very, very beginning of the report -- Willis Seigle and Anna Lott and Ann Linehan from the Administration for Children and Families and the Office of Head Start; Patricia McKee from the Department of Education, Peggy McCardle from the National Institute of Child Development and Human Development, and Ray Collins and Rosemary Kendall who at the time were with Collins Management.

I'd also like to thank the Institute staff for all of their hard work and especially Sandra Baxter and Lynn Reddy, who were very instrumental in the early days. And once again, thanking the staff from NCFLE, who were so helpful with every aspect of the report. And also joining us today are members of the National Early Literacy Panel, who are joining me up here today. We have Dr. Timothy Shanahan, who's the Chairman of the panel. We have Anne Cunningham, from the University of California, Berkeley; Kathy Escamella, University of Colorado; Janet Fischel from the University -- State University of New York at Stony Brook; Susan Landry from the University of Texas; Victoria Molfese from the University of Louisville; Dorothy Strickland from Rutgers University; and Laura Westberg, who was the principal investigator and is on the staff at the National Center for Family Literacy. And two panel members were not able to join us and that's Christopher Lonigan and Christopher Schatschneider from Florida State University. We also have a special guest from the Department of Education with us, Deputy Secretary, Ray Simon. As Deputy Secretary, Mr. Simon plays a pivotal role overseeing and managing the development of policies, recommendations and initiatives that help define a broad, coherent vision for achieving our nation's education priorities. He previously served as the Assistant Secretary for Elementary and Secondary Education. It's an honor to introduce Deputy Secretary Ray Simon.

Thank you very much and welcome, this morning. I think it's very appropriate that we're here today on this seventh anniversary of the signing of No Child Left Behind, another high quality research blueprint for early literacy instruction on how to help children become better readers. And Tim, I don't know if you're covering this in your report today, but my grandson who is now -- who will be seven in a few days, when he was very young and I would read to him, he insisted on having a book read every night before we went to bed, and many times often during the day he wanted a book read. Sometimes granddad was a little tired, and let me tell you that the young man couldn't read but he would know if I left off a single word in a story or if I accidentally had two pages stick together so we could get through it early -- didn't get by with it. Have you covered that? That is a significant factor in young children getting ready to read, I assure you. Well, what we've seen over the last seven years with No Child Left Behind is that -- is what basing research or basing instruction on solid research can do for children, as opposed to the old days of basing our instruction on fads of the day. Hopefully, this report and the additional research that it is recommended can do for our youngest children what the report of the National Reading Panel nine years ago has done for our kindergarten through third graders.

I know I've seen some reports in the last few months talking about the real importance of getting children on target by middle school and how important the ninth grade is in terms of being on target to graduate. And the findings of those reports certainly will increase our need to learn how to reach children earlier because if a child is off grade level by middle school -- and certainly by ninth grade -- the chances of them graduating from high school are significantly diminished. So, we've got to get it right, we have to get it right the first time and we have to get it right early. And so congratulations, panel, on taking -- helping us take another big step toward that happening. On behalf of Margaret Spellings, Secretary Spellings, who could not be here today, she is at another NCLB event with the President this morning -- I want to personally thank the panel, thank

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you for your work. We look forward to seeing great things come from the results that you will share with us this morning. Thanks a lot. Thank you all for being here.

Thank you, Deputy Secretary, for those very kind words. And now I'd like to introduce Dr. Timothy Shanahan -- Shanahan, excuse me, Chairman of the National Early Literacy Panel. Dr. Shanahan is professor of urban education at the University of Illinois at Chicago and its Center for Literacy. He was formerly Director of Reading for Chicago Public Schools and has authored and edited more than 150 publications. His research emphasizes reading-writing relationships, reading assessment and improving reading achievement. Since 2006, he has served on the Advisory Board of the National Institute for Literacy and is on the advisory boards for the National Center for Family Literacy and Reach Out and Read. He is the recipient of numerous awards and recognitions, including being inducted into the Reading Hall of Fame in 2007. It's a great pleasure that I introduce Dr. Timothy Shanahan.

Top of the morning to you, folks. Happy to have you here on such a pretty, sunny day for a change. Ray, in his introduction, mentioned the -- his grandchild who can tell when pages are left out. I have the uncomfortable task of reporting in 20 minutes a 231-page report where everybody sitting next to me knows about the pages I'm leaving out. And so I'm a little worried. And so what I'm going to do is I'm going to apologize to them right now because I cannot possibly do an adequate job of summarizing their work in the brief time. I hope I can do a good enough job that I can entice you to read the report and see their outstanding work. In 2000 the National Reading Panel released its report that really has changed the landscape of elementary reading instruction, especially in the primary grades. That panel report, however, said nothing about preschool and kindergarten. On those, it was silent, and it was that omission that really led to the formation of the National Early Literacy Panel, or NELP as we've come to know it.

The panel set out to answer some specific questions that are fairly important, it seems to us. That is, what can be done for young children in those preschool years and kindergarten to develop early literacy skills and pre-literacy skills that are linked to successful development of reading, writing and spelling during the school years, what contexts facilitate or inhibit the effectiveness of those efforts, and with whom do those efforts work best. And it was those questions that we set out to answer. This panel, frankly, if you go down the list of all of them, what you come away with is this is an extremely talented and knowledgeable group and they really could have just decided to assert what outcomes they were going to look at. They did not do that. They decided they wanted to be empirical in this part of the report as well. So they set out to define what the appropriate outcome measures would be. See, the National Reading Panel in a way had it easy because what we were able to do is take conventional literacy skills, skills that really any parent would recognize as being about reading, writing and spelling and said, "You know, we would accept any kinds of measures of decoding or oral reading fluency or whatever."

But what if you're looking at a study that's focused on three and four year olds? You know, even if you have a wildly successful preschool program, or home-based program, the chances are that three or four year old is not going to be reading or writing in any conventional sense at the end of the day. And so the issue becomes what would be the skills or abilities that would have to be developed that we would be happy about. And so we went looking for empirical data to determine what those outcomes were. And in fact we found 299 studies that could contribute information on this. These were studies that had taken one or more preschool abilities, skills, and had measured them from the beginning of kindergarten or any time earlier than that, and tried to predict performance on more conventional literacy measures from the end of kindergarten and any time later. This is where Laura says people go, "Ooh, tables and numbers." But essentially what we did is we pulled together, combined all those 299 studies and we found that there were a lot of predictors of decoding and reading comprehension and spelling. And I'm going to show you a little of that. In fact, I just want to page -- ought oh, this computer just did a funny thing, it went away. Ought oh, well while that's gone. I don't know if we can get it to come back. Let me grab some notes here. If you could see those tables, one of the things that you would see is that there are tables in the report on spelling, reading, comprehension and on decoding.

Here I have, you know in the tables that I thought I was going to be showing you, I was going to show you decoding and reading comprehension alone. What you find out is that a large number of skills have been tested over the years to try to find out which ones connect. And in fact, a number of these skills have fairly

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substantial relationships with later literacy. Thank you, I appreciate that. Several variables have moderate to strong relations with later conventional literacy outcomes in a large number of studies with relatively large numbers of children. There are skills like alphabet knowledge where there are in fact 52 studies that contributed information on this with more than 7,000 children, just to give you a flavor of this. What we found -- and I think the best way to talk about this is just to tell you which variables had the largest relationships. Alphabet knowledge, concepts about print, phonological awareness, oral language skills, name writing and rapid automatic naming all had fairly substantial relationships with decoding and/or reading comprehension. There's a problem, however, with correlations.

And one of the problems with correlations is that a correlation can actually be due to -- the close relationship that the variable has with the outcome that you're interested in, but it also can be due to some kind of an underlying relationship. I mean for example, I mentioned ABC knowledge had good predictive value with -- when it -- when you're trying to determine how kids are going to do later in reading. But is that because ABC knowledge is so important or is it because maybe more highly educated parents are more likely to teach their kids the ABCs in those early years, and therefore it's just a proxy for that underlying ability. Or, you know, perhaps kids who are able to learn the arbitrary names of 26 items are -- in other words, kind of an IQ measure, are going to be better able to do other things. But it really doesn't mean ABC knowledge is so important. And so it's useful to know if you can control for things like parent education or children's IQ, do these variables still hold up. And in fact, what we found out was that when we looked at all of the studies that had been conducted in that particular way, a number of these variables do continue to be important and to contribute to what's going on in children's later literacy development. And that's fairly important. And again, things like alphabet knowledge and phonology and so on seem to be very, very important. This part of the report, however, does more than just identify an inventory of skills that matter and should be the focus of instruction during these years.

But it also tells us about the nature of those skills in some ways that we haven't seen before. So, for example, since the National Reading Panel came out, there has been great attention paid, instructionally, to issues of vocabulary teaching. Everyone has sort of gotten hip to the notion that vocabulary learning matters. We found some really interesting patterns that, in fact, a number of vocabulary measures were rather weak predictors of later decoding and reading comprehension -- just the opposite of what you might expect, given all of this interest. However, what we found was that while these very simple measures typically that do things like have children point at pictures when certain words are said, while those don't do very well, more complex aspects of oral language do seem to have great importance during these early years -- grammar, definitional vocabulary where children actually have to explain word meanings, composite measures of language where multiple language skills are looked at, those kinds of things matter a great deal. And again, I think that suggests something that we need to pay attention to instructionally and in terms of what we measure. Similarly, in terms of phonology, there has been a great deal of attention paid to the idea that phonological awareness is a strong predictor of early literacy skills. The National Reading Panel, for example, found that phonemic awareness was an important thing to teach. And, in fact, I think you'd find around the country that's being taught a great deal in kindergartens and first grades. However, this report really gives some insights to what that teaching maybe needs to look like and how it might differ from what's been going on recently. For example, phonemic awareness instruction focuses children's attention on the individual sounds within words -- the phonemes. And so, for example, in a word like "cat" there are three separable language sounds -- c - ah -t. Typically that -- thank you -- typically that -- let me just get to where - a little farther -- bingo, there.

Typically that kind of skill is taught in kindergarten, but for some kindergarten children that's very difficult to learn, it's very hard for them. And the advice that's been given by a lot of reading coaches around the country in various programs is essentially keep teaching it, just teach more of it, the kids will eventually get it. What this report really found is that, in fact, there were a number of early phonological skills that were important and, in fact, they really are kind of a progression or a continuum of learning and that really what a teacher might want to try in such a situation is to drop back to grosser sounds, to larger units of sound like syllables and words, that those actually are quite predictive of kids' later development and that you can take kids along that developmental path. Now, of course, the purpose that we had set out for identifying those early skills was so that we could see how well various interventions and programs and efforts to improve literacy would actually teach those. And so we took those measures and we went and we searched for all of

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the studies we could find where anyone had gone in and attempted to intervene in some way to improve young children's performance either in conventional literacy measures or in any of those kinds of early literacy measures, pre-literacy measures, that we had identified. Now again, to contrast our work with that of the National Reading Panel, the National Reading Panel really had to sit down. You know, they have such a large amount of work on school-age literacy that they were trying to summarize that they had to sit down and decide what topics would they look at, what were they going to leave out. And, in fact, it became part of the controversies around that report -- you know, why did they look at this issue and not that issue. This panel actually didn't have that problem.

We had about 150 studies to work from. And so, instead of going through and saying topically what would we like to look at, we literally said we will look at the entire set of experimental studies that have been done and reported in the literature. And the categories that I'm going to share are not categories that this panel started with, but they are really what emerged from looking at the pod of studies that existed. And so we divided the work really into five sets. There were a number of studies that looked at, for example, helping young children make sense of print, cracking the alphabetic code, learning their letters and sounds -- that type of thing. There was a second category of studies that was really about reading and sharing books with young children; category three, parent and home programs for improving young children's literacy; category four, preschool and kindergarten programs. And what I'm referring to here are programs that aren't included in the other categories that set out to build young children's literacy skills in school settings; and finally, language enhancement studies where folks try to actually teach language skills to young children. So, let's just very, very quickly do a quick tour of those five areas and some of the things we found. Code-focused interventions, most of these studies -- and this was the largest set of studies that existed -- most of these studies examined some form of phonological awareness training or phonological awareness training along with things like letter names or other print skills.

For this collection of studies, we found moderate to large effects on the development of early literacy skills and conventional literacy skills, the notion of teaching phonological awareness in these years certainly seems to be good idea. There was no point along the learning continuum that code-focused learning wasn't important. In other words, these various interventions and efforts were successful really at all the various ages that we looked at. Something I think is extremely important in these findings is that all of this code-focused work with these young children was done individually or in small group. It hasn't been uncommon in recent years that preschool and kindergarten teachers have often tried to teach some of these basis skills, you know sort of class-wide, and maybe that can work. But what we can tell you is that that hasn't been tested in any of these studies. These studies have focused on the delivery of such instruction in a much closer, more personal way with children. You know, I mentioned that age or developmental level had made no difference, that in fact the teaching of the code made sense along this entire age continuum. And that's correct but I wouldn't want to mislead you into thinking that what our finding was, that it didn't matter what you taught along that continuum, in fact people who had done these studies were pretty smart in arraying a curriculum that, in effect, tended to teach those grosser phonological skills early on and those more fine-grained ones later on, and that's fairly important.

So, while the outcomes didn't vary, the instruction did vary to some extent. Well, let me jump to another area -- reading to children. Ray mentioned it in his introduction. I don't think there's any recommendation for parents or teachers that is more widespread than we ought to be reading to everybody. Certainly I read to my children, quite proudly. Studies on reading to children resulted in moderate effects on oral language skills and print knowledge. But almost no studies looked at the impact of reading to children on reading or on other emergent literacy skills. This is a very interesting one, given how widespread this recommendation is. And I want to be very, very careful about how I talk about this, because I don't want it misinterpreted. The fact that we don't have research studies showing a direct impact of reading to kids on reading or on other reading skills doesn't mean that it doesn't have such effects, but that in fact that it hasn't been tested. And so I can tell you with absolutely no equivocation that reading to kids has positive impacts on oral language skills, but I can't tell you what its impact is on other emergent literacy skills, not because it doesn't have any but because it hasn't been studied. The biggest impacts reading to kids were derived from what is referred to here as dialogic reading as opposed to just reading.

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Dialogic reading meaning that the parent or teacher is actually not just sharing the book with the youngster but engaging in a conversation around the book, talking about the ideas in the book, perhaps eliciting responses from the child and so on. Now, we did not find statistically significant benefits for that. Actually the differences between dialogic reading and just reading were fairly sizeable. But with the size of a set of studies and so on, it didn't come out as statistically significant. I don't know in education, but from medicine when we look at med analyses, med analyses are able to predict the results of large scale controlled trials in about 0.6 of instances. In other words, when you pull together all the small existing studies and you get a certain result, about 0.6 of the time it's going to got match with what you do later if you do a large scale controlled trial. What that means is 0.3 of the time it doesn't match up. And this is one of those areas where we say from this -- you know from these small studies, "Gee, you know, it appears that dialogic reading doesn't do better than just reading," but the size is so different that this would be one of our candidates, that if somebody were doing a large scale research study and looking specifically at this issue, we suspect that they would probably find a statistically significant outcome. But again, a caution, the biggest payoff of reading to kids has been found on those simplest measures of oral language that I told you had rather modest links to reading.

Given the lack of evidence of other literacy outcomes and the fact that oral reading has been shown to have impacts on these simplest measures, it would be imprudent to make reading to children a program of itself, and it certainly means that we need to give parents and teachers advice that goes beyond that. Let me turn to home and parent programs. We looked at a wide array of programs, including programs that had very general goals of improving health and cognitive functioning, along with those that had much more specific focuses of doing things like improving kids' oral language. Some of these programs included home visits by professionals, others focused on one-on-one parent training and so on. But again, overall I can tell you parent programs had positive moderate to large effects on oral language outcomes, general cognitive abilities. Few studies that considered -- there were a few studies in this set that considered other variables. One study looked at the effect of parent programs on ABC knowledge. Two looked at phonological awareness. They had positive results but not enough for us to go very far with. These program had positive results for both simple and complex measures of oral language. And the findings were robust across age levels and demographic groups. They worked with all the populations that were included in these studies. When I turn to preschool and kindergarten programs, and these were again those that included literacy focused instruction in preschool and kindergarten but not including the language interventions that I'll talk about in a moment, or shared reading or code focused interventions that I've already talked about. These were more comprehensive programs where they perhaps focus on other aspects of literacy.

Preschool and kindergarten programs had a positive effect on young children's development of both conventional and emergent literacy skills. The biggest impacts were on reading readiness measures, which are composite measures typically of some of the other predictor skills that I've talked about. And at the kindergarten level, the biggest impact was on spelling. What am I talking about in these preschool and kindergarten programs? Well, the types of things that were successful were literacy-focused curriculum, combined with professional development. That is a good idea. We shouldn't be leaving young children's literacy development to chance, it seems that these studies are telling us. Preschool and kindergarten programs, while they had positive effects on both conventional and emergent literacy skills, had little impact on oral language development, which is interesting and consistent actually with primary grade studies on the same topic, that early schooling seems to do very little for children's oral language the way that it's arrayed these days. Big impacts on reading and writing outcomes for these programs, but again very diverse findings here from small numbers of studies that got into these particular measures. And a surprising finding, again one that we think should be tested more directly in research, is parent involvement did not seem to improve the effectiveness of these programs, which like I say, is a surprise to us and there are enough limitations in these studies that we think it's worth pursuing further.

A final area that we looked at were programs that those interventions designed to improve young children's oral language skills. And in this area we found such efforts to be effective, with moderate to large effects on a variety of outcomes. The interventions focus children's attention on particular aspects of language learning or got them to interact with language in particular ways. Some of these programmatic efforts I think would look very much like, in some ways like traditional schooling with worksheets or books or whatever. And a number of these were actually play oriented and involved toys and interacting with kids. And in fact, all of

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those kinds of things were found to be effective. Most interventions were evaluated with vocabulary measures, but there were also positive effects for cognitive ability, phonemic awareness, print knowledge, rapid naming, readiness and reading. The effects were biggest for children with language problems, but in fact they were effective with everyone. We found that these programs could actually help kids to use language more effectively. Programs also tended to be more effective in this area with younger children. These findings -- and there are obviously a lot more of them in the report -- suggest that there are a number of things that we can do in a number of areas of childhood language and literacy development where we can focus on where we can make a difference in children's lives. Now, I have told you where we are and what we found. My colleague, Laura Westberg, the PI on this project, has been allotted a few moments to tell you how we got here and why this matters. And so I'm turning it over to Laura. You're on.

Okay, now you sort of have to do that flashback because Tim told you what we found, and now you have to jump back to well how did we get to those findings. So, I'm going to try to do this fairly quickly. I have limited time. And it's probably not quite as interesting as the findings will be. There were four main areas in the methodology for this synthesis. Obviously, I'm going to talk about the literature searches. I'm going to talk about the study selection and coding of those studies, the analyses and some of the limitations of this synthesis. Okay, the literature searches, we did a very broad search. We cast a wide net in looking for the research literature. We had nine categories of early language and literacy related terms. And those amounted to a total of 284 terms. And then we had two additional categories for the age group because we were focused on birth through age five -- and that did include kindergarten -- and also literacy outcomes because we were concerned about conventional literacy outcomes. We identified as many records as possible from 2003 and prior to that date. And that amounted to over 7,000 records. And at the National Center for Family Literacy, we call that the monolith.

So, it was a very, as you can see, and as I go along, you'll see that it was very focused and a very thorough kind of search. We did electronic searches of the little, using ERIC and PsycINFO info databases. And we also had some supplemental procedures that we used to identify studies that might not have been in those particular databases or that may not have gotten into them in some way. Often, you can miss a study here and there. ,we looked at the reference lists of all the studies that were included by the panel and we did identify some studies there that we also retrieved. We looked at current journals because current journals often aren't in those databases. owe looked at journals from 2001 to 2003 and we found several articles and obviously -- that information is included in the report. And then we had a number of experts that we identified in the field of early language and literacy in early childhood education who looked at the list of included studies that the panelists had identified and they were able to then nominate further studies that they might have been aware of. And we did have a couple of studies that were identified by those external experts. We also had some additional procedures for the intervention studies. We actually in essence, did two different meta analyses. We did a meta analysis to identify that domain of early literacy, those early literacy predictors, and then we took those and we did another search to look at the actual interventions, those that have a causal link to those early literacy skills and later conventional literacy skills. So, we took those predictors -- there were 13 of them -- and we identified terms based on categories using those early literacy predictors. And then we also identified terms for intervention because we were particularly interested in looking at interventions.

Also, again for that age group, we were focused on birth to age five and then again those literacy outcomes. The panelists, we did that search and went back through the process again of reviewing those. And the panelists went back to the original list that we had from the monolith to see if there were any intervention studies in there in there because the first question really just looked at correlational research. Okay, that's how we got the literature. And I think the panelists reviewed about 1,000 or so studies for answering that early literacy predictor question. And about probably close to 700 or 800 -- and the numbers are in the report -- on the early interventions. And they actually read all these research studies, so we really should applaud them for doing that because it's very tedious work. Actually how did we select these studies, once we found them? How did we sort of filter them and screen them to determine the ones that would meet the objectives of the synthesis? Well, we had some very simple criteria.

The first thing, they had to be published in English. Resources to translate studies in other languages are immense and we just didn't have the resources to do that. It had to be published in a referred journal. That

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ensures some minimum quality this study had been judged by some external experts that is as of rigorous quality and warranted publication. It had to be empirical research with quantitative data on groups of children. And it had to be languages that were alphabetic where the sound system, the written symbol system, represents speech sounds. And it had to, as I said before, include children between the ages of zero and five, or actually kindergarten children. We had additional criteria for the intervention studies to aid in the identification of those and one of those was that it first had to be experimental or quasi-experimental design where we examined the effectiveness of an instructional procedure to cause an improvement in early literacy or conventional literacy. It could not be confounded, meaning that outcomes attributed to an intervention were actually caused by that intervention and not some other variable in the study. One group pre-test/post-test designs were excluded because generally results of those are due to maturation of children.

Studies that did not have sufficient information to derive an effect size were rejected. Studies that did not have appropriate outcome measures were rejected. And then we also set aside a number of studies that were considered short term learning trials. These were studies that were usually of less than three weeks in duration, focused on a particular stimuli or portion of a learning test. They have fit relatively few subjects and the measures used were usually those limited to the study's learning task. Okay, we did a very comprehensive and leveled review of the studies. First, the project staff screened those 7,000 records to ensure that they were actually research studies. Many were opinion pieces or descriptions of programs and curricula. The panelists then reviewed abstracts of all the studies that passed that first screen in pairs. They then -- we then retrieved the articles that at least one of the individuals in that pair decided what -- should be included, and they reviewed all of the articles that were retrieved. Frequently there would be some indecision about should a study be included or not, and we would consult with a third panelist to help in making a decision about its inclusion.

And all the reasons for any study exclusion were documented. And then, as Tim mentioned, the interventions were then categorized into those five categories. Study characteristics -- we identified a number -- we have coding scheme that was developed and we identified a number of study characteristics for that coding scheme -- report identification, just every article had an identification number, the full citation and whether it was included or rejected. The setting -- setting looked at program type, was it Head Start, child care, kindergarten. We looked at ages and grades of children, the country where the study took place, whether it was done in a rural setting, an urban setting. We looked at demographics, obviously information about participants, languages spoken, maternal education and family structure, the research design, experimental, quasi-experimental or correlational, design features of the studies, participant assignment, components of the treatment and treatment fidelity. Non-experimental design features -- we looked at the correlational information, the sample selection and measurement issues. And then measurement information -- we looked at test names and categories, reliability of the tests, the measures, means and standard deviations and effect sizes.

So, we coded all of these studies by those characteristics using a coding instrument. That instrument is included in the report. We developed a manual to help us in the coding, devising the procedures that we would use, which then really helped us established reliability in the coding process. We also aggregated measures into general conceptual categories to bring more meaning to the future analysis of the report. Okay, the analyses -- the unit of analysis for this study was the effect sizes obtained from independent groups. And we had to have at least a minimum of three studies to contribute to an effect size. That was the minimum. I think there will be some instances in the report where you will see in tables in particular categories where we show there might be less than three studies. That's just for your information so you understand that, you know, the findings are based on those areas where three studies allowed us to make an interpretation. We did -- additional comparisons were conducted to determine variations in the interventions. These comparisons looked at differences in how the various research studies were conducted, differences in features of the studies or differences in the children themselves, actually why different versions of similar interventions differ in their degree of effectiveness.

Then the panelists worked in subgroups very diligently to identify additional comparisons that were unique to the set of studies, those categories that Tim talked about, to determine if variations in the interventions were more or less successful under various conditions. Well, every research study has its limitations and as well,

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this one. There were I think three sort of things we talk about in the report as to the limitations. Obviously, variation in the quality of studies -- all studies have degrees -- varying degrees of weakness in their implementation and reporting. But a basic premise of meta analysis is that the collection of studies on a particular issue would be unlikely to suffer the same problems, and that the influence that such factors may have on results can therefore be analyzed and understood. However, in this synthesis, the study design features, demographic characteristics of children, and elements of the educational environments are confounded across these studies. Therefore, this meta analysis does provide clues to what might be influencing the effectiveness of an intervention but it really cannot provide the final word on such findings. Also, only published studies were included in this synthesis.

And it's likely that not every study was identified. I mean we did a very thorough search but frequently studies can fall through the cracks. Also the use of published studies alone increases the chances that results will be overly affected by publication bias. And this means that studies with positive results are more likely to be published, causing the average effects that result from the analysis of published studies to be higher. Also there were insufficient data reported for us to draw unambiguous conclusions. There were a lot of limitations in the reporting of these original studies. In many cases, the reporting of characteristics of children and families were lacking from studies, and the panel was not able to fully examine any individual difference in instructional effectiveness that might be mediated by those characteristics. Okay, because this is the most important part. These are sort of our conclusions for today.

Obviously, we know that research provides useful information about the most important skills to teach young children and that it also describes the most effective teaching approaches. But the research cannot make the difference and that is up to us. And from my perspective as a former preschool teacher and an early childhood program administrator and a Head Start coordinator and a teacher, educator and trainer, I think that this report has some key findings to contribute to young children but now it's going to be our but now it's going to be our responsibility to put those into action to really benefit children, their teachers and their parents. And now I think Tim is going to moderate a Q&A for everyone.

That gives you in a nutshell what we've done and what we've found, and we'd be happy to answer questions about this. Please.

Did you disaggregate for ages and (inaudible) for any of your five (inaudible) for the different age groups? So, did three year-olds have better results than four year-olds or (inaudible)

Sure, you know let me just take your question as an opportunity for the panel to thank the National Institute for Literacy both for its support of the report, but also because along the way they allowed us to do preliminary presentations at conferences and so on so that we could get feedback from folks. And very early on, folks said, "Hey it's really important that you break this down by age," and we promised that we would do that. Having said that, I've got to tell you that, while those analyses were done, with a few notable exceptions, there weren't many differences, that, in fact, the age differences didn't matter very much.

One important difference, the language enhancement was found to work better with birth to three than older than three. So, the early intervention and involvement, if anything comes from those from age, would be if we can find ways to work with younger children, that is suggested from these findings.

Yes, absolutely. That's probably the biggest of the age differences that exist in the report. There are a couple of other what I would say are pretty minor differences. However, I want to put a caution on that. There is a very different amount of research available as you go younger. And so there are a lot more studies on kindergarten than there are on four year olds, there are a lot more studies on four year olds than there are younger than that, and so on. And that's a real gap and one that one hopes will be corrected in coming years. And that this report maybe can give a little bit of a map to that gap. So, not much difference due to ages but also not much data on the youngest kids. Please.

(Inaudible) with Hispanic Link News Service here in Washington. First of all, how much did the study cost, how long did it take and what involvement -- and why did you not include any languages other than English when you have a quarter of your school population soon to be Hispanic or Spanish-speaking?



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Laura, the cost and --

Sure, well I don't know about the cost. I think that the institute probably would be able to get a better number on that. But I do want to address the other part of your question, because although we only looked at studies that were published in English, it didn't mean we didn't look at other languages. As long as it was an alphabetic language, we looked at it. And there were a number of other alphabetic languages studied in these reports. So, I hope that helps in answering your question. We did, obviously we did code for those kinds of characteristics -- what languages children spoke, what language was spoken in the home, what was the language of instruction. Frequently, as I said, some of the limitations of this study, where those kinds of things were not reported, limited us in being able to look at how those characteristics might have affected the outcomes. So, you know, we just don't have -- and we were particularly interested in looking at English language learners and what we could find out. There just were not enough studies in this synthesis. And the reason behind that, the interventions were not similar enough for us to group them. And the outcomes were different for those studies. So, we were not able to group them to really get some findings there.

How was the panel selected, by the way?

How as the panel selected? I was selected, you guys --

Sure, a number of experts were nominated and they were vetted through the institute. And I think the other agencies that were part of the Partnership for Reading -- and I'm thinking -- Lynn's nodding her head but I think that's the process that we did go through. They were nominated, vetted though the Partnership for Reading agencies. And obviously, many, many people were invited to be a part of this panel and not all of them accepted. As you can imagine, none of these people will probably do this again, so --

And the reason for that is the very first part of your question was how long did this take. This was six years of work.

Six years of work and the cost and who paid?

Cost -- paid for by the National Institute for Literacy, but how much?

The exact cost, we actually- - I want to take your information because the exact cost we actually left back at the office. But it is a federally funded report though, so if we can have your information we can get you that exact cost.

Ballpark?

Ballpark? Ballpark, it was under \$2 million.

Kathy?

I don't know anything about the cost. I wanted to comment on the language and the ethnicity. And that is in a lot of the studies, people didn't describe the population very well. So, they would use the term Latino interchangeably with English language learners, use English language learners when there were a variety of language groups. And so I think that it's not a -- so much a -- its a limitation of this work, but it tells us something about what we need to do in the future as researchers in terms of describing better the populations of children that we're dealing with so that we can get better findings.

Yes?

If you're able to come to the microphone, please do so when you ask a question because we want to make sure that everyone hears (inaudible) thank you.

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Let me just elaborate on what Kathy said. It isn't necessarily that subjects aren't in these studies that represent various demographic groups. In fact, a lot of cases, researchers have been very careful to make sure they have diverse samples. But if they don't report their data, no matter what terms they use to describe folks, if they don't report their data disaggregated, it's impossible for us -- for any synthesis later on, to reaggregate it into the categories that you might be interested in. And it's a real gap in how research is reported. Typically, researchers are trained to not report information that isn't central to their research question. And so if they're not looking at a demographic issue, they don't break it out beyond the level that they're working on. And it's something that has to change so that research synthesis can really get and make the full contribution that it could. I mean that's just a general problem with synthesis. Can I do a follow-up with Kathy? Can I -- I'll try but can I -- yes, can I give some other folks an opportunity if there any, please.

Hi, I'm Ellen Berman with the National Governor's Association. And thank you for this work. I think it's very helpful. And I'm curious as to whether the panel had any discussions, maybe even informally, about what are some of the policy implications for your findings or if any of you would like to share some thoughts you have, given this work that you've done. What are some of the messages or things that state policy makers should consider to make sure that what you found to be effective is happening more often?

The panel, as a panel, has not made any recommendations. We have stayed very much to be in a research panel and making a determination of fact -- what are the findings of these studies. But certainly I, you know, you have experts sitting here. These folks have their own personal take on what these research findings mean to policy. And I think that they have some fairly rich information. I don't know if we can do this real quickly. Would you like to just go along and say one?

Well, there are a great number of implications for pre-service education, for teacher quality, improving teacher quality, and that is something I'm very concerned about.

I was really interested in the kinds of skills and abilities that we think about when we talk about emergent literacy, and having an opportunity from this report to look at the curricula that's chosen to see how they emphasize those different domains, as well as looking at the weight that we give across our different programs to addressing the development of those particular skills. Some didn't make much of a contribution, from the literature we reviewed. Others were -- seemed to be extremely important, and I thought that was a good thing to walk away with.

I think a couple of the findings that I find quite important for decisions around state and federal policy with these programs include the large number of studies that found small group focused work to be effective. And I think that can certainly inform how we need to structure our classrooms and staffing in the classrooms because in many places we have one teacher and large numbers of children. And it's just next to impossible to do small group targeted work with kids. The other is this finding of language enhancement being more effective with the younger and of the early childhood range. And I think we're seeing in intervention studies moving language along, particularly in children from low income backgrounds, English as second language learners, when you don't have an opportunity to have them in the classroom until they're three or four. And they're often behind in their language skills and we're struggling to find effective methods for moving their language along by kindergarten entry. This is a very important finding, I think, to pay attention to and to pursue with future research.

That last one, Dr. Landry and I have talked a lot about, so I concur completely. I'm going to sneak in two. One is the one we've already talked about and that's not necessarily policy for service but for research. Most researchers go to great pains to define their sample and more recent literature has gone to great pains to make sure about a diverse sample when they're looking at curriculum or literacy learning. And so at the beginning, you may lean that 30% of the sample is English language learners, but at the end you don't learn what the differential results might be if there are differential results for those populations, which leaves our hands so tied behind our back in terms of making recommendations for the low income children, for language learners, for children who -- you know, the disaggregation of it is important.

Second piece for me I'll sneak in, I think there is a lot to be said by the gaps. We have gaps as large as the Grand Canyon in serious, rigorous research. Now, we went through an awful lot of research abstracts and

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an awful lot of studies, but when you come down to experimental and quasi-experimental designs, we were left with some very fine questions and the complete inability at times to comment because we didn't have an adequate database to see whether we had either the seedlings of results or effectiveness. And so I think, as we talk about funding research, not the service side of things but the research side of things, people have to start paying attention to what we still need to know and how to go about getting it. Because we really, at times, with all of this work and all of this time, felt like we had one hand tied behind our back because we didn't have enough data to respond to some very, very crucial questions.

Yes, I would concur with the panelist about the policy implications that have been stated. And I would add that for, at the state level, this data provides further evidence for us in attempting to formulate or triangulate good standards for preschool education, developing frameworks or curriculum that would help children acquire the necessary language and literacy skills, as well as the types of assessments that we might be able to provide to preschool teachers and educators so that they could begin to understand what their children can and cannot do. And having that triangulation of good standards, frameworks of curriculum with assessments to guide them in their own professional development at the preschool level would be an important policy implication that I see from this report.

I agree with everything that everyone has said, and I would reemphasize the need for professional development for preschool and early educators and the need for more research.

See, I knew that they'd have plenty. I was just handed a note that the data set that we used to do this work is actually going to be available to the public. You'll be able to access that in the Spring of 2009 through the Childcare and Early Education Research Connection's Web site and the National Institute for Literacy Web site. Denise -- B. Denise, I think it's your turn on the agenda.

(Inaudible)

Denise, can I ask one question of the panelists before you get going?

Actually, we are near our end and they're going to kick us out of the room very shortly. So, we need to wind up the program, but there will be opportunities after we leave out in the hall to exchange information and ask questions of our panelists and presenters. Good morning. Thank you again, Dr. Shanahan and Ms. Westberg, for a wonderful presentation and for sharing the NELP information this morning. We are truly exited. Again, good morning, my name is B. Denise Hawkins, and I'm the Director of Communications for the National Institute for Literacy. We'd, again, like to thank Deputy Secretary Simon for joining us this morning, as well as our esteemed panel members and our partners. While we've come to the end of our program this morning, our release event, we are excited about sharing the -- sharing and disseminating our NELP report, "Developing Early Literacy." But the real work begins now for the institute. We've already begun developing companion products, based on the NELP findings, and I'm very pleased to share with you this morning our first one, titled, "Early Beginnings."

This is a guide for child care providers and professional development administrators. So, you can look forward to future publications based on our findings that will reach audiences, including parents, policy makers and child care providers and other targeted population groups. We're also embarking on NELP mailings, meetings, briefings and conference presentations. And we look forward to sharing our work with you as we move forward in disseminating and sharing our findings. I hope that you leave today as exited as we are at the institute to finally have the NELP report. I'd also like to remind you that our -- the report will be available online at the institute's Web site, [www.nifl.gov](http://www.nifl.gov). And since technology is what it is -- great when it works -- we will make Dr. Shanahan's slides available to all of you in case, you know, for the ones that you've missed. We want everyone to be informed and go out and share the information that we've shared with you. So, thank you, again, for coming and sharing this opportunity with us, and have a great morning.