

Briefings

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From the Executive Director

The 2016/17 Federal Budget

A long federal election campaign where the biggest schools policy issue is how much the major parties are prepared to spend on schooling is a depressing prospect and a disservice to the required rigorous and evidence-based debate on the future directions of schooling in Australia.

There is increasing evidence, now almost universally accepted, that Australian schooling outcomes are declining, particularly in relation to other countries¹, yet this is occurring at a time when Federal Government expenditure on schooling has increased substantially and reached record levels.

At worst, it seems simply spending more taxpayer funds on schooling (perhaps we should be looking at policy settings that actually encourage more private investment) could potentially result in just more of the same (declining outcomes).

Expect to hear “it is not how much that is spent on schools that counts, but how the funding is spent” many times throughout the election campaign.

The Federal Coalition’s schools policy *Quality Schools, Quality Outcomes*² released as part of the 2016/17 Budget has a strong focus on reform and ensuring that government funding is utilised to drive improvements in student outcomes. It notes “research shows there is no automatic link between high per student funding and student outcomes, but that improved outcomes are driven by policies and reforms both in the school and in the wider education system” and outlines four principles to underpin future efforts in schooling (see box below).

Quality Schools, Quality Outcomes principles underpinning future efforts

- Focus on what makes the difference
- Support those who need it most
- Ensure students are equipped for a globalised world
- Increase accountability through transparency

(Page 8, *Quality Schools, Quality Outcomes*, May 2016)

Whilst the Australian Labor Party’s (ALP) schools policy *Your Child. Our Future*³ also contains a wide range of reform proposals to be driven at the federal level, it is burdened by a myriad of motherhood statements and hazy goals compared to the Coalition’s more concrete and modest approach. I have written previously about *Your Child. Our Future* – see ISQ Briefings January/February 2016, available at www.isq.qld.edu.au/briefings

Quality Schools, Quality Outcomes also outlines the Coalition’s funding policies which were confirmed in the 2016/17 Budget forward estimates.

¹ See, for example, the recent ACER Report *Five Challenges in Australian School Education* (May 2016) at www.research.acer.edu.au/policyinsights5

² Available at www.education.gov.au/quality-schools-quality-outcomes

³ Available at www.laborsplanforeducation.com.au/labors_plan#focus-on-every-childs-needs

The 2016/17 Federal Budget

In a significant policy change, the Coalition will now index Commonwealth funding for schools post 2017 by 3.56%, based on a combination of the education specific wage price and the consumer price index (CPI).

This replaces the previous policy announced in the 2014/15 Budget that schools funding would be indexed by CPI (the rate of 2.5% was factored into the forward estimates). The independent sector has advocated strongly that CPI indexation was not adequate to match the level of cost increases faced by schools.

This policy change is particularly welcome given the most recent CPI figures from the Australian Bureau of Statistics (ABS). As outlined in *Figure 1*, CPI has dropped below 2% (and in fact was negative in the March 2016 quarter), whilst the education component of the CPI is currently at around 4%.⁴

The new Coalition funding policy will result in an additional \$1.2 billion in schools funding for the calendar years 2018 to 2020.

The 2016/17 Budget figures also show that the funding commitment for school education will grow to a record \$73.6 billion for the period 2016/17 to 2019/20, a 26.5% increase over 2015/16.

As outlined in *Figure 2*, Commonwealth funding for Queensland schools will grow from \$3.3 billion in 2015/16 to \$4.2 billion in 2019/20, an increase of 27%.

The Budget figures clearly debunk the dubious claim about cuts to Australian Government funding for schools. Whilst it is true that Commonwealth funding for schools will increase at a faster rate under the ALP's *Your Child. Our Future* policy, there are no cuts to federal schools funding through this Budget and the forward estimates period.

The other welcoming Budget announcement is an additional \$118.2 million in funding for students with disability in 2016 and 2017. Additional funding for students with disability has been long sought by ISQ and the other education sectors, so this extra commitment by the Federal Government is timely and will significantly benefit schools which continue to struggle with the resourcing required for students with disability.

Figure 1 – CPI Annual Change (Brisbane)

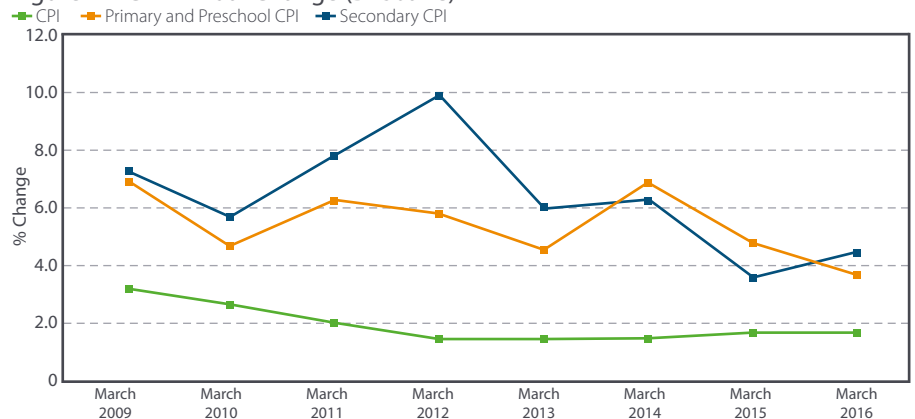
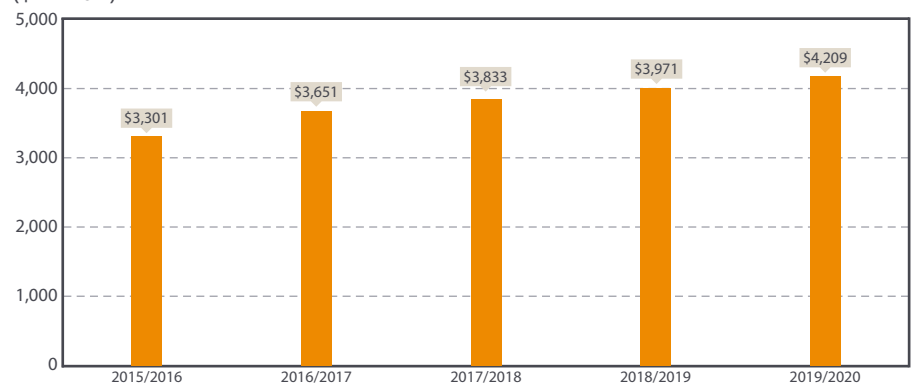


Figure 2 – Australian Government Students First Funding for Queensland (\$million)



⁴ The movement in the Brisbane Primary and Preschool component of the CPI for the 12 months to March 2016 was 3.6% and for the Secondary component 4.3%. CPI figures sourced from ABS.

Whilst the details of how the additional funding for students with disability will be allocated across sectors and schools are yet to be confirmed, it is understood that the Nationally Consistent Collection of Data on School Students with Disability (NCCD) will be used for the first time to determine the allocation of the additional funds.

Also yet to be determined is how the new indexation rate of 3.56% will apply in respect of individual independent school funding. This will clearly be a high priority if the Coalition is re-elected with the Council of Australian Governments having recently decided that the details of the funding distribution model from 2018 will be resolved by early 2017 following consultation with states and territories and the non-government school sector.

A further challenge in terms of implementing the 2016/17 Budget decisions on schools funding is that the current *Australian Education Act 2013* prescribes indexation amounts. The Act is therefore likely to require amendment for the Coalition's policies to be implemented from 2018, should the Coalition win the election. The outcome of the July 2 federal election in terms of Senate composition will be of particular interest in this regard.

Less than two weeks into the eight-week federal election campaign, it is clear that schools policy is a key focus. I can only hope that the debate moves beyond simplistic slogans and an argument about which party is going to spend the most on schooling.

To keep up-to-date with schooling issues during the federal election campaign regularly visit the ISQ federal election webpage at www.isq.qld.edu.au/federal-election

On this site you will find details of the major parties' policies on schools, announcements and links to information on schooling issues. You will also find detailed information on each Queensland federal electorate, including the independent schools in the electorate, participation rates for independent schooling and details of the economic contribution of independent schools to the electorate.



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Online Assessment and its Potential Impact on Student Results

The topic of online assessment is gaining exposure in recent months with the impending implementation of Australia's national assessment, NAPLAN, transitioning to an online environment from 2017. Many educationalists, media outlets and parent groups are voicing concerns over this transition and whether it will impact the results for students and schools across Australia as well as whether external standardised assessments should drive curriculum. In order to address these concerns, a review of Australian and international research will help shed light on whether there is any impact, and if so, how it can be minimised or capitalised on.

Reviewing research on online assessment

Device comparability

One of the major critiques of online assessment is whether specific devices may positively or negatively affect a student's results. With many schools opting for portable devices (particularly in the early years with devices such as iPad, Google Nexus or Samsung Galaxy Tab) to allow for portability, game-based learning and extremely intuitive software, some are now concerned whether this will impact the student's ability to complete the test in a comparable way to another student using a standard laptop or PC.

There is a small number of notable research studies attempting to answer this question: Are devices a variable in student achievement for online assessment?

The U.S. National Council on Measurement in Education (NCME) recently conducted a study comparing the results of 964 high school students in their state-based literacy and numeracy assessments taken on a laptop compared to an additional test on a tablet device. The results found there was no statistical difference in results from one device to another, however, the researchers stressed that familiarity with the device and online assessment was key.

Student familiarity with tablets in an academic context is crucial and tablets are best used as part of a technology rich learning environment throughout the school year (Davis, Kong and McBride, 2015).

Researchers also noted that students commented in their post-test surveys that the tablet device limited the amount of content that could be seen, and extra scrolling was continuously needed to effectively review and answer the questions.

Another study commissioned by Minnesota Department of Education on their state-based online assessments yielded similar results. While most students found the test comparable from laptop to tablet, up to 40 percent responded that the screen size and scrolling made the

questions more difficult to answer (Pearson, 2015).

In Australia, ACARA has undertaken a device effect study that included over 3,500 students which also found that no consistent device effect was recorded (ACARA, 2016a).

What is interesting to note, however, is that all studies mentioned above made comments on minor effects of touch-screen devices, such as loss of screen real estate to pop-up keyboards, inaccuracy of a finger touch compared with a mouse and functionality of accuracy of drag-and-drop items. Each study concluded that these differences would decrease over time with an increase of student familiarity with tablet devices and the continual developments in the sophistication of hardware and software in devices.

Reading digital texts

With comments and issues raised on scrolling and screen size, it is pertinent to specifically review how texts are read on devices. There are many research studies and evidence to suggest that reading behaviours change when reading a text digitally compared to reading the same text on paper. The research studies conclude that devices encourage behaviours of skimming and a decrease in time spent on deep engagement with text (Liu, 2005; Cull, 2011; Ackerman and Goldsmith, 2011; Taylor, 2011).

With an increasing amount of time spent reading electronic documents, a screen-based reading behaviour is emerging. The screen-based reading behaviour is characterised by more time spent on browsing and scanning, keyword spotting, one-time reading, non-linear reading, and reading more selectively, while less time is spent on in-depth reading, and concentrated reading (Liu, 2005).

To support critical reading skill development, Cull (2011) identifies the need for teaching transferable critical reading skills and highlights that deep reading is a very time-dependent and a cognitively intense activity where students need ample time and space to engage in such learning, whether online or in print.

Supporting these findings is research by Coiro and Dobler (2007) who studied successful readers with high reading grades and high proficiency in navigating online environments. They found that the most successful strategies they used when reading digital texts were identical to traditional reading comprehension strategies for print texts, including “accessing prior knowledge, inferential reasoning and self-regulation (p.241)”.

They did note, however, that it is these skills that are often less evident in poor readers. They suggested that explicit instruction and time to develop online reading skills should be included as part of the suite of

texts students are exposed to during their schooling years.

Use of technology and technology integration

Perhaps the most compelling and largest studies in online assessment were those of the Smarter Balanced Assessment Consortium (SBAC) who conducted an online field test to 4.2 million students in 16,549 schools across many states in America (SBAC, 2014; SBAC, 2015). From this, an additional online survey was delivered to a sample of almost 20,000 students to review their online assessment experience. They found a significant variance in students’ motivation and perceptions on the test items based on whether they felt the test functionality and its content was aligned to what they had learnt in class. Those who recorded a strong alignment to classroom practice and assessment also stated that the test was easy or standard; whereas those who claimed the test did not reflect classroom practice, also stated that the test was difficult to challenging. They found that the test functionality online added to this difficulty of answering questions as they were not familiar with using the functionality to answer a question.

Use of technology for writing tasks

Further to device effect and familiarity, the U.S. Department of Education completed a study in 2012 to test the effect

of a 30-minute writing task on a laptop compared to pen and paper. Initially, the results seemed positive. Of the 10,400 students tested, students were adequately able to complete the task and most students found the difficulty level comparable whether on paper or device.

However, a deeper analysis of results found that high-performing students performed substantially better when tested on a device compared with paper (Barshay, 2016). In contrast to this, low-performing students “crafted better sentences using pencil and paper than they did using the computer (p.2, Barshay, 2016)”. They suggested that this could be due to a larger cognitive load for low-achieving students that is being exacerbated by finding the right keys to press or understanding how to use editing tools, compared to paper where their writing ideas can be maintained in their short-term memory for longer.

The study also found that for every student who had either:

- frequent use of devices
- frequent use of writing using a keyboard; or
- exposure to previous online assessment

all performed better in the test than those who had little or no exposure to the above elements. Further to this, high-performing students were able to produce up to 179 words for their writing task, three times the amount that low-performing students produced (White et. al, 2015).

Online Assessment and its Potential Impact on Student Results

Steve Graham, a professor at Arizona State University, reflecting on the report stated that “your familiarity with a tool makes a difference”. He expands on this to highlight that a device is ultimately a superior tool to write with as it makes it easier for the writer to move around, edit or delete words and sentences within the text. The study showed that the high-performing students were able to type at an average speed of 25 words per minute, much faster than many of them were able to write with a pencil.

What can be learned from these studies?

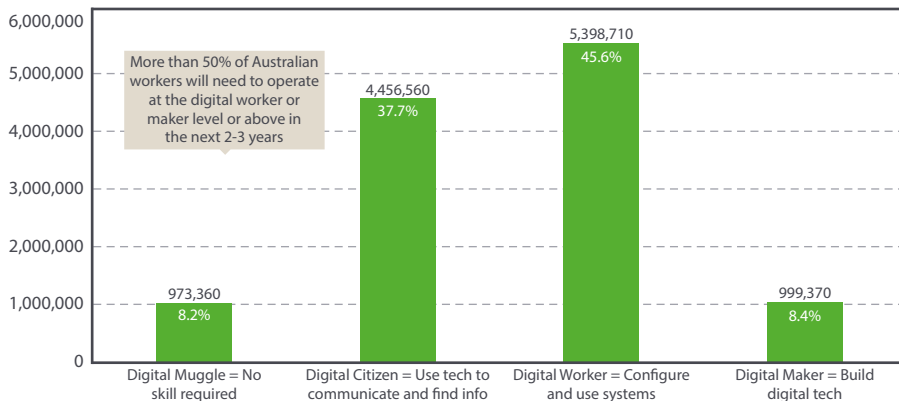
More than digital citizens

Instead of focussing on NAPLAN online achievement as a goal, schools can take a more holistic view on technology integration to best prepare students for the future.

A fundamental question to ask is: How do we best integrate technology so it prepares students for the future, enhances their learning experiences and supports them to achieve greater results in assessments?

There is already a vast array of research, trends and predictable growth patterns to show that digital skills will be vital to students’ future success when entering the workforce, including the Foundation for Young Australians report (2015) indicating that over 50 percent of all jobs require significant digital skills (see *Figure 1*).

Figure 1: Australia’s labour force has high digital literacy needs in the next 2–5 years (# of employed persons, Australia)



Source: ABS, UK digital taskforce, alphabeta analysis, cited in Foundation for Young Australians (2015)

No longer are students only needing skills to be digital citizens, but they can also be digital creators and innovators driving our future economy.

The largest study conducted by SBAC mentioned above highlighted a list of lessons learnt from the research including:

- Teachers should introduce typing at an early age as part of a reading and writing program.
- Intentional instruction and practice on digital knowledge or skills are required for completing tasks or assessment (SBAC, 2015).

Both of these learnings have strong links to the report by the Foundation for Young Australians (2015) in creating a digitally rich curriculum that intertwines digital literacy to form part of everyday work and lessons in classrooms.

For example, as highlighted earlier in *Reading digital texts*, the skills required for deep reading in paper and digital texts have been shown to be the same, therefore, it is up to the teacher to incorporate both modes into the learning suite on a regular basis. Learning about and practicing deep reading can be incorporated into both paper and various types of digital texts to enhance student learning and engagement in reading and comprehension practices.

What the Australian Curriculum tells us

The Australian Curriculum already contains many connections to digital literacy, digital skills and utilising devices across all learning areas. The general capabilities provide an overarching view of the knowledge and skills required to be successful learners and part of the digitally rich environment in which they live as demonstrated by the inclusion of Information and Communication Technologies as one of the seven general capabilities:

In the Australian Curriculum, students develop Information and Communication Technology (ICT) capability as they learn to use ICT effectively and appropriately to access, create and communicate information and ideas, solve problems and work collaboratively in all learning areas at school and in their lives beyond school. ICT capability involves students learning to make the most of the digital technologies available to them, adapting to new ways of doing things as technologies evolve and limiting the risks to themselves and others in a digital environment (ACARA, 2016b).

As well as these skills and their obvious application across all learning areas, specific attention is consistently found within each discreet learning area. Most notably, the digital technologies subject, within the technologies learning area, covers learnings from Foundation to Year 12, with a strong focus on digital systems and management of risk (for self and others).

Further to this, digital creation, collaboration and interaction are described in other subject areas, from early years through to Year 12. For example, the first year of schooling, Foundation, contains multiple references to digital texts in the English curriculum (ACARA, 2016c):

- **Year level description:** They listen to, read and view spoken, written and multimodal texts in which the primary purpose is to entertain, as well as some texts designed to inform.
- **Content descriptor – text structure:** Understand concepts about print and screen, including how books, film and simple digital texts work, and know some

features of print, for example, directionality.

- **Content descriptor – constructing texts:** Construct texts using software including word processing programs.

There are also clear links across the curriculum in how software and devices can be used to enhance the learning and opportunity within the curriculum. For example, the Foundation Humanities and Social Sciences (HASS) curriculum states (ACARA, 20016d):

- **Year level description:** They may also study places of similar size that are familiar to them or that they are curious about, coming to see how people feel about and look after places.
- **Content descriptor – Geography:** The places people live in and belong to, their familiar features and why they are important to people.

Content such as these could be taught and assessed using digital technologies as part of a balanced approach to curriculum content, capabilities and skills.

Keyboarding skills

With the above descriptions of the Australian Curriculum alongside the research noted on keyboard fluency impacting writing task achievement, keyboarding for students could be considered for younger students in order to prepare them for a digital world.

There is a large amount of research and an availability of software programs to help teach keyboarding in order for students to effectively learn touch-typing skills. The learning process of keyboarding is similar to early years of learning to

read and write by developing phonological awareness as one of the cueing systems for reading and writing. For example, developmental use of digraphs to teach syllable formations of words directly links to how keyboarding fluency is also best taught.

...mastering digraphs (two-letter combinations) is the key to maximum typing speed and accuracy. This aligns with earlier research showing that expert typists were greatly facilitated when typing text that contained “frequent letter combinations or common words”. For example, the common word “me” can be considered two single letters, “m” and “e”. The keyboarder must read the letter “m”, identify that the right index finger must be used to type the “m”, and then send the command to the finger to type it. The same process is used to type the “e” using the left middle finger. If, however, the word “me” is considered a single unit that requires using the right index and left middle fingers, then the processing time to type it is reduced. This process of “chunking” letter combinations together works well with blends like “th” or “at” as well. As a student becomes more proficient in keyboarding, the task becomes one of keying letter groups rather than single letters and the processing time is thereby dramatically shortened. This means that keyboarding mastery will be augmented when digraphs, frequent letter combinations, and common words are taught to students as units. This decreases response time and improves keyboarding speed (Zeitz, 2005).

Online Assessment and its Potential Impact on Student Results

It is these techniques that are making a stronger argument for teaching keyboarding skills alongside the teaching of reading and writing in the early years. By doing this, similar to teachers instructing students on how to hold a pencil, the keyboard-finger combinations also help students learn to write more fluently and efficiently as they develop their vocabulary and overall development of writing texts.

Keyboarding experts tend to agree that keyboarding skills should be taught before students begin to do a large amount of writing on the computer so that typed work may be done more efficiently, so that students do not adopt improper “hunt-and-peck” typing techniques (Alaska Department of Education, 1991; Gillmon, 1991; Prigge & Braathen, 1993; Wetzel, 1985) which are difficult to overcome (Stewart & Jones, 1983) and limit keyboarding proficiency (Gillmon, 1991), and because students who are not competent typists tend to ignore the task at hand and concentrate on learning the keyboard and word-processing program instead (Renaissance Learning, 2007).

A balanced, but informed approach

From the research of online assessment and various modes of digital inclusion, many schools are now reviewing their digital learning story to ensure it covers all years of schooling. Devices can be used to better enhance learning experiences and give various modes for students to collaborate, construct and present those learnings in a meaningful way. The compounding research on digital inclusion being pertinent for school curriculums is mounting and with Australia’s national assessment moving online, it will be essential for schools to embrace the digital age in a holistic way in everyday classrooms to prepare students for the digital world that already exists.

Extra information

Independent Schools Queensland (ISQ) is working with other sectors and jurisdictions across Australia in the development and review of NAPLAN Online as well as playing a key advocacy role for independent schools.

To keep up-to-date with the latest developments, school resources and information on NAPLAN Online, ISQ member schools can access the ‘NAP and NAPLAN Online’ community in Connect&Learn: www.isqconnectandlearn.qld.edu.au



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References

- Australian Curriculum, Assessment and Reporting Authority (ACARA) (2016a). *Research and development – NAPLAN Online*. <http://www.nap.edu.au/online-assessment/research-and-development/research-and-development.html> [accessed 20 April 2016]
- Australian Curriculum, Assessment and Reporting Authority (ACARA) (2016b). *Information and communication technology (ICT) capability*. <http://www.australiancurriculum.edu.au/generalcapabilities/information-and-communication-technology-capability/introduction/introduction> [accessed 20 April 2016]
- Australian Curriculum, Assessment and Reporting Authority (ACARA) (2016c). *English*. <http://www.australiancurriculum.edu.au/english/curriculum/f-10?layout=1> [accessed 20 April 2016]
- Australian Curriculum, Assessment and Reporting Authority (ACARA) (2016d). *F-6/7 HASS*. <http://www.australiancurriculum.edu.au/humanities-and-social-sciences/hass/curriculum/f-10?layout=1#page=2> [accessed 20 April 2016]
- Ackerman, R. & Goldsmith, M. (2011) Metacognitive regulation of text learning: On screen versus on paper. *Journal of Experimental Psychology: Applied*. Vol 17(1), 18–32.
- Barshay, J. (2016). Using computers widens the achievement gap in writing, a federal study finds. <http://hechingerreport.org/online-writing-tests-widen-achievement-gap/> [accessed 21 April 2016]
- Coiro, J., & Dobler, E. (2007). Exploring the online reading comprehension strategies used by 6th grade skilled readers to search for and locate information on the Internet. *Reading Research Quarterly*. 42(2), 214–257.
- Cull, B. (2011) Reading revolutions: Online digital text and implications for reading in academe. *First Monday, peer-reviewed internet journal*. Vol. 16, no. 6.

Davis, L., Kong, X. & McBride, Y. (2015). *Device comparability of tablets and computers for assessment purposes*. Pearson: Chicago.

Foundation for Young Australians (2015). *The new work order: Ensuring young Australians have skills and experience for the jobs of the future, not the past*. AlphaBeta: Sydney.

Pearson (2015). *Minnesota tablet usability study report* (May 2015). Pearson, Minnesota.

Renaissance Learning (2007). *Keyboarding: An Essential Skill for the 21st Century*. Renaissance Learning Inc.: Wisconsin.

Smarter Balanced Assessment Consortium (SBAC) (2014). *Smarter balanced: 'tests of the tests' successful: field test provides clear path forward*. SBAC: University of Southern California.

Smarter Balanced Assessment Consortium (SBAC) (2015). *Smarter balanced assessment consortium: 2013-14 technical report*. SBAC: University of Southern California.

Taylor, A. (2011). Students Learn Equally Well from Digital as From Paperbound Texts. *Teaching of Psychology*. Vol. 38, no. 4, 278–281.

White, S., Kim, Y., Chen, J. & Liu, F. (2015). *Performance of fourth-grade students in the 2012 NAEP computer-based writing pilot assessment*. National Center for Educational Statistics: Washington, DC.

Zeitz, L. (2005). *Keyboarding made simple: Learn the best techniques for keyboarding like a pro*. New York: Broadway Books.

Ziming, L., (2005). Reading behavior in the digital environment: Changes in reading behavior over the past ten years. *Journal of Documentation*. Vol. 61, iss. 6, 700–712.

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