

The Peter Effect: Professional Development in Reading and Dyslexia

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Myriad studies have recently been published highlighting the lack of preparedness of elementary teachers to provide evidence based instruction to students with dyslexia, a language based reading disorder (Carreker, Swank, Tillman-Dowdy, & Neuhaus, 2005; Moats, 2014 O'Connor, 1999; Podhajski, Mather, Nathan, & Sammons, 2009; Scanlon, Gelzheiser, Vellutino, Schatschneider, & Sweeney, 2008). For the past 100 years, researchers have been focusing on the characteristics of dyslexia and which instructional practices are necessary for these students to be successful readers (Sawyer, 2006). Dyslexia affects nearly 20% of the population and difficulties such as sequencing sounds and corresponding the appropriate letters to sound combinations for reading and spelling words, persist in these students when explicit instruction is not provided (Shaywitz, 2008). The National Reading Panel describes exactly what components should be included in explicit instruction in a report summarizing over 100,000 high quality reading studies (2003). The committee determined that reading instruction must include the components of phonological awareness (knowledge and manipulation of the sounds in our language), phonics, vocabulary, fluency (speed and accuracy of reading), and comprehension (The Big Five). Thus, a lack of teacher preparedness is not due to a lack of information regarding the instruction of dyslexia.

Studies utilizing surveys, reading instruction tests, and teacher training assessments have found that teachers not only are confused about what dyslexia is, but they also do not fully understand how to teach the key components presented by the National Reading Panel (Bell, McPhillips, and Doveston, 2011; Carvalhais & Fernandes da Silvia, 2010; Wadlington & Wadlington, 2005). Moreover, 43% of students in 2013 were found to read below the proficient level of reading (National Center for Education Statistics, 2013). Such statistics are alarming, considering that the majority of students with learning disabilities receive most of their

instruction from general education teachers (NCES, 2013). It is evident that teachers need knowledge of evidence based reading practices for students with dyslexia, in order to increase student reading abilities.

Researchers Binks-Cantrell and Washburn (2012) have focused on several aspects hindering the lack of reading knowledge in teachers, including professor knowledge and content of textbooks utilized in teacher preparation programs. Their work revealed that professors at the university level are lacking in knowledge regarding critical reading components and the textbooks being utilized by teacher preparation programs contain little detail regarding the instruction of both phonological awareness and decoding, the two skills that are characteristically weak in students with dyslexia. Binks-Cantrell and Washburn attach these findings to the Peter Effect, a theory that one cannot provide what one does not possess (2012). They surmise that teachers do not understand evidence based practices in reading for those with dyslexia because the professors and textbooks do not possess this knowledge and thus cannot provide it to teachers. For this paper, the theory of the Peter Effect will be applied to another aspect of teacher understanding of reading, professional development.

In a recent interview with a seasoned third grade teacher in Tucson, she revealed that although 33% of her class had identified reading disabilities, she did not have a great understanding of dyslexia, and had not been implementing any instruction in phonological awareness or phonics. She expressed that she did not have sufficient training and articulated that she was unaware of any professional development opportunities in this area. In light of this, I felt it only prudent to explore the professional development opportunities in Arizona, supported by the Arizona Department of Education (ADE) Webpage (<http://www.azed.gov/pdcapacitybuilding>). This study will apply the concept of the Peter Effect

to ADE Professional Development opportunities. That is, if professional development trainings do not possess knowledge of evidence based reading practices for dyslexia, then this knowledge cannot be passed on to teachers. To determine if the Peter effect was applicable to professional development offered by ADE, the following questions guided this analysis:

- a) What topics of professional development are most frequently offered by ADE?
- b) Are professional development opportunities in evidence based reading instruction offered by ADE and is the content evidence based?
- c) Are there any professional development opportunities regarding dyslexia offered by ADE and is the content evidence based?

### **ADE Professional Development**

Completion of professional development is a requirement of teachers keeping in compliance with state certifications. ADE requires that 180 clock hours of professional development be completed to renew a standard teaching certificate. Renewals are required every six years. Professional development opportunities are available outside of ADE, and courses from universities, private vendors, and conferences can also count as professional development hours. However, the courses offered through ADE are the most common source of professional development and are representative of what educational topics are promoted by ADE. Thus, this project will only be evaluating the courses listed on the ADE website.

The ADE professional development page opens with the following statement:

The Professional Development/Capacity Building Team's focus is on systemic approaches to dramatically increase the quality and outcomes of professional learning...ADE representatives also collaborate with county Education Service Agencies and Regional Centers to advance student learning through research-based, evidence-driven professional learning.

Notable is the discussion of “research-based” and “evidence-driven” learning. From this statement, it would seem that the courses offered are grounded in research for increasing student success and this specificity was especially considered in regards to courses regarding reading instruction and dyslexia while reviewing the courses offered.

Educators can access the ADE courses by either clicking on a link below the opening statement, or by clicking on a calendar on the right hand side. ADE utilized an event management system to organize the courses. While not incredibly obvious, accessing the course page is not difficult. Courses are listed either in a calendar view or list view. Educators can locate a course through a search engine built into the page, or through filter options such as the date a course is offered, under which program area, intended audience, or applicable grade. Navigating through the courses is not difficult if the search terms produce results. However, when no results are produced, it can be tedious to find applicable options. It should be noted that as most search engines operate, a search result does not automatically provide all of the courses available for a given topic and may include courses that are not applicable. For instance, when the term “learning disabilities” is entered into the search engine, zero results are produced. However, several courses regarding IEP and transition meetings could apply to students with learning disabilities. This could create a situation where an educator believes there are not applicable courses available when in actuality they just were not produced by the search engine. The event management page does not provide any tips or guidance for locating the courses on the page itself and does not warn of this conflict. A help button is available, which will provide the user with a manual detailing how to sign up and pay for courses. Nothing in this manual discusses ways to ensure that the courses being sought are located. It is quite possible that educators look for a course topic but are unable to find one, despite it being offered. For this

reason, I felt it necessary to hand review every course offered by calendar date, to ensure all courses were included in the analysis.

### **Method**

To view all courses offered through the ADE website, no filters were applied to the search and all courses were viewed through the list option, which produced 239 courses. Although the website stated that 274 courses were available, courses lasting more than one day were only counted once, as educators can only sign up for the entire course. Repeats of courses on separate days were counted as a separate course. All courses discussed are based on what was posted on the website on November 2, 2015. Accessing the website on different days could produce different results. Each course was reviewed by the title, intended audience, and course description, then coded based on the audience first and then the main subject of the course. Initial codings consisted of fifteen categories. These fifteen categories were combined to create ten: Technology, Writing/Grammar, Adult Education, Science/Math/STEM, Exceptional Education, Reading, Early Childhood Education, Social Studies, and Health/Safety. While STEM (Science, Technology, Engineering, and Mathematics), courses include a technology component, the category of Technology included courses specific to technological advances that support education (i.e. software, smartboards, web-sites, etc.) and not the teaching of technology within the curriculum.

I reviewed each course a second time and coded them according to the ten post-hoc categories to ensure accuracy. No discrepancies between the two codings were found. It should be noted that some courses contained topics that could have covered multiple categories. For instance, the course, "Multisensory Grammar Lessons for Students with ESL," could have been coded in either Grammar/Writing or Exceptional Education. Categories were chosen based on

the audience first, so this course was coded under Exceptional Education. As another example, all adult education courses were coded under the category Adult Education, even if the topic pertained to math or writing.

The total number of courses for each category were then calculated to determine which courses were offered the most frequently by ADE, (research question a). Finally, a closer analysis of the content in courses under the categories of Reading and Exceptional Education were reviewed to determine if these courses were research based (research questions b & c).

## Results

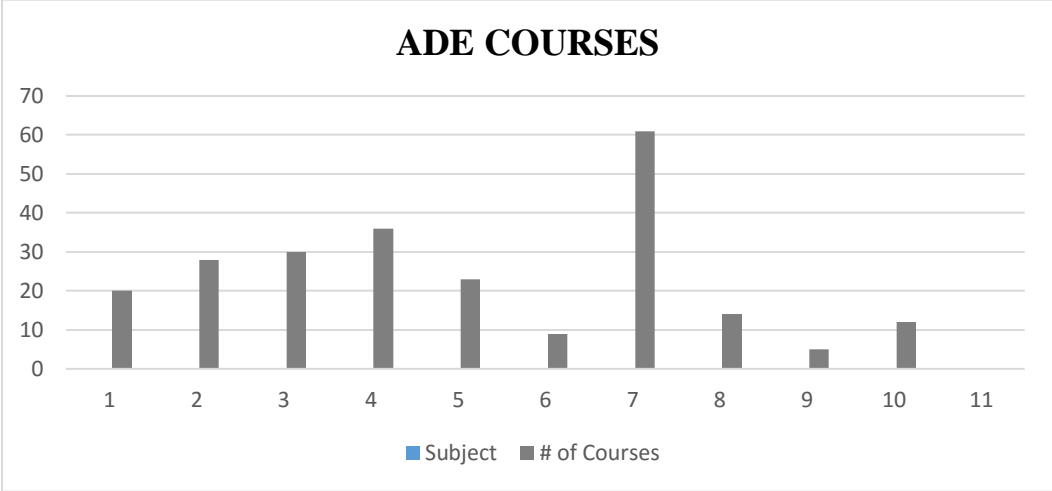
### What topics of professional development are most frequently offered by ADE?

The total number of courses offered for each of the ten categories is presented in Figure 1. The results are also presented visually in Figure 2. The number associated with each bar corresponds with the course subject listed in Figure 1.

Figure 1.

Course Subject	Number of Courses
1. Adult Ed.	20
2. Business/Admin	28
3. Early Childhood	30
4. Exceptional Ed.	37
5. Grammar/Writing	23
6. Health/Safety	9
7. Math/Science/STEM	61
8. Reading	13
9. Social Studies	5
10. Technology	12

Figure 2.



The results indicate a heavy emphasis of professional development in the category of math, science, and STEM. A total of 61 courses are offered in this area, 24 more courses than the second most popular category, Exceptional Education While this category combines three major topic areas (science, math, and technology), when broken down, 27 courses are offered in math alone, 13 in science, and 21 in STEM. This one category makes up 25% of all the courses offered by ADE. Furthermore, the courses tended to be one to two days in length, of minimal or no cost, and offered throughout the main cities of Arizona (Tucson, Phoenix, and Flagstaff). A large amount of the courses are also offered via the web so that no travel is required. Not only are the courses frequently offered, but the feasibility of these courses is high. Clearly, ADE deems the topics of science, mathematics, and STEM as the most important educational topics to provide to teachers.



ADE also provides a large amount of courses regarding the function and maintenance of running schools. Twenty-eight courses were specific to the category of Business and Administration, which could be combined with 11 from Adult Education, ten from Early Childhood Education, five of the Health and Safety courses, and eight from Exceptional Education. These courses from other categories, while topic specific, only pertained to staff dealing with business or maintenance of paperwork and programs. These courses were not for teachers seeking to improve instruction. All of these specific courses together makes up 62 offerings, or 26% of the total, even more than the category of Math, Science, and STEM. Thus, more than half of all the courses pertain to either business or math and sciences, the remaining 49% must make up every other category presented by ADE. From this perspective, it is quite clear what topics ADE emphasizes.

**Are professional development opportunities in evidence based reading instruction offered by ADE and is the focus evidence based?**

ADE offers a total of 13 courses in reading instruction, roughly 5% of all offerings. That is a vast difference between what is offered in mathematics alone (11%). The amount of courses in reading, while not extensive, were mostly based in research. As discussed previously, the National Reading Panel advises that teachers include instruction of phonological awareness, phonics, fluency, and comprehension in their reading instruction (2013). Five of the reading courses focused upon the topic of comprehension and two focused on vocabulary. All but one these courses discussed the use of evidence based practices in the course descriptions. The extensive course, “Teaching Reading effectively” was offered on four separate occasions. This is the only course offered that addressed phonological awareness, phonics, and fluency in any capacity, as well as included vocabulary and comprehension. The description of this course

details the emphasis on evidence based practices. Each course consisted of a total of five full days of instruction, and costs educators 80\$. The length and detail of this course, while not feasible for all teachers, speaks to the complicated nature of reading and the extent that is needed to provide a course that covers main components of reading.

The final two courses were designed to advise principals' use of tiered levels of support for reading programming, while not included in the National Reading Panel, this theory is grounded in research with evidence to suggest success, especially for those with learning disabilities (Beringer & May, 2011). One premise of tiered levels of support in reading is that all teachers are using evidence based instructional practices (Griffiths & Stuart, 2013), so it is possible that the topics of the reading panel are discussed in this course as well, despite not being included in the course descriptions.

While only a small portion of the courses offered by ADE pertain to reading, the majority, if not all, reading courses included evidence based practices. This supports the opening statement of ADE to advance student learning through research-based, evidence-driven professional learning. The reading courses themselves are not expensive, but they may not be feasible to many teachers because of the length of the course, and the locations in which they are offered. Many teachers would have to travel out of town to attend a course, as they are most often offered in Phoenix. This would require financial obligations for travel, lodging, food, and possibly a substitute teacher. All of the reading courses are offered during regular school hours and none of these courses are offered online.

**Are there any professional development opportunities regarding dyslexia offered by ADE and is the focus evidence based?**

The second most popular category, Exceptional Education, includes all topics pertaining to special education and second language learners. Thirty-three courses are offered, 14% of the total. The breakdown of courses is presented in Figure 3.

Figure 3.

<b>Course</b>	<b>Number of Courses</b>
Traumatic Brain Injury	18
*EDISA	6
**IEP Topics	5
Transition	3

\*Examining data to improve student achievement

\*\*Individualized Education Plan

Dyslexia, a reading disability, is within the largest category of special education students. However, not one course is offered that specifically addresses dyslexia or any high incidence learning disability. The most courses are offered in the area of Traumatic Brain Injury (TBI), a low-incidence disability that is not neurobiological in origin as learning disabilities, but is typically caused by an injury to the head. It is interesting that such a large amount of classes are devoted to this disability, when such a small percentage of students make up the school population and even fewer are affected long-term by their injuries.

The EDISA course is only for participants who are invited to attend and is not open to all educators. While the course itself appears to utilize data for improvement, it seems more as a working committee than an typical professional development opportunity for educators. Both IEP and transition courses discuss logistics such as appropriate paperwork and protocols for all exceptional education students and does not pertain to specific instructional techniques. The final sub-category, ESL, covers a variety of topics specific to English language learners. These courses were not evaluated for inclusion of evidence based practices.

Although the category of Exceptional Education was the second largest category, only two types of students are represented specifically: those with Traumatic Brain Injury and English language learners. It is surprising that such a low incidence disability as TBI would receive much more emphasis than other disabilities, even English language learners. Even more shocking is the fact that no offerings were available for instructional techniques for high incidence learning disabilities such as dyslexia. When it comes to dyslexia, the Peter Effect can be applied. Professional development from ADE cannot provide education in dyslexia because it does not possess the courses to do so.

### **Discussion**

The analysis of ADE's professional development course offerings revealed some intriguing results. First, ADE clearly is promoting teacher education in the mathematics and science fields through the number of courses offered, frequency of courses, and feasibility of attending such courses. In contrast, much fewer classes were offered in reading, classes were offered less frequently and were much less feasible for teachers to attend. Clearly a discrepancy exists between ADE's emphasis on math and reading courses. Interestingly, on the National Report Card, Arizona's standardized test scores for 2015 revealed that 32% of fourth graders were at a proficient level in math, as opposed to only 22% of fourth graders who demonstrated proficiency in reading (NCES, 2015). While both results are bleak, student mathematics scores are higher than those of reading. These statistics could be applied to the notion of the Peter Effect and professional development. For instance, because a lower amount of professional development was available in reading, less knowledge was acquired by teachers and less reading knowledge was passed onto students, hence lower reading scores. Conversely, a larger emphasis on professional development in math provided more mathematical knowledge to teachers, who

in turn could give this knowledge to their students, thus resulting in higher standardized math scores. While often difficult to correlate directly, these scores are an example of the link between teacher training and knowledge and student achievement.

Of promise is the fact that the majority of reading courses included evidence based practices, despite unequal inclusion within the reading components. Much less emphasis was placed on basic reading skills, and a larger emphasis was placed on comprehension and vocabulary. This too was witnessed in the teacher observation and interviews I completed and speaks to the lack of teacher knowledge regarding the provision of basic reading skills to students with reading difficulties (Bos et al., 2001; Moats, 2013), especially those with dyslexia, whose core difficulties are in the areas of phonological awareness and phonics, the reading topics covered least by professional development.

In regards to professional development specific to dyslexia, since no courses were available in this area, dyslexia does not seem to be a topic of importance to ADE. This lack of educational courses supports other researchers' findings that teachers are not provided the instruction they need to teach students with dyslexia (Shaywitz, 2008; Wadlington & Wadlington, 2011). The theory of the Peter effect is very applicable to professional development in the area of dyslexia. Knowledge of dyslexia cannot be passed onto teachers in professional development because the courses do not possess this critical information. Moreover, the teacher whom I previously interviewed was accurate in her claim that professional development had not been available to her in the area of dyslexia, despite the large number of students in our schools struggling with this disability.

While it seems obvious what ADE deems as important topics to present to educators, it is not known what factors are influencing ADE's decisions. No information on the website was

included about how professional development courses were chosen or why certain content was included. This project is a very initial step in uncovering the lack of teacher education in the area of reading instruction to students with dyslexia. Future research should explore factors impacting professional development options. Discovering who is responsible for these decisions and what political, financial, and logistical considerations affect course implementation is crucial in understanding ways to improve upon professional development in reading and dyslexia. It would also be prudent to examine the courses offered throughout an entire year, and not just what was presented at the time of this project. Finally, a much deeper look at professional development courses is necessary. Observing courses, interviewing teachers participating in the courses, as well as interviewing those responsible for implementing, teaching, and promoting courses would provide much greater insight into what factors are impacting professional development options. Understanding all components of professional development is critical if an increase in reading and dyslexia courses is to take place in order to increase teacher knowledge, to be passed on to students. All students deserve to have educators who have been provided the training necessary to meet their educational needs, yet large numbers of students are far below levels of proficiency. In the case of Arizona, the department of education should be concerned that the theory of the Peter Effect is so representative of the professional development opportunities in reading and dyslexia.

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