Exploring the Relationship Between Phonological Awareness, Speech Impairment, and Literacy: A Response

Alan G. Kamhi *

* University of Oregon, Eugene, USA

Online Publication Date: 01 September 2001

To cite this Article Kamhi, Alan G.(2001)'Exploring the Relationship Between Phonological Awareness, Speech Impairment, and Literacy: A Response', International Journal of Speech-Language Pathology, 3:2, 163 — 166

To link to this Article: DOI: 10.3109/14417040109003724
URL: http://dx.doi.org/10.3109/14417040109003724

Full terms and conditions of use: http://www.informaworld.com/terms-and-conditions-of-access.pdf

This article may be used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.
Exploring the Relationship Between Phonological Awareness, Speech Impairment, and Literacy: A Response

Alan G. Kamhi
University of Oregon
Eugene, USA

It is generally agreed that at least four central skills are involved in learning to decode texts fluently: phoneme awareness, rapid letter recognition, knowledge of sound-letter correspondences, and word attack or decoding skills. The article by Dodd and Gillon focuses on one of these important skills—phonological awareness. Dodd and Gillon are known for their seminal studies on literacy skills in children with speech impairments (e.g., Dodd, 1995; Gillon, 2000). In the current article, Dodd and Gillon review what is known about phonological awareness development and the effectiveness of instructional programs for children with speech impairments. They also identify some of the gaps in the literature. In my response to their article, I will comment and elaborate on some of the information presented.

DEVELOPMENT OF PHONOLOGICAL AWARENESS

As the authors point out, the awareness of larger units (word and syllables) is developed before the awareness of smaller units (clusters and phonemes). Dodd and Gillon review the few tests that exist to assess phonological awareness in preschool children. One of the tests was normed on British children (PAT), whereas the other by Dodd and colleagues (PIPA) was normed on Australian children. According to the norms provided in their Table 2, syllable segmentation and rhyme awareness were the easiest tasks whereas phoneme segmentation was the most difficult. This is consistent with findings from other studies (cf. Torgesen, 1999). Of interest is that the British children acquired each phonological awareness skill about a year earlier than the Australian children.

Dodd and Gillon note that there is considerable variability in children's performance on these tasks at a given age. It would have been helpful if the standard deviations were provided for each task to compare the variability across tasks. I also wondered if the authors had any data on how predictive performance on the PIPA is for early reading ability.

In their next paragraph, the authors discuss a curious finding. Data from individual children on the PIPA suggested that syllable and phoneme awareness were negatively correlated when children were first exposed to print. The actual correlations and their significance levels were unfortunately not provided. It is unclear why a child would perform well on phoneme isolation and syllable segmentation, but have difficulty with syllable segmentation. It may be that a few children overgeneralise their newly developed awareness of phonemes, but I would not think this behaviour would be widespread. If this pattern of findings affected a large portion of the sample, then syllable segmentation would not be the earliest phonological awareness skill acquired.

Dodd and Gillon draw three conclusions from the normative data. The first conclusion about variability and order of development is consistent with the data. No data are provided, however, for the second conclusion that phonological awareness skills do not necessarily show steady improvement as children develop and that one aspect of phonological awareness may influence another. This statement may be true, but it needs to be substantiated in some way.
The third conclusion addressed the differences between British and Australian children. These differences were attributed to the formal teaching of literacy that British children receive at age 4. This is a very important finding for it suggests that formal instruction is necessary to develop proficient phoneme awareness abilities. There is research (e.g., Lonigan, Burgess, Anthony, & Barker, 1998) showing that children exposed to early literacy experiences develop phonological awareness skills earlier than those without such experiences, but even children with these experiences did not achieve the same levels of phonological awareness skill as the British children. If they did, Australian and American children with early literacy experiences would show similar levels of phoneme awareness as their British peers. Based on the available normative data, even these literacy-advantaged Australian and American children take about a year longer than British children to acquire similar levels of phoneme awareness.

PHONOLOGICAL AWARENESS AND SPEECH IMPAIRMENT

In this section, the authors provide a thorough review of studies that have examined the benefits of phonological awareness training for children with speech delays. The excellent study by Gillon (2000) receives particular attention because it is the only study to date that has specifically addressed whether training phonological awareness had beneficial effects on speech development. The data were quite compelling. Children who received the phonological awareness program made significantly more gains in their phonological awareness abilities and reading development than children in the other treatment groups. Moreover, these children showed the same degree of improvement in speech development as the children who received traditional speech therapy. Additional research is clearly needed to confirm the findings in this study and determine which specific activities in the phonological awareness training led to improved speech production. It is not necessary, however, for clinicians to wait for this research to justify including phonological awareness instruction as a routine component of speech therapy.

PHONOLOGICAL AWARENESS AND DISORDERS OF LITERACY

In this section, the authors make the point that there is more to reading than phonological awareness. This is a very important point to make because it sometimes appears that some speech-language pathologists think that phonological awareness instruction is all a child needs to become a proficient and fluent reader. It is not. Becoming a proficient decoder also requires rapid letter recognition, knowledge of sound-letter correspondences, and word attack skills. But even this knowledge may not be sufficient to be able to develop fast, effortless word recognition skills. The phonological knowledge so important in learning to read plays a minimal role in the fast, effortless decoding that characterises proficient decoders (cf. Kamhi & Catts, 1999). Proficient readers use letter sequences (spelling patterns) to recognise words visually with minimal phonological recoding. An important skill in becoming a proficient reader is thus the ability to associate particular letter sequences with words and remember these associations. It is probably also important to remember that proficient decoding is no guarantee of comprehension. If we broadened the discussion to include comprehension, we would have to talk about all of the various kinds of knowledge (e.g., language and conceptual) and processes (e.g., inferencing, memory, reasoning) required to understand texts.

DISCUSSION

In the final section of their article, Dodd and Gillon make some assumptions about our field that I do not necessarily share. In the second sentence, they write that researchers occasionally make extravagant claims and cite some of the causal theories of specific language impairment as an example of these claims. Perhaps my quibble is with the word “extravagant,” but I do not see attempts to find a single cause of a language disorder as inappropriate. I see this as good science. No one would doubt that language is influenced by the complex interaction of structures, processes, and behaviours, and that deficits in any one of these areas can result in a language problem. The fact that language is a complex behaviour influenced by many factors does not, however, preclude there being a single source that provides the initial conditions for a speech or language disorder.

Another assumption Dodd and Gillon make is that children with speech impairment are considered to be a homogeneous population. I find little evidence of this view in the literature. If anything, I think the research literature is filled with studies attempting to categorise and subgroup children with speech delays. Shriberg, for example, has spent the last 20 years trying to identify clinically meaningful subgroups of children with speech delays (e.g., Shriberg & Kwiatkowski, 1994). The interest in developmental apraxia as a distinct subgroup of children with speech delay is another example. With respect to phonological awareness and reading,
CONCLUDING THOUGHTS

There is little doubt that many children with speech impairments are at risk for subsequent reading failure. We now have ways to identify which children are at the most risk (e.g., Catts et al., 2001; Larivee & Catts, 1999) and methods to reduce the risk (e.g., Gillon, 2000; National Reading Panel, 2000; Torgesen et al., 2001). This does not mean that we know everything about the relationship between speech delays, phonological awareness, and literacy. It does mean, however, that all children with speech delays should receive early literacy instruction that includes phonological awareness training and letter name recognition in conjunction with speech therapy.

In closing, I would like to offer some general guidelines to teach phoneme awareness. There are many effective instructional programs to teach phonological awareness, but some programs have proven more effective than others. The following guidelines have been drawn from the recent report of the National Reading Panel (2000) which conducted an evidence-based assessment of the research literature on reading instruction.

1. Focusing instruction on one or two skills (e.g., blending and segmenting) is more effective for teaching phonemic awareness than focusing on multiple skills.
2. Teaching phoneme awareness with letters is more effective than teaching phoneme awareness without letters.
3. The most effective way to teach phoneme awareness is in small groups as opposed to individual or classroom instruction.
4. Training programs that ranged from 5 to 18 hours were more effective than shorter and longer ones.
5. Phoneme awareness instruction should be tailored to children’s level of literacy development.

The report also stresses that teaching phoneme awareness by itself is not sufficient. One of the major findings from the National Reading Panel analysis was the need to use letters in teaching phoneme awareness skills in order to help children make the connection between graphemes and phonemes (National Reading Panel, 2000). In addition, it is important for teachers to show children how this knowledge is related to reading and writing.

REFERENCES


