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## **A Parents' Guide to Common Sense Education in Saskatchewan**

**Michael Zwaagstra**



## About the author

**Michael Zwaagstra** is a public high school teacher, education researcher and author. He has extensive teaching experience at a variety of grade levels and currently teaches high school social studies in Manitoba. He received his Bachelor of Education, Post-Baccalaureate Certificate in Education and Master of Education degrees from the University of Manitoba where he won numerous academic awards including the A.W. Hogg Undergraduate Scholarship, the Klieforth Prize in American History and the Schoolmasters' Wives Association Scholarship. As an educator, Zwaagstra is a strong proponent of raising academic standards, holding schools accountable for their results and expanding the

educational options available to parents. He conducts policy research on education issues for the Frontier Centre for Public Policy and the Atlantic Institute for Market Studies. His research has addressed topics such as standardized testing, teaching methodologies, assessment, school choice and teachers' unions. His columns promoting common-sense education reforms have been published in major daily newspapers including the *National Post*, *The Globe and Mail*, *The Province*, the *Calgary Herald*, the *Winnipeg Free Press* and *The Chronicle Herald*. At the 2013 Canadian Community Newspaper Awards, Zwaagstra received second place in the Outstanding Columnist category. He is a frequent guest on radio and television stations across the country. His first book, *What's Wrong with Our Schools and How We Can Fix Them* (co-authored with Rodney A. Clifton and John C. Long), was published in 2010. *What's Wrong with Our Schools* ignited debate on education reform across the country in school staff rooms, newspapers and university campuses. Zwaagstra also has experience as an elected official. In 2006, he was elected to the Steinbach City Council. He was re-elected in 2010 and appointed to the position of Deputy Mayor in 2012. His community involvement includes serving on several boards, writing a weekly column for his local paper and teaching adult classes in his church.



MB: 203-2727 Portage Avenue,  
Winnipeg, Manitoba Canada R3J 0R2  
Tel: 204-957-1567  
Email: manitoba@fcpp.org

SK: 2353 McIntyre Street,  
Regina, Saskatchewan Canada S4P 2S3  
Tel: 306-352-2915  
Email: saskatchewan@fcpp.org

AB: Ste. 603, 734-7th Avenue SW,  
Calgary, Alberta Canada T2P 3P8  
Tel: 587-930-2289  
Email: alberta@fcpp.org

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Note to reader: Endnotes and some words in this document may appear in [blue](#) and underlined. When e-reading, these links will directly access relevant online websites or documents using your associated browser. Endnotes' numerals will directly link to the appropriate reference at the end of this document.

# Introduction

All parents want their children to receive a great education. This desire is understandable because a solid education significantly improves a young person's chances of success in life. In particular, literacy and numeracy have been and still are the foundational skills that will never become obsolete. No one should ever graduate from high school without mastering these basic skills.

There are more than 170,000 K-12 students in public or fully funded separate (Roman Catholic) schools in Saskatchewan.<sup>1</sup> The vast majority of Saskatchewan parents rely on public education to provide their children with the skills and knowledge that they will need in the future. In many cases, things go well, and parents are satisfied. Unfortunately, this does not always occur.

Although Saskatchewan's education system has many positive features, there is significant room for improvement. Recent test results from the Programme for International Student Assessment (PISA) show that over the last decade Saskatchewan students consistently scored below the Canadian average in reading, mathematics and science. During that same period, the reading and mathematics scores of Saskatchewan students declined.<sup>2</sup>

Many Saskatchewan parents are beginning to worry that the schools are not teaching the basics and are using their children as guinea pigs for unproven and ineffective educational strategies. They wonder why their kids no longer have spelling tests, learn basic grammar or memorize the times tables. Often, their concerns are dismissed with the claim that "research proves" the effectiveness of a new strategy or initiative, no matter how bizarre it sounds to parents.

A debate over the relevance of standardized testing dominated much of the education discussion across the province last year. Critics argued that these tests stifle the creativity of teachers and lower the quality of education in Saskatchewan schools, and supporters argued that standardized tests are an important accountability tool. Both sides claimed to put the interests of students first, but obviously only one side can be correct. In the midst of a debate that seemed to generate more heat than light, parents were left to try to figure out which side was right.

This confusion becomes even worse when parents get their children's report cards and find that traditional percentage grades have been replaced with confusing descriptions such as "evident," "emerging" or "needs support." Decoding these words is no easy task for parents and makes it that much harder for them to know how well their children are actually doing in the core subjects. Unfortunately, the concerns of parents have often been ignored, as school administrators continue to blindly follow the recommendations of the latest educational gurus.

So what are parents supposed to do? Where can parents go to get information to push back against some of the foolish fads that are taking hold of education in Saskatchewan? Unfortunately, parents are often on their own in the fight against

an entrenched ideology that is supported by an entrenched bureaucracy. School administrators and teachers know that they only need to wait out the concerned parents, who will eventually give up in frustration at the stream of edu-babble thrown at them. Some of these parents will ultimately decide to home-school their children or send them to private schools.

This handbook fills a void in this debate by providing parents with answers to some of the common arguments made by proponents of the latest education fads. It translates some of the most commonly used jargon into common English and shows why parents should not be intimidated by the stock phrase “research shows” when school officials spurt it out. Parents and other readers may be surprised at just how compelling the research evidence is for the more traditional teaching techniques. This handbook will make parents wonder how these unsupported fads keep returning.

Let us begin by looking at the philosophy that underlies some recent education trends.

**“Unfortunately, parents are often on their own in the fight against an entrenched ideology that is supported by an entrenched bureaucracy.”**



# What are the fads and where do they come from?

In 2010, Saskatchewan's Ministry of Education released "Renewed Curricula: Understanding Outcomes," which explained the philosophy behind the recent changes in the Saskatchewan curricula.<sup>3</sup> It emphasized that the world is changing rapidly and that Saskatchewan schools need to change so that students are prepared for the future.

Renewal began with the common understanding that K-12 students must be educated to participate in a world of rapid and complex change. This dynamically evolving environment requires that students develop multiple literacies, increase depth of knowledge, and acquire a range of twenty-first century skills and abilities.<sup>4</sup>

The references to "rapid and complex change" and "twenty-first century skills" are derived from a movement known as 21st Century Learning, which has taken root in many provinces and territories across the country. Canadians for 21st Century Learning & Innovation (C21) is the public face of this movement, which has had a significant impact on education in Saskatchewan.<sup>5</sup>

For example, Sun West School Division recently included the objectives of C21 in its official board policies.<sup>6</sup> The goal for Sun West staff is nothing short of "transforming the classrooms of these educators through the implementation of 21st century pedagogies."<sup>7</sup> So what, exactly, does this mean?

In short, advocates of 21st Century Learning say that the rapid increase in the amount of information and its accessibility via the Internet make it impractical for students to focus on the acquisition of knowledge. In other words, it is more important for students to learn how to learn rather than for teachers to focus on specific content. This is why 21st Century Learning recommends reducing the amount of content in the curriculum, increasing the amount of personalized instruction and making technology available to all students in classrooms.<sup>8</sup> As a case in point, in a blog post tagged "21 century learning," the principal of an Estevan elementary school expressed pride at her progress in "moving our teaching from the traditional feeding of information to allowing our students to drive their own learning."<sup>9</sup>

These advocates of 21st Century Learning make it sound as if their ideas are new and will be revolutionary in changing education for the better. But are they? Consider this quote from a prominent educational leader.

The older teacher thought first of his subject matter, that it get learned...

The good teacher of the newer view well understands how it is the process itself, especially as socially conditioned, that educates; and he makes every effort to get and keep the process going on such terms as will cause it to gain in ever more certain and intelligently-directed momentum. This is his

chief aim. That attained, the rest follows.<sup>10</sup>

The author of this statement is William Heard Kilpatrick, a former education professor at Columbia Teachers College in New York, and he wrote it in 1936. Kilpatrick was one of the most prominent education professors in the 20th century, and his ideas eventually came to dominate faculties of education across North America.<sup>11</sup> Kilpatrick's writings make it clear that there is nothing new in the 21st Century Learning proposal.

A consistent theme of the 21st Century Learning movement is that the world is changing faster than ever, and education needs to change to keep up with it. According to Sun West School Division, "Today's knowledge and digital reality means that changes occur at an astronomical rate."<sup>12</sup>

Interestingly, the obsession with the rapid change in society can be traced back to Kilpatrick. In one of the chapters in his 1925 book, *Foundations of Method*, Kilpatrick asks: "Am I wrong in thinking that education is changing now more rapidly than ever before?"<sup>13</sup> Throughout the chapter, Kilpatrick says that the rapid acquisition of knowledge makes the old ways of teaching obsolete. He even talks about how the world has become more interconnected. "Life is vastly more complex in detail, and we are far more tied up with others about us even to our most distant neighbors."<sup>14</sup>

Like the 21st Century Learning advocates today, Kilpatrick notes that we cannot know what scientific discoveries will soon be made or what inventions will be created. Thus, in order to help students adjust to a "rapidly shifting and changing world, changing in unexpected ways and in unexpected directions," schools should "stress thinking and methods of attack and principles of action."<sup>15</sup> Clearly, the 21st Century Learning movement is simply a repackaged version of the very old 20th century ideas of William Heard Kilpatrick.

However, even this would not be entirely accurate because the core idea that Kilpatrick espoused can be traced back to 1762 when French philosopher Jean-Jacques Rousseau published *Emile*. In it, Rousseau espoused a "child-centered" philosophy that let students learn at their own pace. He opposed "rote learning" and argued against teaching facts and concepts to students.<sup>16</sup> Thus, many of the 21st Century Learning ideas can be traced back not only to the early 20th century, but also to the middle of the 18th century.

The philosophy of education that underlies the thoughts of Rousseau, Kilpatrick, 21st Century Learning and Saskatchewan's Ministry of Education goes by a variety of names, but it is best known as constructivism. Constructivism argues that students should construct their own understanding of the world around them. Constructivists reject the idea that there is a defined body of knowledge and identifiable skills that teachers should impart to students.

For example, constructivist math teachers think they need to help students develop their own ways of solving math problems and that they should not teach standard algorithms for addition, subtraction, multiplication and division. This is why widely used math textbooks such as *Math Makes Sense* and *Math Focus*

are so difficult for parents to understand. Instead of showing students the most efficient ways of solving math problems, these textbooks encourage students to solve questions on their own and write about how they did it.

Constructivism is already widely influential in Saskatchewan schools, and its acceptance is growing. In its “Renewing Curricula” document, Saskatchewan’s Ministry of Education explains that “promoting a contextualized and constructivist approach to instruction and learning” is a key aspect of renewal.<sup>17</sup> Prairie Spirit School Division’s annual report to the province, for example, claims “...the constructivist approach in mathematics will improve student mathematical understanding....”<sup>18</sup>

Constructivist philosophy is even the basis for some new school building designs. When Regina’s Douglas Park Elementary School opened in 2012, the school board chair hailed its open concept design as “a place of innovation, creativity, expression and learning.”<sup>19</sup> Interestingly, Douglas Park’s layout is remarkably similar to the failed open-area school designs that were popular several decades ago.<sup>20</sup> Prakash Nair, president of Fielding Nair International, the design firm hired by Regina Public schools, has written extensively about his support of constructivism.<sup>21</sup> It should come as little surprise that the open-area concept goes hand in hand with the constructivist philosophy embedded in the curricula.

However, it is important for us to ask what works best for students. If constructivist methodologies actually improve student achievement, then they should be taken seriously, but if they do not work, then they should be rejected. The next section examines this question by comparing constructivism with the more traditional approaches. Since constructivist philosophy is at the heart of Saskatchewan’s education renewal process, it is important to evaluate the evidence carefully.

***“If constructivist methodologies actually improve student achievement, then they should be taken seriously, but if they do not work, then they should be rejected.”***



# What really works in Saskatchewan's classrooms

In the 1960s, the United States government funded one of the largest educational research studies ever conducted, Project Follow Through, which involved more than 72,000 students in more than 180 schools over a 10-year period. The goal was to find the most effective education innovations that could help break the cycle of poverty for a great number of disadvantaged students.<sup>22</sup>

This mammoth study evaluated five major instructional techniques: direct instruction, whole language, developmentally appropriate practices, discovery learning and the open education model. The first of these, direct instruction, was the only traditional teacher-directed technique that was included.<sup>23</sup> Teachers who use direct instruction identify learning goals, make them clear to students, show students what they need to do, check for their understanding and provide time for students to have independent practice.<sup>24</sup> In contrast, the other instructional techniques were all varieties of the constructivist approach, which emphasizes student self-discovery.

Researchers found that students in the direct instruction group significantly and consistently outperformed students in the constructivist groups. Not only were their basic math and reading skills superior, the students in the direct instruction group had more-advanced skills in reading comprehension and math problem solving than did the students in the other groups. In addition, direct instruction students had more positive self-esteem, which the researchers attributed to their academic competence.<sup>25</sup> When students from these groups were tracked for 10 years, the direct instruction students continued to outperform the other students in math, reading and writing. In fact, these students were more than twice as likely to complete high school as were the students in the constructivist groups.<sup>26</sup>

Other educational researchers have replicated these findings. Research conducted by Jeanne Chall is a prime example. Chall was a professor of education at Harvard University for many years. She also founded and directed the Harvard Reading Laboratory. Her final book, *The Academic Achievement Challenge: What Really Works in the Classroom?*, synthesizes all the major research studies comparing the effectiveness of traditional, teacher-directed techniques with student-centred, or constructivist, techniques.<sup>27</sup> She does not mince words in her conclusion.

Traditional, teacher-centered schools, according to research and practice, are more effective than progressive, student-centered schools for the academic achievement of most children. And that approach is especially beneficial for students who come to school less well-prepared for academic learning – children of less educated families, inner-city children, and those with learning difficulties at all social levels.<sup>28</sup>

Other researchers have also compared these teaching techniques. John Hattie is the director of the Melbourne Education Research Institute at the University of Melbourne, Australia. In his book *Visible Learning: A Synthesis of Over 800 Meta-analyses Relating to Achievement*, Hattie summarizes the results of thousands of research studies into the relationship between the way teachers teach and student achievement. In the introduction to his book, he says:

The role of the constructivist teacher is claimed to be more of facilitation to provide opportunities for individual students to acquire knowledge and construct meaning through their own activities, and through discussion, reflection and the sharing of ideas with other learners with minimal corrective intervention. These kinds of statements are almost directly opposite to the successful recipe for teaching and learning as will be developed in the following chapters.<sup>29</sup>

The rest of *Visible Learning* bears out this statement. Notably, Hattie found that traditional teacher-centred methodologies such as direct instruction are much more effective than constructivist methodologies are.<sup>30</sup>

In 2006, *Educational Psychologist*, a highly rated journal produced by the American Psychological Association, published a peer-reviewed article by Drs. Paul Kirschner, John Sweller and Richard Clark. The authors compared the effectiveness of traditional, teacher-centred teaching methodologies with minimally guided constructivist teaching techniques.<sup>31</sup> Their conclusion is unmistakably supportive of traditional teaching:

In so far as there is any evidence from controlled studies, it almost uniformly supports direct, strong, instructional guidance rather than constructivist-based minimal guidance during the instruction of novice to intermediate learners. Even for students with considerable prior knowledge, strong guidance while learning is most often found to be equally effective as unguided approaches. Not only is unguided instruction normally less effective; there is also evidence that it may have negative results when students acquire misconceptions or incomplete or disorganized knowledge.<sup>32</sup>

Another person who has critically examined the issue of teaching is Mike Schmoker, a former school administrator and a well-known speaker and writer. In his book *Focus: Elevating the Essentials to Radically Improve Student Learning*, he outlines three simple things that schools must do to improve their students' academic achievement: have a coherent, focused curriculum; ensure that teachers teach high quality lessons; and include purposeful reading and meaningful writing in every course.<sup>33</sup> In other words, students should actually read substantive books and articles and write formal essays.

According to Schmoker, present-day curriculum guides contain too much verbiage and too few clearly defined goals and standards for the students to reach. He suggests rewriting these guides to focus on the specific content that students need to master at every grade level. For example, instead of meaningless verbosity such as "[s]elect and use appropriate strategies to construct meaning before

(e.g., formulating focus questions), during (e.g., adjusting rate to the specific purpose and difficulty of the text), and after (e.g., analyzing and evaluating) viewing, listening, and reading,”<sup>34</sup> English Language Arts curriculum guides should prescribe specific books to read and the number and length of essays for students to write. This vastly shortened curriculum would be far more meaningful to students, teachers and, especially, parents.

To deliver sound lessons, teachers should use direct instruction techniques of proven effectiveness. As for purposeful reading and writing, this is done by requiring students to read quality literature and to write formal essays. Obviously, Schmoker’s three recommendations fly in the face of constructivist ideology, which discourages any form of direct instruction. Schmoker’s recommendations are, however, supported by considerable research evidence.

Now let us take a closer look at two major subject areas—math and reading—that are the building blocks of all the other subjects taught in school.

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# Math instruction that makes sense

In 2007, Saskatchewan began to revise its math curriculum to fall in line with the Western and Northern Canadian Protocol (WNCP), which forms the basis of the math curriculum in the Western provinces.<sup>35</sup> Nothing in this protocol requires students to memorize times tables or learn the standard algorithms for addition, subtraction, multiplication and division.<sup>36</sup>

When concerns were raised in 2011 about the Saskatchewan math curriculum, then-education minister Donna Harpauer established a task force to examine the problem.<sup>37</sup> In the following year, the task force recommended leaving the curriculum as it was and encouraged the department to help parents learn the new math.<sup>38</sup> This conclusion was not surprising since the task force consulted with many educators but not many parents.

Obviously, this result did not meet the approval of a lot of parents, especially since their children kept coming home with math assignments that did not make sense to them. Math textbooks such as *Math Makes Sense* and *Math Focus*, which are used across the province, did not help because they rely heavily on the discovery approach and do not contain the step-by-step instructions that most parents expect to see for solving math questions.

Saskatoon Public Schools has a math resources page for parents on its Website. It contains a long list of recommended strategies for simple addition and multiplication. While it acknowledges that students need to memorize some basic facts, the suggestions on the Website encourage parents to put off having their children memorize math facts for as long as possible. In regards to times tables, it states:

In the past, students memorized the facts once they had been introduced to Multiplication as a faster method of addition.

**Now it is recommended that students learn patterns and strategies for as many facts as possible so that they strengthen their understanding of the relationships between numbers and the patterns in mathematics.**<sup>39</sup> (Emphasis in original)

Not only is this advice confusing, it paints a false picture of traditional math instruction. No one suggests that students should do nothing but memorize times tables or work on pages of math worksheets. However, there is a place for memorization and even the much-maligned practice of rote learning. Pitting basic skills and conceptual understanding against each other is a bogus dichotomy.<sup>40</sup>

In fact, considerable research shows that a certain amount of deliberate practice is essential to develop expertise in a particular skill.<sup>41</sup> Parents who have sent their children to music or art lessons or any sports program know this is true. Children need to memorize the musical scales to play an instrument, and they need to memorize the rules of the game in order to play on a team.

A new study by education researchers Paul Morgan, George Farkas and Steve Maczuga contrasted the effectiveness of teacher-directed versus student-

centred techniques in helping more than 13,000 Grade 1 students acquire basic math skills. In short, they found that students with teachers who used more-traditional techniques (i.e., rote learning, memorization, worksheets) significantly outperformed students from classrooms that were more student centred. This was particularly true for students who struggled with mathematics.<sup>42</sup>

According to John Hattie and cognitive psychologist Gregory Yates, there is a simple reason why this is the case. When it comes to learning math, rote learning makes deeper understanding possible.

There was a period in which teachers were encouraged to believe that rote learning stood in antagonism to deeper understanding. This notion is misleading since all indices of knowledge display positive associations. There is no meaningful cleft between “mere surface knowledge” and “deep understanding.” On the other hand, the notion of automaticity implies that when basic skills are automated, mental space becomes available for deeper levels of thinking and understanding through acquiring knowledge. Knowledge literally provides the mind with room to move, to develop, and to change. Repetition and consolidation are vehicles enabling knowledge to be stored within retrievable units, thereby accelerating mental growth through conceptual mastery and deeper understanding.<sup>43</sup>

In other words, it is important to require students to memorize the times tables, solve a series of math problems of progressive difficulty and learn how to do long division. Mastering basic skills makes a deeper understanding of the subject possible. In contrast, the student who struggles to figure out  $6 \times 4$  will quickly become lost in solving an algebra problem such as  $(6x + 5)(4x) = 20$ . Knowing basic math facts by memory is particularly important in algebra since multiple steps are normally involved in solving the problems.<sup>44</sup>

Fortunately, there are resources that are available to help parents who are frustrated with the way math is taught in school and who want to help their children learn the basics. Canadian mathematician and teacher John Mighton developed JUMP Math, an instructional program. Its curriculum emphasizes fundamental skills while also helping students develop problem-solving abilities, so they can do the basic multiplication and algebra problems noted above. In fact, the positive results of this program in Canadian classrooms have attracted international attention.<sup>45</sup> Parents can visit Mighton’s Website ([jumpmath.org](http://jumpmath.org)) to learn more about the program. They can then help their children learn the basic facts that they will need in later grades.

In addition, Saskatchewan parents would also benefit from reading the material on the Website of the Western Initiative for Strengthening Education in Math ([wisemath.org](http://wisemath.org)). Founded by Drs. Anna Stokke and Robert Craigen, math professors at the University of Winnipeg and the University of Manitoba, respectively, WISE Math contains important news items, links to research reports and petitions for parents to sign. It is a valuable source of information for those who want to know more about the math curriculum and who want to help their children learn math better.



# Learning how to read

The debate over reading instruction and literacy in general is also between the two clearly defined sides described earlier—constructivist and traditional. In reading, there are two related issues. One is the phonics versus whole language debate, and the other is over the appropriate amount of prescribed content that should be taught. The first debate concerns the best way to decode words, while the second is about how to improve children’s reading comprehension.

## Phonics versus whole language

Phonics is a teaching strategy where teachers help students learn letter-sound relationships (phonics). That is, in English, letters, singularly and in groups (called phonemes) are pronounced in specific ways. Teachers who use phonics teach students ways of sounding out words based on the letters and groups of letters. As students become familiar with the alphabet and the groups of letters that are used together to create phonemes (ch, sh, st, etc.), the teacher teaches them the sounds these phonemes make when they are used in words. Soon students will be able to sound out words because they have memorized the sounds of the various phonemes used in the language. Not surprisingly, phonics instruction is favoured by traditional educators, who believe that education should be “structured, sequential, and teacher-centred.”<sup>46</sup>

Constructivists, on the other hand, prefer the whole language approach, which rejects the need to teach students letter-sound relationships. Instead, teachers who use this approach think that students learn to read by reading without the bother of learning phonemes. This approach rests on the analogy that because “babies acquire one or more languages through actually using them, and not by practicing the separate parts, students can learn to read in the same way, by being immersed in rich language.”<sup>47</sup> Students learn how to read when they are exposed to literature that is relevant to their lives.

Earlier, we reviewed the work of Jeanne Chall, a U.S. education professor who did extensive research on teaching and learning. Fifty years ago, Dr. Chall examined the research on reading instruction and student learning. She found that the evidence overwhelmingly supported phonics over whole language instruction.<sup>48</sup> Likewise, John Hattie’s more recent summary of the research literature reached the same conclusion. When it comes to helping students learn to read, it is clear that phonics is important.

In summary, whole language programs have negligible effects on learning to read—be it on word recognition or on comprehension. Such methods may be of value to later reading, but certainly not for the processes of learning to read; it appears that strategies of reading need to be deliberately taught, especially to students struggling to read.<sup>49</sup>

Fortunately, whole language in its pure form has largely fallen out of favour in Saskatchewan schools. Most teachers use balanced literacy, a hybrid that blends whole language and phonics. While balanced literacy is inferior to a structured, systematic phonics approach to learning how to read, it is better than the pure whole language approach.

## Prescribed curriculum content

Understanding the individual words that appear on a page is only half of the reading equation. People also need a reasonable amount of background knowledge about the topic under discussion. To illustrate, see if you can understand the following sentence.

The specific teaching of the Old Testament as to predestination naturally revolves around the two foci of that idea which may be designated general and special, or, more properly, cosmical and soteriological predestination; or, in other words, around the doctrines of the Divine Decree and the Divine Election.<sup>50</sup>

Unless you are familiar with a specific brand of Christian theology known as Calvinism, you are probably scratching your head after reading the sentence. While you may have been able to decode each word in the sentence, you are not going to understand what Benjamin Warfield meant unless you possess some background knowledge about his theological perspective. In other words, the only way to understand Warfield's writings is to learn more about Calvinist theology in general.

The same principle of understanding also applies to students. Students are more likely to understand a text if they are already familiar, to some degree, with the topic. This is why students who are interested in certain sports can often read articles that are well above their official reading level while they struggle with reading topics in which they know little. Simply put, background knowledge is the key to reading comprehension.

Well-known author and former English professor, E.D. Hirsch, Jr., has argued that in order to be effective readers, students need cultural literacy, also known as core knowledge. He says that students need to develop a large vocabulary by an early age in order to be successful readers. Hirsch argues, correctly, that knowing the meaning of words is a prerequisite for obtaining the background knowledge that is necessary for understanding a written text. Those who fail to acquire this vocabulary end up falling further and further behind in reading. Since reading is a prerequisite for learning most other subjects in school, these students often fall behind in other areas as well.

Those who know more words will learn still more by virtue of that fact, while those who know few words will gain new ones at a slower rate. As we have seen, experts say that we need to know approximately 90 per cent to 95 per cent of a text's words to understand it.<sup>51</sup>

This means that a content-rich curriculum is vitally important for developing solid readers in schools. Unfortunately, the constructivist philosophy that dominates Saskatchewan schools places little emphasis on content or knowledge in general. If schools in Saskatchewan continue in this direction, students will likely be affected in negative ways. Essentially, students will not learn how to read at the same level that their parents learned to read at the same age.

If parents are experiencing these issues, they may visit the Website of Hirsch's Core Knowledge Foundation ([coreknowledge.org](http://coreknowledge.org)). There they will find examples of what a content-rich reading curriculum looks like. Hundreds of schools in the United States, as well as a few in Canada, have adopted the Core Knowledge curriculum, and comparative studies suggest that the Core Knowledge students learn more than students in regular classrooms do. As a case in point, one recent study of 10 Core Knowledge schools in New York City showed that their students performed significantly better on reading tests than did students in schools using the balanced literacy program.<sup>52</sup>

In short, teaching systematic phonics and using a content-rich reading curriculum are the requirements for creating top-notch readers.

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# Debunking education myths

When it comes to new education initiatives such as those being implemented in Saskatchewan, there are many competing claims. Some are based on solid evidence while others are little more than fanciful myths. To help parents sort the solid claims from the mythical claims, some of the most common education myths are discussed.

## 1) Students have multiple intelligences

About 30 years ago, Harvard education professor Howard Gardner proposed that people have multiple intelligences. Gardner's supposition rejects the widely held theory among psychometricians that while people have strengths and weaknesses in a variety of areas, overall intelligence is strongly influenced by a general intelligence factor (called *g*).<sup>53</sup> Instead, Gardner proposed that humans have eight distinct intelligences (bodily-kinesthetic, intrapersonal, interpersonal, linguistic, logical-mathematical, musical, naturalistic and spatial) that are independent from each other and not held together by a general intelligence factor.<sup>54</sup>

Gardner's speculative theory is almost accepted as gospel within the educational community. Education consultants have written books and articles filled with suggestions about how to use multiple intelligences theory with students. For example, to help students master grammar, Thomas Armstrong recommends getting students to form punctuation marks with their bodies (bodily kinesthetic intelligence), giving each punctuation mark a distinctive sound (musical intelligence) and assigning animals to each punctuation mark (naturalist intelligence).<sup>55</sup> Presumably, this way of teaching will build on the strengths of students with a variety of intelligences, and all students will have better opportunities to learn the subject matter.

The problem with Gardner's theory, however, is that there is virtually no empirical evidence supporting it. The evidence supports the theory that there are different areas of intelligence that are held together by one overriding component, the *g* factor. For example, three Canadian psychologists recently conducted a rigorous analysis of research on multiple intelligences.<sup>56</sup> Their findings "contradict Gardner's assertion that there are at least eight independent intelligence domains."<sup>57</sup> Because it lacks empirical support, Gardner's theory has never been widely accepted by psychologists who are not part of the educational establishment.<sup>58</sup>

As a result, parents should be skeptical when schools base their teaching on multiple intelligences theory. Considering how little empirical support there is for Gardner's theory, it is surprising just how much credence it receives in educational circles.

## 2) Everyone has a unique learning style

Flowing from the idea of multiple intelligences is the idea that each student has a unique way of learning and that teachers need to approach each lesson from all these perspectives. Of all the myths in education, this one has embedded itself most fully into the public consciousness. According to the learning styles theory, students learn best when they experience new concepts through their preferred or strongest learning style. For example, visual learners learn best when they see an image or picture; auditory learners prefer to hear verbal explanations; and tactile-kinesthetic learners need to feel things with their hands.<sup>59</sup> Thus, according to this popular theory, teachers should do everything possible to identify each student's learning style and incorporate different strategies to meet the specific needs of each student in their classrooms.

Obviously, this is an impossible task for even the best teachers; the expectation, in fact, defies common sense. In addition, Daniel Willingham, a cognitive psychologist at the University of Virginia, explains that it is relatively simple to test this theory. Take a group of people and identify each person's so-called learning style. Then share a story with them, but let half of them experience the story through their preferred learning style. For example, the story could be conveyed by pictures to visual learners and recited verbally to auditory learners. If the theory is correct, people who experience the story through their preferred learning style will remember it better than those who do not.<sup>60</sup>

Psychologists Laura Massa and Richard Mayer of the University of California, Santa Barbara, conducted such a study several years ago. They used a standard questionnaire to classify each student as a visual or auditory learner. They found virtually no difference between students who learned a new concept through their preferred learning style and those who learned it a different way.<sup>61</sup> In other words, it did not matter if the instruction matched the students' preferred learning styles.

A review of the research literature on learning styles by psychologists Harold Pashler, Mark McDaniel, Doug Rohrer and Robert Bjork concluded, "[T]here is no adequate evidence base to justify incorporating learning styles assessments into general educational practice."<sup>62</sup> In addition, John Hattie, who has reviewed thousands of research studies on student achievement, firmly dismisses learning styles as a "modern fad" and "one of the more fruitless pursuits."<sup>63</sup>

Catherine Scott, a senior research fellow at the Australian Council for Educational Research, agrees that there is no evidence that students learn best if lessons are presented according to their individual learning styles. Scott argues that not only is the learning styles theory useless for classroom teachers, it is actually harmful because it causes teachers to label students, which often prevents them from using effective teaching methods.<sup>64</sup>



However, this research evidence does not mean that teachers should teach every subject in exactly the same way. Many teachers know that they need to vary their instruction methods to best suit the content and the students being taught. For example, visual images are probably more effective than verbal descriptions for helping most students understand the structure of Mayan pyramids.<sup>65</sup> Other topics lend themselves to verbal descriptions or hands-on projects.

The general principle of teaching—that has been known from the time of Aristotle—is that effective teachers present lessons in a variety of ways. Simply put, teachers should vary their instruction based on the content and the students whom they are responsible for teaching, rather than try to present lessons that incorporate non-existent learning styles.

### **3) Technology is essential to learning**

Saskatchewan’s Ministry of Education thinks advanced technology should be incorporated into all classrooms throughout the province. Its new “Technology in Education Framework” goes so far as to state:

The integration and effective use of technology is vital to Saskatchewan’s teaching and learning environment and to enhancing learner success.... The acquisition of skills and dispositions related to technology is fundamental in an information age and knowledge-based society: technology use is no longer just an option for our students and teachers, but a fundamental literacy.<sup>66</sup>

As a result, schools across the province are bringing various technologies initiatives into classrooms. Some schools are encouraging students to bring their own devices while other schools are providing iPads for students.<sup>67</sup> Ministry of Education officials obviously think that incorporating technology is an essential component of 21st Century Learning.

However, before rushing to equip schools with the latest technological gadgets, it is prudent to ask if this will improve the students’ learning in a cost-effective way. Consider, for example, the significant cost of purchasing, maintaining and upgrading technological devices such as iPads and the fact that some students will use the devices for other non-educational purposes such as playing games or updating their Facebook accounts. Before wholeheartedly buying into the use of technology in classrooms, parents need to ensure that this is not another expensive fad with little, or no, educational value.

Peter Reimann and Anindito Aditomo of the University of Sydney in Australia recently reviewed the research literature on the impact of technology on student achievement and concluded that most studies show only a moderate academic benefit from its use and that “the effect of computer technology seems to be particularly small in studies that use either large samples or randomized control groups.”<sup>68</sup>

In other words, the most rigorous research reveals that the wholesale introduction of up-to-date computer technology into classrooms has, at best, only a relatively minor impact on student academic achievement. Parents and teachers should ask if the modest benefit is worth the cost and justifies making technology the focus of school reform. We know that the effects of other less expensive interventions, such as increasing the amount of time students spend on academic tasks, increase the academic performances of students much more than using up-to-date computers does.

Larry Cuban, a professor of education at Stanford University, certainly does not think that using computer technology in classrooms is essential. In an article published in the April 17, 2013, edition of *Education Week*, Cuban shows that technology companies have claimed for decades that schools need the latest gadgets to engage students in academic work. To make his point, Cuban quotes from an early typewriter ad that promises a student that using a typewriter will “raise her marks,” a filmstrip projector ad that says it can help “pupils comprehend faster” and an Apple ad that tells teachers that an Apple “makes it easy to become attached to your students.”<sup>69</sup> While the technological gadgets have changed over the decades, the overblown promises remain the same.

Overall, technology, used properly and in moderation, can be a valuable learning tool. However, parents should remain skeptical of grandiose claims made by manufacturers, teachers or administrators that these gadgets will have a revolutionary effect on their children’s educational performances. Plato did not need modern computer technology to educate his students; neither do today’s good teachers need new gadgets to educate their students.

#### **4) Inquiry-based Learning is the Best Way to Learn**

The Saskatchewan Ministry of Education has placed inquiry-based learning front and centre in its curriculum renewal process. In short, inquiry-based learning relies upon students formulating questions, investigating answers and building new knowledge.<sup>70</sup> Thus, the government is pushing a constructivist approach, which emphasizes students developing their own knowledge base rather than being taught directly by well-educated, competent teachers.

While it is true that inquiry/discovery learning can be a helpful way of learning a process (i.e., the scientific method), it is considerably less effective in helping students master academic content.<sup>71</sup> This is because a skilled teacher can do a much better job of distinguishing between relevant and irrelevant information than can a student grappling with a topic for the first time.

Ironically, some research suggests that low-ability students often prefer discovery learning methods, but they usually learn less than what they would with direct instruction.<sup>72</sup> Of course, students need opportunities to discover things, but not all the time and especially not at the expense of learning important facts. Good teachers have always used a balance of direct instruction and inquiry-based

exercises. This shows the fundamental fallacy with overemphasizing student choice—students often do not know what is in their own best interests, and teachers are not recognized as being authorities who can help students distinguish between a good understanding of a subject and a poor understanding of a subject.

## Resources for parents

Parents may want additional help in sorting through education myths similar to the ones discussed above. If so, they can consult the following resources. Daniel Willingham’s *When Can You Trust the Experts? How to Tell Good Science from Bad in Education* explains how to distinguish between solid and flaky educational research.<sup>73</sup> Daisy Christodoulou’s *Seven Myths about Education* and Tom Bennett’s *Teacher Proof* also debunk many educational myths.<sup>74</sup> Both of these books are worth reading.

# The standardized testing controversy

In February 2013, then-education minister Russ Marchuk announced plans to implement standardized testing across Saskatchewan for Grades 4 to 12 students. The plans met with heavy resistance from education professors and the Saskatchewan Teachers' Federation. Later that year, Marchuk was shuffled out of the education portfolio and replaced by Don Morgan, who immediately downplayed the importance of standardized testing. In April 2014, Morgan announced that the plans for large-scale standardized testing had been scrapped.<sup>75</sup>

Obviously, the provincial government felt the heat from the opponents of standardized testing. Many claimed that the testing was unnecessary and not in the best interest of students.<sup>76</sup> Some organizations, such as the Saskatchewan School Boards Association, supported standardized testing, but their endorsements were tepid at best.<sup>77</sup> As a result, the government caved under pressure from testing opponents and retreated from its plans.

This leaves Saskatchewan with one of the weakest testing programs in Canada. While most other provinces administer annual standardized tests to students at a variety of grade levels, Saskatchewan's program is quite limited in comparison.<sup>78</sup> Minister of Education, Don Morgan, plans to set annual targets for reading, writing and math, although he is unclear how the government will actually measure results.<sup>79</sup> It is difficult to imagine how this can be achieved without some form of standardized testing, regardless of what it is actually called.

**“While most other provinces administer annual standardized tests to students at a variety of grade levels, Saskatchewan’s program is quite limited in comparison.”**

# Should parents support or oppose standardized testing?

In order to evaluate the merits of standardized testing, it is important to have an accurate definition. Fortunately, “The Glossary of Education Reform” provides a definition of standardized testing that is easy to understand.

A standardized test is any form of test that (1) requires all test takers to answer the same question, or a selection of questions from a common bank of questions, in the same way, and that (2) is scored in a ‘standard’ or consistent manner, which makes it possible to compare the relative performance of individual students or groups of students.<sup>80</sup>

As such, standardized tests make it possible to measure student academic achievement across the province. Because all students write the same test on the same day, the results are more reliable than are the results of teacher-created tests, which vary widely depending on each teacher. This does not mean that teacher-created tests are unimportant. Rather, they simply need to be balanced with standardized tests in order to get a true picture of the students’ achievements.

Another benefit of standardized testing is that it helps teachers focus their instruction on the mandated curriculum. Knowing that their students will be tested on the curriculum provides teachers with a strong incentive to cover the material thoroughly.

For the provincial government to set meaningful targets for academic skills such as reading, writing and math, some form of standardized testing is essential. Otherwise, there is no way of knowing whether students have learned the curriculum. Parents send their children to school with the expectation that they will learn specific knowledge and skills. Standardized testing holds teachers and principals accountable for meeting these expectations.

Nevertheless, opponents of standardized testing remain unconvinced. Marc Spooner and Paul Orlowski, education professors at the University of Regina and University of Saskatchewan, respectively, recently wrote an article for the Canadian Centre for Policy Alternatives in which they outlined their reasons for opposing standardized testing.<sup>81</sup> Let us look at the most important arguments.

**1) “Standardized testing diverts teaching time and monetary resources away from student supports, teachable moments, and direct teacher-student contact time.”<sup>82</sup> (Author’s emphasis in the following quotes.)**

Spooner and Orlowski actually make two separate arguments in this statement. The first is that standardized testing makes teachers spend too much time preparing for the test and too little time actually teaching the curriculum. The problem with this argument is it assumes these tests are administered in the high-stakes manner used in the United States. In reality, no Canadian province uses standardized tests to evaluate teachers, close underperforming schools or fire principals. Critics regularly



point to the problems with the U.S. model but ignore the fact that standardized testing is administered quite differently in this country.

In addition, alternative assessments are often more time-consuming than standardized tests are. For example, when the Manitoba government scrapped its Grade 3 standardized tests in 2000, it replaced them with competency checklists to be filled out by teachers. To the government's surprise, these checklists took significantly more class time than the standardized tests did. In fact, teachers found the new assessment quite burdensome.<sup>83</sup>

The second argument in the above statement is that standardized testing is too costly. Critics regularly point to the estimated \$5.9-million cost of implementing standardized testing and argue that the money could be better spent elsewhere.<sup>84</sup> However, this is only a tiny fraction of total K-12 spending, which is projected to reach \$1.82-billion in 2014-2015.<sup>85</sup> In other words, standardized testing would make up approximately 0.3 per cent of total K-12 education spending. It seems reasonable to spend 0.3 per cent of the education budget on a reliable evaluation of academic achievement.

**2) "[Standardized tests] are one-time snapshots that do not accurately measure how a student performs day after day, or what a student actually knows."<sup>86</sup>**

No one denies that standardized tests are one-time snapshots since student performance obviously changes over time. This is why it is important for these tests to be administered regularly and at a variety of grade levels so that student progress can be monitored accurately.

In addition, standardized tests should never be used in isolation. Teacher-created tests and assignments are a critical component of a balanced assessment policy since teachers are able to consider local conditions. Combining data from standardized tests and teacher-created tests provides a more complete picture of student achievement than does using either of these tests alone.

**3) "[Standardized tests] are culturally biased, and biased against those for whom reading and/or English is a challenge."<sup>87</sup>**

There are two main problems with this argument. First, if it is possible to identify examples of bias on standardized tests, it is also possible to correct these biases. Rather than simply throwing out the entire test because of a few examples of bias, why not make the necessary adjustments to ensure that the tests are fair and objective? One cannot, on the one hand, claim that standardized tests are culturally biased, but, on the other hand, not correct the biases by redesigning the tests or adjusting the scoring.

The second major problem with this argument is that it seems to question the ability of teachers to help all students learn the curriculum. Teachers regularly provide special assistance to students who are disadvantaged because of their linguistic or cultural experiences, and it is reasonable to think that this assistance will be provided when disadvantaged students are preparing to write standardized tests.

**4) “[Standardized tests] are more reflective of depressed socio-economic neighbourhood conditions than student learning or quality of teaching.”<sup>88</sup>**

This argument smacks of defeatism. While there is little doubt that students in low socio-economic neighbourhoods are at a disadvantage, it is not insurmountable. In fact, the quality of teaching makes a huge difference to student achievement, particularly for students from disadvantaged backgrounds.<sup>89</sup> Standardized testing can help identify successful schools in depressed socio-economic neighbourhoods, so educators from other schools can learn from their example.

**5) “[Standardized tests] often induce unhealthy anxiety in students.”<sup>90</sup>**

This only occurs when standardized testing is conducted in a high-stakes manner, which is not what happens in Canada. Nevertheless, it is true that properly administered standardized tests will, like any regular classroom test, produce a moderate amount of anxiety in students. However, there is nothing wrong with students feeling moderate levels of anxiety prior to taking tests. For virtually all students, a moderate level of anxiety can be a powerful motivator for careful preparation, for reviewing the material, for practicing their skills and for doing their best on the examinations.

In contrast, if students are never challenged to achieve their best, they are unlikely to put much effort into review, practice or study. If they do not do these things, students are not likely to understand the subject matter as well as they should.

**6) “[T]he results of standardized tests, when published in newspapers carry negative side effects, including a significant drop in student and teacher morale.”<sup>91</sup>**

Using this line of reasoning, governments should never release any performance data because it might damage the morale of those who work in lower-performing departments. Just as patients have the right to know how well hospitals perform, parents and other members of the public have a right to know how schools are doing, even when it is unpleasant news.

**7) “[T]eachers teach to the test rather than teaching students to think through complex social problems, such as dealing with climate change and a fragile global economy.”<sup>92</sup>**

All tests, whether standardized or teacher-created, should mirror the curriculum. Thus, teaching to the test means that teachers are, in fact, teaching the curriculum, which is exactly what they should be doing.

Since the curriculum addresses topics such as climate change and the global economy, it is reasonable to expect students to be knowledgeable about these topics. Standardized tests can help evaluate whether students have the necessary knowledge to truly grapple with these and other important issues.

**8) “[Standardized tests] run counter to Saskatchewan’s stated goal of improving retention and graduation rates of Aboriginal students, since these tests often serve to further marginalize and push out students whom the system disadvantages.”<sup>93</sup>**

All students, regardless of their background, need to acquire fundamental knowledge and skills. Aboriginal students deserve the same opportunities as students from other backgrounds. As noted in the response to argument #3, the proper way to deal with cultural biases on standardized tests is to fix them, not abolish them.

**9) Finland outperforms Canada and the United States on PISA exams even though it has no standardized testing. “In other words, rather than increasing the frequency of mandatory standardized testing, it would be more prudent to study Finnish social and educational policy. What the Americans are doing with their teachers and school system is what Saskatchewan should not do.”<sup>94</sup>**

There are at least two serious problems with this argument. One is that international interest in Finland’s education system only began when its students started showing substantial gains in achievement as measured by PISA. In other words, Finland’s high educational status rests entirely on the results of a standardized achievement test. If standardized testing is invalid, then there is no basis to claim the superiority of Finland’s education system. It is more than a little ironic for opponents of standardized testing to argue against using test results to compare schools within the same province and yet freely use them to compare the education systems of different countries.

In addition, it is also not entirely accurate to say that Finland shuns standardized testing. Finland requires all high school students in the academic stream to write a National Matriculation Examination in four subject areas. Pasi Sahlberg, author of *Finnish Lessons*, describes it as a “high stakes external evaluation” that has a “notable effect on curriculum and instruction.”<sup>95</sup> According to Sahlberg, these standardized tests have a very clear purpose.

Today, the purpose of the examination is to discover whether students have assimilated the knowledge and skills required in the national core curriculum, as well as whether they have reached a level of maturity in line with the goals of upper-secondary general school.<sup>96</sup>

Since most Canadian provinces do not have a high school exit exam, the Finland model is actually more rigorous in standardized testing.

## Evaluating the evidence

As we can see, there are many good reasons to implement standardized testing in Saskatchewan schools. It makes sense to spend 0.3 per cent of the K-12 education budget on a reliable measurement instrument to evaluate student achievement.

Parents should be wary of the dubious arguments made by opponents of standardized testing. While opponents claim they are looking out for the best interests of students, the evidence shows that their concerns are misplaced. Standardized testing is good for both students and their parents. It is also good for teachers and school administrators because it illustrates how well students are doing in all public schools in the province.

**“While opponents claim they are looking out for the best interests of students, the evidence shows that their concerns are misplaced. Standardized testing is good for both students and their parents.”**

# Report card controversy

Over the last year, Battle River School Division in Alberta was the scene of an intense controversy because it had eliminated percentage grades from report cards and replaced them with a four level Alpha grading scheme. In all subjects and all grades, students were rated as “Beginning,” “Developing,” “Achieving” or “Excelling.” This new policy did not appeal to either students or their parents because it lacked the clarity and precision of percentages. If anything, parents want the reports on their children’s achievements to be precise and clear. After a huge pushback from students and parents, the school trustees reluctantly voted to return to percentages for Grades 10 to 12 students, although they kept the new grading scheme for K-9.<sup>97</sup>

North West School Division in northern Saskatchewan appears poised for a similar battle. Like Battle River, it plans to replace percentage grades with a four-level grading scheme. Instead of traditional report cards, students in K-9 will receive student growth reports in which they will receive a designation of “Beginner,” “Approaching,” “Proficient” or “Mastery” for each learning outcome. Despite a parent survey revealing significant concerns about these changes, North West intends to move forward.<sup>98</sup> Other Saskatchewan school divisions are also in the process of making similar changes to report cards.<sup>99</sup>

Canada’s most famous grading controversy took place in Edmonton at Ross Sheppard High School. Physics teacher Lynden Dorval was suspended from his teaching position and eventually fired for defying his principal’s no-zero policy. In this case, the public response to Dorval was overwhelmingly supportive. Students rallied to his defence; teachers spoke in his support; and newspaper pages were filled with editorials and letters attacking the no-zero policy. Even an online poll conducted by the *Edmonton Journal* reported that more than 97 per cent of the 12,486 respondents opposed the no-zero policy.<sup>100</sup> Nevertheless, it took several months for the Edmonton Public School trustees to rescind the policy and adopt one that explicitly permits teachers to give zeros for incomplete work.<sup>101</sup> Fortunately, Dorval got another job with a private school in Edmonton.

Incredibly, this controversy did not deter some Saskatchewan schools from implementing no-zero policies. Dan Mielke, the former principal of Arborfield School in North East School Division, publicly defended his school’s no-zero policy. He said students who do not hand in assignments should receive an incomplete rather than a zero.<sup>102</sup> Yorkton Regional High School in Good Spirit School Division also implemented a no-zero policy. The principal’s message on the school’s Web site includes the statement “As a result of our studies in changes to assessment that are being made across our province, the YRHS will be adopting a ‘no-zero’ policy.”<sup>103</sup>

Many parents wonder why school boards composed of trustees who supposedly represent their interests have adopted bizarre grading practices and only retreat (sometimes) in the face of significant public opposition. Let us look at where these ideas originated.



## Common sense and report cards

Grading practices have changed significantly over the years. Teachers determined students' grades without having policies dictated by school boards. Teachers reported percentage grades for all students in their courses, and often the range was from below 50 per cent to almost 100 per cent. Understandably, the grading practices varied by subject area and teacher. In fact, there was often a wide variety of practices, some more valid than others. However, beginning about two decades ago, researchers began examining how teachers grade students.<sup>104</sup>

Assessment experts began by emphasizing that grades must be valid and reliable. Validity means that grades convey appropriate information about the specific achievement in the subject, and reliability means that the grades are consistently accurate.<sup>105</sup> In other words, tests that are valid measure what they are designed to measure and nothing more, and reliable tests will give similar results for the same student if the test is administered a number of times.<sup>106</sup> Assessment experts and many teachers prefer outcome-based reporting of grades in which the students' achievements are reported separately for each outcome, or performance standard.

Many of these same individuals are also critical of incorporating behavioural factors such as attendance, attitude, effort, participation and punctuality into final grades. They argue that behavioural factors should be reported separately on report cards, and they should not affect the students' academic grades.<sup>107</sup> Most people agree that separating intellectual understanding from behaviour and reporting the results separately is reasonable. However, problems develop when this general principle becomes a rigid rule.

For example, because the time at which an assignment is turned in is considered a behavioural factor, many assessment consultants say that students should never receive academic penalties for late or incomplete work. Similarly, given that plagiarism is also a behavioural choice, these consultants often argue that it is inappropriate for guilty students to receive a mark of zero. In these cases, they argue, students should have another opportunity to complete the work properly, and their marks should reflect their actual achievement rather than their behaviour or the time the work was submitted.<sup>108</sup>

As we saw in the Lynden Dorval case, turning the separation of behaviour and achievement into an absolute rule for teachers leads to problems. Sometimes behaviour has a direct impact on achievement, particularly when students choose not to hand in assignments on time. In these situations, teachers should be allowed to incorporate lateness and/or incompletes into students' final grades. Thus, blanket no-zero policies are not appropriate.<sup>109</sup>

As for percentage grades, there is no good evidence showing that students are positively affected by reporting their achievement in categories (i.e., meeting a standard or not meeting a standard) rather than using percentages on report cards. Percentage grades often give the most refined indication of the students' performances, and this is often a compelling reason to include them on report cards.

In fact, the arguments used for removing percentage grades are surprisingly weak. For example, Brian Hargreaves, vice-principal of Battleford Central School in Living Sky School Division, suggests that percentage grades do not give enough information to parents.

We know that parents, and students, are used to seeing a percentage as a mark, but what does that really tell us? A high percentage is good and people are generally happy; a low percentage is not so good and suggests that there is some kind of problem. It does not indicate where the problem might be, and therefore, does not allow for solution-based conversations between parents and teachers on how to support learning.<sup>110</sup>

The problem with this argument is that it assumes that report cards cannot convey supplemental information along with percentage grades. For example, teachers can insert comments informing parents about specific issues. Schools could even enclose achievement ratings for individual outcomes. In other words, teachers should feel free to provide whatever other information that is necessary.

Well-known assessment guru Ken O'Connor makes another argument against percentages. He thinks percentage grades have too many performance levels. "The basic problem with the percentage system is that it has too many levels (101). This implies a precision that simply does not exist, because no one can describe the difference between 71 and 73 percent."<sup>111</sup>

However, O'Connor is wrong to assume that the percentage system has too many levels. If a teacher gives a test with 100 multiple-choice questions, it is not difficult to explain the difference between 71 per cent and 73 per cent—the student with 73 answered two more questions correctly than did the student with the 71. Of course, the difference between these two students is minor, *but that is exactly what we would expect in this situation*. There is obviously a bigger difference between students who are 12 percentage points apart than there is with students separated by only two percentage points.

In addition, students and parents have no difficulty understanding that percentages are not always precise. A student who writes a test and receives a mark of 17 out of 20 may have her mark converted to 85 per cent. Obviously, there would be no difference between 85 per cent and 86 per cent in this case, but that does not matter because no one could get 86 per cent on the 20-point test anyway. All percentage marks in this case would appear in sets of five (0, 5, 10, 15, etc.). In this case, the mark is converted to a percentage not because it is necessary for accuracy, but because it is easier to compare marks from other tests and assignments that the student has completed or will complete. It is also easier for parents to understand.

At the end of the day, school trustees can slavishly adhere to guidelines proposed by some assessment gurus, or they can listen to the many parents, students and teachers who want percentage grades used on report cards. Since the public elects trustees, they have an obligation to listen to the concerns of parents, students and teachers.

## Where to go from here

Saskatchewan parents have a right to be concerned about recent educational trends in the province. Not only are the ideas behind constructivism and the 21st Century Learning movement old, they are not supported by evidence or common sense. Research studies clearly show that when it comes to improving student achievement, traditional teacher-directed instruction along with rigorous assessment is better than the inquiry/discovery approach and weak assessment. Students benefit from rich curriculum content, structured classrooms and knowledgeable teachers, and they benefit from being told exactly how well they know the material.

Similarly, parents should not allow themselves to be taken in by opponents of standardized testing when they claim to put the interests of students first. For the government to set and meet targets in reading and math at certain grade levels, it needs to be able to measure the students' achievements accurately. Province-wide standardized testing is the only way to do this.

Parents do not need to accept meaningless platitudes from Ministry of Education bureaucrats or school administrators. Nor should they be intimidated by the claims many of these people make that "research proves," especially when the person making the claim cannot support it with good empirical evidence or common sense. If enough parents take action, education policy can be changed at the provincial and local levels. Parents can work together to demand real changes. The people elect governments and the people should have more say over what happens in their schools.

The same can be said of report cards. The people elect trustees, and they have the power to bring back percentage grades on report cards. This will only happen, however, if parents voice their concerns loudly and clearly. Parents should lobby both their local school boards and the provincial government.

In short, parents need to rise up and advocate for the return of common sense to the education of their children. It is your school system, and you should take it back.

# Additional resources for parents

## Books

- Bennett, Tom. *Teacher Proof: Why Research in Education Doesn't Always Mean What It Claims, and What You Can Do about It*. (2013) New York: Routledge.
- Christodoulou, Daisy. *Seven Myths about Education*. (2014) New York: Routledge.
- Hattie, John and Gregory Yates. *Visible Learning and the Science of How We Learn*. (2014) New York: Routledge.
- Hirsch, E.D., Jr. *The Schools We Need and Why We Don't Have Them*. (1996) New York: Doubleday.
- Hirsch, E.D., Jr. *The Knowledge Deficit: Closing the Shocking Education Gap for American Children*. (2006) New York: Houghton Mifflin Company.
- Lapointe, Marc. *Standing in the Education Gap: A Commonsense Approach to Helping Your Child Succeed in School*. (2013) Bloomington: iUniverse.
- Schmoker, Mike. *Focus: Elevating the Essentials to Radically Improve Student Learning*. (2011) Alexandria: Association for Supervision and Curriculum Development.
- Willingham, Daniel T. *When Can You Trust the Experts? How to Tell Good Science From Bad in Education*. (2012) San Francisco: Jossey-Bass.
- Willingham, Daniel T. *Why Don't Students Like School? A Cognitive Scientist Answers Questions about How the Mind Works and What it Means for the Classroom*. (2009) San Francisco: Jossey-Bass.
- Zwaagstra, Michael C., Clifton, Rodney A. and John C. Long. *What's Wrong with Our Schools and How We Can Fix Them*. (2010) Lanham: Rowman & Littlefield Education.

## Websites

- Core Knowledge Foundation. <http://www.coreknowledge.org/>
- Daniel Willingham. <http://www.danielwillingham.com/>
- Frontier Centre for Public Policy. <https://www.fcpp.org/>
- Jump Math. <http://jumpmath.org/cms/>
- Michael Zwaagstra – *Common Sense Education*. <http://michaelzwaagstra.com/>
- Schoolhouse Consulting. <http://www.schoolhouseconsulting.ca/>
- Society for Quality Education. <http://www.societyforqualityeducation.org/>
- Stuff for Parents. <http://stuffforparents.com/>
- The Thomas B. Fordham Institute. <http://edexcellence.net/>
- Western Initiative for Strengthening Education in Math. <http://wisemath.org/>

## Endnotes

1. Government of Saskatchewan, "Provincial School Programs Statistics 2013-2014." Accessed July 12, 2014. Available online at <http://www.education.gov.sk.ca/IEF/provincial-school-stats-2013-14>.
2. Government of Saskatchewan, "Ministry of Education: Plan for 2014-15," p. 9. Accessed July 12, 2014. Available online at <http://www.finance.gov.sk.ca/PlanningAndReporting/2014-15/EducationPlan1415.pdf>.
3. Saskatchewan Ministry of Education, "Renewed Curricula: Understanding Outcomes," October 2010. Available online at [https://www.edonline.sk.ca/bbcswebdav/library/curricula/English/Renewed\\_Curricula.pdf](https://www.edonline.sk.ca/bbcswebdav/library/curricula/English/Renewed_Curricula.pdf).
4. *Ibid.*, p. 1.
5. Canadians for 21st Century Learning & Innovation (C21). Accessed July 12, 2014. Available online at <http://www.c21canada.org/>.
6. Sun West School Division, "Board Policy 18: 21st Century Competencies," January 22, 2013. Available online at [http://21stcenturycompetencies.wikispaces.com/file/view/Sun\\_West\\_Board\\_Policy\\_18.pdf/439130832/Sun\\_West\\_Board\\_Policy\\_18.pdf](http://21stcenturycompetencies.wikispaces.com/file/view/Sun_West_Board_Policy_18.pdf/439130832/Sun_West_Board_Policy_18.pdf).
7. Sun West School Division, "An Overview of the 21st Century Learning: Series Sun West School Division." Accessed July 12, 2014. Available online at <http://swsd-public.sharepoint.com/Pages/21st-Century-Educator.aspx>.
8. C21 Canada, "Shifting Minds: A 21st Century Vision of Public Education for Canada," 2012. Available online at <http://www.c21canada.org/wp-content/uploads/2012/11/Shifting-Minds-Revised.pdf>.
9. Smart, Michele, "Teach Less, Learn More," Principal Smart's Blog: Striving to Teach Less and Learn More, August 10, 2012. Available online at <http://sm45rt.wordpress.com/tag/21-century-learning/>.
10. Kilpatrick, William Heard, *Remaking the Curriculum*, New York: Newson & Company, 1936, pp. 55-56.
11. Ravitch, Diane, *Left Back: A Century of Failed School Reforms*, New York: Simon & Schuster, 2000, p. 284.
12. Sun West School Division, "Board Policy 18: 21st Century Competencies."
13. Kilpatrick, William Heard, *Foundations of Method*, New York: The Macmillan Company, 1925, p. 251.
14. *Ibid.*, p. 256.
15. *Ibid.*, p. 266.
16. Ravitch, op. cit., pp. 169-171.
17. *Ibid.*
18. Prairie Spirit School Division, "Annual Report, September 1, 2010 to August 31, 2011." Accessed July 14, 2014. Available online at <http://spiritsd.ca/Annual%20Report%20-%202012%20web%20version.pdf>.
19. Lewington, Jennifer, "Liberated Spaces: Purposeful School Design Says Goodbye to Cells and Bells," *Education Canada*, Volume 52, Issue 5, Theme 2012. Available online at <http://www.cea-ace.ca/education-canada/article/liberated-spaces-purposeful-school-design-says-goodbye-cells-and-bells>.
20. Hammer, Kate, "Canadian Schools Adopt Old-style Architecture," *The Globe and Mail*, September 5, 2012. Available online at <http://www.theglobeandmail.com/news/national/canadian-schools-adopt-old-style-architecture/article4519536/>.
21. Nair, Prakash and Annalise Gehling, "Accommodating an Education Revolution: How Victorian Schools are Reorganizing for the 21st Century," *Professional Voice*, Volume 5, Issue 3, 2008, pp. 23-28. Available online at <http://www.fieldingnair.com/press/ProVoice.pdf>.
22. Hattie, John, *Visible Learning: A Synthesis of Over 800 Meta-analyses Relating to Achievement*, New York: Routledge, 2009, p. 258.
23. Carnine, Douglas, *Why Education Experts Resist Effective Practices (And What It Would Take to Make Education More Like Medicine)*, Washington, D.C.: Thomas Fordham Foundation, 2000, p. 5. Available online at <http://www.wrightslaw.com/info/teach.profession.carnine.pdf>.
24. Hattie, op. cit., pp. 205-206.
25. Carnine, op. cit., pp. 6-7.



26. Hattie, op. cit., p. 258.
27. Chall, Jeanne S., *The Academic Achievement Challenge: What Really Works in the Classroom?* New York: The Guilford Press, 2000.
28. *Ibid.*, p. 176.
29. Hattie, op. cit., p. 26.
30. Hattie, op. cit., pp. 243-244.
31. Kirschner, Paul A., Sweller, John and Richard E. Clark, "Why Minimal Guidance during Instruction Does Not Work: An Analysis of the Failure of Constructivist, Discovery, Problem-based, Experiential, and Inquiry-based Teaching," *Educational Psychologist*, 41(2), 2006, pp. 75-86. Available online at [http://www.cogtech.usc.edu/publications/kirschner\\_Sweller\\_Clark.pdf](http://www.cogtech.usc.edu/publications/kirschner_Sweller_Clark.pdf).
32. *Ibid.*, pp. 83-84.
33. Schmoker, Mike, *Focus: Elevating the Essentials to Radically Improve Student Learning*, Alexandria, VA: Association for Supervision and Curriculum Development, 2011, p. 2.
34. Saskatchewan Ministry of Education, "English Language Arts 9 Outcomes." Available online at [http://www.curriculum.gov.sk.ca/index.jsp?view=outcomes&lang=en&subj=english\\_language\\_arts&level=9](http://www.curriculum.gov.sk.ca/index.jsp?view=outcomes&lang=en&subj=english_language_arts&level=9).
35. CBC News, "New Math Curriculum Won't Change, Ministry Says," May 11, 2012. Available online at <http://www.cbc.ca/news/canada/saskatchewan/new-math-curriculum-won-t-change-ministry-says-1.1149836>.
36. Martin, Nick, "Basic Arithmetic Back in Class: Manitoba Kids to Learn to Do Math the Old Way," *Winnipeg Free Press*, June 18, 2013. Available online at <http://www.winnipegfreepress.com/local/basic-arithmetic-back-in-class-211939191.html>.
37. Government of Saskatchewan, "Government to Consult with Educators on Math Curriculum, Instruction," December 19, 2011. Available online at <http://www.gov.sk.ca/news?newsId=a74b2ef3-b27e-478f-b6d9-428ae56cdddd>.
38. CBC News, op. cit.
39. Saskatoon Public Schools, "Mental Math Strategies." Accessed July 14, 2014. Available online at <http://olc.spsd.sk.ca/de/math1-3/p-mentalmath.html>.
40. Wu, H., "Basic Skills versus Conceptual Understanding: A Bogus Dichotomy in Mathematics Education," *American Educator*, Fall 1999, pp. 1-7. Available online at <https://www.aft.org/pdfs/americaneducator/fall1999/wu.pdf>.
41. Ericsson, K. Anders, Krampe, Ralf Th. and Clemens Tesch-Romer, "The Role of Deliberate Practice in the Acquisition of Expert Performance," *Psychological Review*, Vol. 100, No. 3, 1993, pp. 363-406. Available online at <http://projects.ict.usc.edu/itw/gel/EricssonDeliberatePracticePR93.pdf>.
42. Morgan, Paul, L., Farkas, George and Steve Maczuga, "Which Instructional Practices Most Help First-Grade Students with and without Mathematics Difficulties?" *Educational Evaluation and Policy Analysis*, June 25, 2014, pp. 1-22.
43. Hattie, John and Gregory Yates, *Visible Learning and the Science of How We Learn*, New York: Routledge, 2014, p. 58.
44. Lee, Kerry, Ng, Ee Lynn and Swee Fong Ng, "The Contributions of Working Memory and Executive Functioning to Problem Representation and Solution Generation in Algebraic Word Problems," *Journal of Educational Psychology*, Vol. 101, No. 2, 2009, pp. 373-387. Available online at <http://ctlonline.pbworks.com/f/Lee+Ng+%26+Ng+%282009%29+Contributions+of+WM+and+EF+to+problem+representation+and+sol+generation.pdf>.
45. Alphonso, Caroline, "U.S. to Fund Study of Ontario Math Curriculum," *The Globe and Mail*, January 17, 2014. Available online at <http://www.theglobeandmail.com/news/national/education/us-to-fund-study-of-ontario-math-curriculum/article16397507/>.
46. Holmes, Mark, *The Reformation of Canada's Schools: Breaking the Barriers to Parental Choice*, Montreal, QC: McGill-Queen's University Press, 1998, p. 157.
47. Altwerger, Bess, Edelsky, Carole and Barbara M. Flores, "Whole Language: What's New?" *The Reading Teacher*, Vol. 41, No. 2, 1987, pp. 144-154.
48. Ravitch, op. cit., pp. 355-356.



49. Hattie, op. cit., p. 138.
50. Warfield, Benjamin B., *Biblical and Theological Studies*, Philadelphia: The Presbyterian and Reformed Publishing Company, 1952, p. 276.
51. Hirsch, Jr., E.D., *The Knowledge Deficit: Closing the Shocking Education Gap for American Children*, Boston: Houghton Mifflin Company, 2006, p. 60.
52. Willingham, Daniel, "Stop Ignoring the Facts: In New York City, Controversial Education Program Lives Despite Rocky Data," *Real Clear Education*, June 30, 2014. Available online at [http://www.realcleareducation.com/articles/2014/06/30/literacy\\_new\\_york\\_city\\_carmen\\_farina\\_1037.html](http://www.realcleareducation.com/articles/2014/06/30/literacy_new_york_city_carmen_farina_1037.html).
53. Willingham, Daniel, "Reframing the Mind: Howard Gardner and the Theory of Multiple Intelligences," *Education Next*, Vol. 4, No. 3, Summer 2004, pp. 19-24. Available online at <http://educationnext.org/reframing-the-mind/>.
54. Gardner, Howard, *The Disciplined Mind: Beyond Facts and Standardized Tests, The K-12 Education that Every Child Deserves*, New York: Penguin Books, 2000, pp. 71-72.
55. Armstrong, Thomas, *Multiple Intelligences in the Classroom*, 3rd Edition, Alexandria, VA: Association for Supervision and Curriculum Development, 2009.
56. Visser, Beth A., Ashton, Michael C. and Philip A. Vernon, "Beyond g: Putting Multiple Intelligences Theory to the Test," *Intelligence*, Volume 34, 2006, pp. 487-502. Available online at [http://local-static0.forum-files.fobby.net/forum\\_attachments/0005/6815/multipleintelligences.pdf](http://local-static0.forum-files.fobby.net/forum_attachments/0005/6815/multipleintelligences.pdf).
57. *Ibid.*, p. 501.
58. McGreal, Scott, "The Illusory Theory of Multiple Intelligences: Gardner's Theory of Multiple Intelligences Has Never Been Validated," *Psychology Today*, November 23, 2013. Available online at <http://www.psychologytoday.com/blog/unique-everybody-else/201311/the-illusory-theory-multiple-intelligences>.
59. University of Saskatchewan, The Gwenna Moss Centre for Teaching Effectiveness, "Learning Styles." Accessed July 14, 2014. Available online at [http://www.usask.ca/gmcte/resources/teaching/styles\\_learning](http://www.usask.ca/gmcte/resources/teaching/styles_learning).
60. Willingham, Daniel, *When Can You Trust the Experts? How to Tell Good Science from Bad in Education*, San Francisco: Jossey-Bass, 2012, pp. 12-13.
61. Massa, Laura J. and Richard E. Mayer, "Testing the ATI Hypothesis: Should Multimedia Instruction Accommodate Verbalizer-Visualizer Cognitive Style?" *Learning and Individual Differences*, Volume 16, Issue 4, 2006, pp. 321-335. Available online at [http://people.cs.vt.edu/~shaffer/CS6604/Papers/Validity\\_2006.pdf](http://people.cs.vt.edu/~shaffer/CS6604/Papers/Validity_2006.pdf).
62. Pashler, Harold, McDaniel, Mark, Rohrer, Doug and Robert Bjork, "Learning Styles: Concepts and Evidence," *Psychological Science in the Public Interest*, Volume 9, Number 3, December 2008, pp. 105-119.
63. Hattie, John, *Visible Learning for Teachers: Maximizing Impact on Learning*, New York: Routledge, 2012, p. 79.
64. Scott, Catherine, "The Enduring Appeal of 'Learning Styles,'" *Australian Journal of Education*, Volume 54, Number 1, April 2010, pp. 5-17.
65. Willingham, Daniel, "Do Visual, Auditory, and Kinesthetic Learners Need Visual, Auditory, and Kinesthetic Instruction?" *American Educator*, Summer 2005. Available online at <http://www.aft.org/newspubs/periodicals/ae/summer2005/willingham.cfm>.
66. Saskatchewan Ministry of Education, "Technology in Education Framework," June 2013. Available online at <http://education.gov.sk.ca/TEF/english>.
67. Sun West School Division, "The Sun West Initiative for School Improvement (SWISI)." Accessed July 14, 2014. Available online at <http://www.sunwestsd.ca/pages/swisi-projects.html>.
68. Reimann, Peter and Anindito Aditomo, "Technology-supported Learning and Academic Achievement," *International Guide to Student Achievement*, eds. John Hattie and Eric M. Anderman, New York: Routledge, 2013, p. 401.
69. Cuban, Larry, "Framing the School Technology Dream: In Advertising, the Focus is on Better, Faster Learning," *Education Week*, Vol. 32, Issue 28, April 17, 2013, pp. 24-25. Available online at [http://www.edweek.org/ew/articles/2013/04/17/28cuban\\_ep.h32.html](http://www.edweek.org/ew/articles/2013/04/17/28cuban_ep.h32.html).

70. Saskatchewan Ministry of Education, "Curriculum & E-Learning," Spring 2010. Available online at <http://www.spsd.sk.ca/Schools/brightwater/about/vision/Documents/Newsletter%203%20-%20SK-Curriculum-Renewal.pdf>.
71. Hattie, *Visible Learning*, pp. 208-210.
72. Hattie and Yates, op. cit., p.78.
73. Willingham, Daniel, *When Can You Trust the Experts? How to Tell Good Science from Bad in Education*, San Francisco, CA: Jossey-Bass, 2012.
74. Christodoulou, Daisy, *Seven Myths about Education*, New York: Routledge, 2014.; Bennett, Tom, *Teacher Proof: Why Research in Education Doesn't Always Mean What it Claims, and What You Can Do About It*, New York: Routledge, 2013.
75. "Standardized Testing in Saskatchewan: A Timeline," *The Leader Post*, April 11, 2014. Available online at <http://www.leaderpost.com/news/Standardized+testing+Saskatchewan+Timeline/9728713/story.html>.
76. Spooner, Marc, Orlowski, Paul, Dolmage, Rod, McVittie, Janet and Patrick Lewis, Letter to the Editor, *Prince Alberta Daily Herald*, April 9, 2013. Available online at <http://www.paherald.sk.ca/Opinion/Letter-to-the-editor/2013-04-09/article-3216506/Letter-to-the-Editor%3A-Dr.-Marc-Spooner,-Dr.-Paul-Orlowski,-Dr.-Rod-Dolmage,-Dr.-Janet-McVittie,-Dr.-Patrick-Lewis-%26mdash%3B-April-9,-2013/1>.
77. Saskatchewan School Boards Association, "SSBA Explains that Standardized Testing is a Very Small Part of Student Assessment," February 14, 2013. Available online at <http://www.saskschoolboards.ca/index.php?id=advocacy-mediarelease-2013#3>.
78. Zwaagstra, Michael, "Standardized Testing is a Good Thing," *Frontier Centre for Public Policy*, October 2011. Available online at <http://www.fcpp.org/files/1/PS119StandardizedTesting.pdf>.
79. Graney, Emma, "Uncertainty Remains over Testing in Saskatchewan's Education System: Education Minister Unsure of Direction," *The Leader Post*, April 15, 2014. Available online at <http://www.leaderpost.com/news/Uncertainty+remains+over+testing+Saskatchewan+education+system/9739401/story.html>.
80. Great Schools Partnership, "Standardized Test," "The Glossary of Education Reform," August 29, 2013. Available online at <http://edglossary.org/standardized-test/>.
81. Spooner, Marc and Paul Orlowski, "Standardized Testing (Almost) Comes to Saskatchewan: How Being Proactive Can Lead to Positive Results (For Now...)," *Our Schools/Our Selves*, Canadian Centre for Policy Alternatives, Fall 2013. Available online at [http://www.policyalternatives.ca/sites/default/files/uploads/publications/National%20Office/2013/11/osos113\\_StandardizedTestingComesToSK.pdf](http://www.policyalternatives.ca/sites/default/files/uploads/publications/National%20Office/2013/11/osos113_StandardizedTestingComesToSK.pdf).
82. *Ibid.*, p. 27.
83. Levin, Ben, *Governing Education*, Toronto: University of Toronto Press, 2005, pp. 84-100.
84. Mandryk, Murray, "Standardized Tests Offer Little New," *The Leader Post*, April 13, 2013. Available online at <http://www2.canada.com/reginaleaderpost/columnists/story.html?id=b56f491b-9bcd-4dc9-8075-b8cf6658445f>.
85. Government of Saskatchewan, "Education: Government Invests in Student Success," March 19, 2014. Available online at <http://www.finance.gov.sk.ca/budget2014-15/000-Education.pdf>.
86. Spooner and Orlowski, op. cit., p. 27.
87. *Ibid.*
88. *Ibid.*
89. Chetty, Raj, Friedman, John N. and Jonah E. Rockoff, "The Long-term Impacts of Teachers: Teacher Value-added and Student Outcomes in Adulthood", Harvard University and National Bureau of Economic Research, December 2011. Available online at <http://www.nber.org/papers/w17699>.
90. Spooner and Orlowski, op. cit., p. 27.
91. *Ibid.*
92. *Ibid.*
93. *Ibid.*
94. *Ibid.*, p. 28.

95. Sahlberg, Pasi, *Finnish Lessons: What Can the World Learn from Educational Change in Finland?*, New York: Teachers College Press, 2011, p. 25.
96. *Ibid.*, p. 31.
97. Weisberg, Nicole, "Battle River School Division Brings Back Percentages," CTV Edmonton, March 21, 2014. Available online at <http://edmonton.ctvnews.ca/battle-river-school-division-brings-back-percentages-1.1740203>.
98. Cornet, Derek, "Schools to Implement New Marking System," *Northern Pride*, January 28, 2014. Available online at <http://northernprideml.com/2014/01/28/schools-to-implement-new-marking-system/>.
99. Regina Public Schools, "Supporting Your Child's Learning through Assessment, Evaluation and Reporting: Elementary Progress Reports", September 2012. Available online at <http://jackmackenzie.rbe.sk.ca/sites/mackenzie/files/Supporting%20Your%20Child%27s%20Learning%20Pamphlet%202012%20%283%29.pdf>.
100. Zwaagstra, Michael, "Zero Support for No-zero Policies," Frontier Centre for Public Policy, August 2012, p. 8. Available online at [https://www.fcpp.org/files/5/PS140\\_ZeroSupportID\\_AG20F1.pdf](https://www.fcpp.org/files/5/PS140_ZeroSupportID_AG20F1.pdf).
101. Parrish, Julia, "Edmonton Public School Board Reverses Policy Prohibiting Zeros," CTV Edmonton, April 23, 2013. Available online at <http://edmonton.ctvnews.ca/edmonton-public-school-board-reverses-policy-prohibiting-zeros-1.1251220>.
102. Yeske, Karin, "Arborfield Principal Supports 'No-Zero Policy': Says It Works through Experience," News Talk 650 CKOM, September 6, 2012. Available online at <http://ckom.com/story/arborfield-principal-supports-no-zero-policy/73771>.
103. Yorkton Regional High School, "Principal's Message." Accessed July 14, 2014. Available online at <http://yrhs.gssd.ca/welcome/index.html>.
104. Brookhart, Susan, *Grading*, Upper Saddle River, N.J.: Pearson Education, Inc., 2004, pp. 15-23.
105. Brookhart, op. cit., pp. 9-10.
106. Marzano, Robert J., *Transforming Classroom Grading*, Alexandria: Association for Supervision and Curriculum Development, 2000, pp. 6-8.
107. O'Connor, Ken, *How to Grade for Learning K-12*, Third Edition, Thousand Oaks: Corwin, 2009, pp. 90-109.
108. *Ibid.*
109. Zwaagstra, op. cit., p. 12.
110. Hargreaves, Brian, "Outcomes-based Assessment—What is This?" *Staying Connected*, March 2013, p. 2. Available online at <http://www.saskpublicschools.ca/wp-content/uploads/2013/05/Living-Sky-School-Division-Newsletter-March-2013.pdf>.
111. O'Connor, op. cit., p. 85.

## Further Reading

September 2013

# Differentiated Instruction is an Unproven Fad

Michael Zwaagstra

[http://www.fcpp.org/files/1/PS154\\_UnprovenFad\\_SP03F1.pdf](http://www.fcpp.org/files/1/PS154_UnprovenFad_SP03F1.pdf)

August 2012

# Zero Support for No Zero Policies

Michael Zwaagstra

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