



OneNote Learning Tools

Opaheke School



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Introduction

Background

The idea behind this project was to see if using OneNote Learning Tools would help to support the students within my class with their writing. The project took place in a Year 4 class at a decile four school in Auckland. The project team included myself and the school's Associate Principal as the person who marked the work to reduce any bias. As I am a Microsoft Innovative Educator – Expert, I am constantly looking for new and innovative ways to incorporate digital technologies into the classroom, to support learning with a focus on the tool suiting the purpose.

Objectives/Inquiry questions

The intended outcome of this project was to inquire into whether OneNote Learning tools could be used to help remove barriers to the learning of students with learning needs, ESOL students as well as the target students within the classroom that are below National Standards. We also wanted to see whether using OneNote Learning tools would be an effective tool in supporting students writing in the classroom.

Background reading/Literature review

As this is a relatively new tool released in 2015, there is very little research or background reading available. From what I had read in articles about this product I considered that this tool could be used to help in reading and writing in many ways. It was originally made with dyslexic students in mind to remove overcrowding from reading. It has a dictate tool that allows someone to speak into a microphone to record writing. The purpose that I chose to use it for was to help children with the editing process of their writing. So, when writing was completed the students printed out their work then went into the immersive reader to listen to the text they had written.

The [Verge article \(dated 30 August 2016\)](#) introduces the learning tools as something that will be helpful for people with dyslexia. It reduces visual crowding, however this has not been formally studied and that there is more research in this area to be done. This article was just an introduction to the tools and announcing their release.

The [Dyslexic Advantage article \(19 January 2016\)](#) is about Microsoft OneNote with Learning Tools as a top dyslexia app in 2016.

In this article the key points discussed are that these tools were designed with adults and children with dyslexia in mind, and the key highlights of the tool. It describes the different aspects of the tool and how these aspects are helpful for students who have dyslexia. This is a very short article that is clearly identifying the fact that this tool is free therefore more widely accessible to those with dyslexia.

Most of the current reading material is based around the introduction of the tool rather than any research around how effective the OneNote Learning tools are in supporting and improving reading and writing within the classroom setting.

Assumptions/theories/definitions

I thought this tool was going to help my low-level writers. The original purpose was to have students dictate their writing as this would remove some of the physical issues of transcribing their words down on a page. This however was not plausible as the dictate mode did not pick up the New Zealand accent as well as I had hoped. I then had to rethink how to use this to benefit the children in my classroom. I believe that as education is changing, we as teachers need to focus on different ways of engaging our students to learn core subjects, but also being able to access tools that will support them.

The differentiation that these tools allow in the classroom can be used in many ways. I am aware that all children do not learn in the same way, and teachers need to have a variety of tools to support this. It is also important that a variety of assessment is used to measure achievement from formal to informal so that an accurate picture of knowledge is gained. Even though in this report I have used quantitative data to reflect measurable results, I have also included some student voice in relation to the use of this tool.

Methodology & Design

Methodology

The approach taken in this inquiry was quantitative, by using the e-AsTTle writing assessment to collect the data required. Also included is some student voice to reflect engagement.

Project Design

In September 2016, I set up this inquiry by collecting the base line data 'time 1' by having the students complete the writing e-AsTTle on paper. I used a core group of 21 Year 4 students aged between 8 and 9 in a decile 4 school. The prompt given was a narrative 'I heard a whisper, but no-one was there.' The children completed the writing within the 40-minute timeframe and their work was collected by the Assistant Principal to be marked.

Over a period of five weeks, I implemented the use of the learning tools into my classroom as an everyday tool to assist the children with their writing. OneNote learning tools were used in a variety of ways through reading, writing and the students own inquiries. We continued to use the Learning Tools and investigated different ways that we could use the Learning Tools to support us in our writing.

We tried to use the dictate mode which unfortunately does not recognise the New Zealand accent with enough accuracy for it to be a successful tool to use (this has been brought to the attention of the OneNote development team and they are working towards a viable solution). The students were required to use the OneNote Learning tools as part of their everyday writing. The students would not only write in OneNote they would then listen to their work using the immersive reader, and then make edits. They were also required to have a peer listen and comment on their writing.

We would have a weekly learning focus for the students to give them one or two aspects of their writing to focus on when editing. We then decided that the immersive reader could also be used to support our writers as they could write on OneNote and then use the immersive reader in the Learning Tools to listen to what they have written. This would then enable them to hear parts of their writing that did not make sense, spelling errors if they were not homonyms and lack of punctuation. Towards the end of the year, the students then sat another e-AsTTle paper based writing test as per the administration guidelines. Again, we used a narrative prompt 'The day things started disappearing'.

After collecting the data from time 1 and time 2, we realised that the way in which we tested the children only reflected the results of the test, rather than if the Learning Tools had made any effect. It was clear in these results that we had not used the OneNote Learning tools in any way to support the students as they were testing. I had to then consider the viability of the data as a reflection of the tool we were supposedly testing. Therefore, it was decided to repeat the project as above with a different cohort as the original cohort had moved into different classes. The new cohort of children consisted of 21 year 4 children aged between 8 and 9 in a decile 4 school. This testing was also completed in the first two terms of 2017.

I followed as best as possible the same method for teaching the use of the tool within the classroom and using it as a daily aspect of the writing programme. The changes made for time 3 and time 4, were in time 3 the children completed the test by typing directly into OneNote however the administration guidelines for e-AsTTle were still followed. In time 4 we

made a slight change where the students stopped writing after 25 mins then printed their work and used the immersive reader to listen to what they had written and as they were listening the children made changes on the print out and then directly into OneNote again.

Data Generation/Collection

As the classroom teacher, I set the writing test on e-AsTTle for the students. On all occasions this was set as per the guidelines set on e-AsTTle. The method of testing was thought not to be reflecting the OneNote Learning Tools rather e-AsTTle in the time 1 and 2 data. As a result, I adapted the test within the parameters of e-AsTTle as best as I could, and the students completed the writing on OneNote. On the third occasion this was completed within the set timeframe with no time allowed to use the Learning Tools in the editing process. On the fourth occasion the students were given 15 minutes to complete the editing process using the Immersive reader on OneNote Learning Tools

Data Analysis

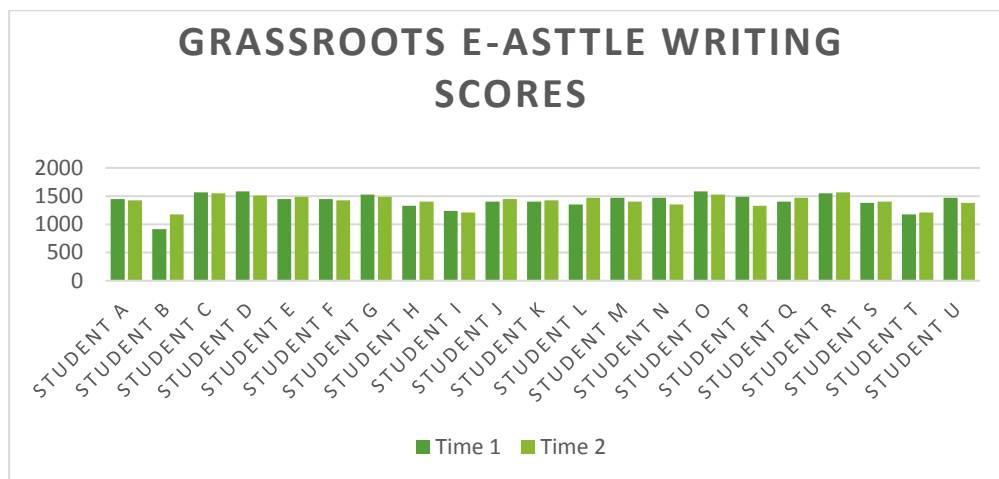
For our data analysis we used effect sizes to see if there was any shift in the students' progress. The e-AsTTle writing assessment tool was used to collect the data to be marked and analysed. For the time 1 and 2 data collection the test was completed as per the administration guidelines by e-AsTTle. For time 3 and 4, the students completed the writing within OneNote. For time 3 there was no opportunity for the students to use the learning tools to help them with their writing¹. For time 4, the students were given 10 minutes time to use the learning tools to help them edit their work. This was done by stopping the test printing out the writing and then the students went back into the immersive reader to listen to their work. They then made any changes on the printout, then on OneNote. When each test was completed, the Assistant Principal took the writing samples away and marked them against the e-AsTTle marking rubric and entered the scores in the marking section. Then in Excel, the e-AsTTle writing score was entered and the formula's set up to calculate the effect size.

The interpretation of the effect sizes was made by considering this following statement from John Hattie:

"Within a year, it is expected that the progress should be 0.40." Visible Learning for Teachers, Maximizing Impact on Learning – John Hattie 2012 by Routledge 2, New York

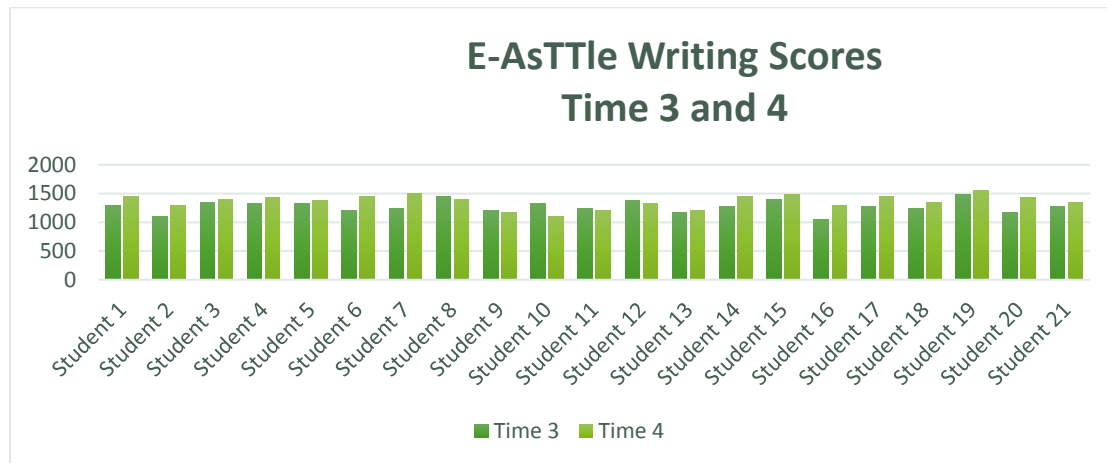
¹ See Appendix A

Findings



	Time 1	Time 2	Individual Effect Size
Student a	1447	1426	-0.159378381
Student b	913	1176	1.996024482
Student c	1565	1547	-0.136610041
Student d	1583	1510	-0.554029609
Student e	1447	1490	0.326346208
Student f	1447	1426	-0.159378381
Student g	1528	1490	-0.288398975
Student h	1327	1402	0.569208503
Student i	1240	1209	-0.235272848
Student j	1402	1448	0.349114548
Student k	1402	1426	0.182146721
Student l	1353	1469	0.880375817
Student m	1469	1403	-0.500903482
Student n	1469	1353	-0.880375817
Student o	1583	1529	-0.409830122
Student p	1489	1327	-1.229490365
Student q	1402	1469	0.508492929
Student r	1547	1566	0.144199487
Student s	1378	1403	0.189736168
Student t	1175	1209	0.258041188
Student u	1469	1378	-0.69063965
Average	1411.19	1412.19	
Spread	154.891	108.633	
Average Spread		131.762	
Effect Size		0.00759	

The overall class effect size was 0.007589. The data on the previous page shows that 11 of the 21 students tested gained a negative effect size with the lowest effect size score being -1.22. Only four of the 21 students gained an effect size greater than 0.4 the highest of these being 1.99. The remaining six students gained a positive effect size gain however this was below the 0.4 growth mark.



	Time 3	Time 4	Individual Effect Size
Student 1	1300	1447	1.306256092
Student 2	1099	1299	1.777219173
Student 3	1353	1402	0.435418697
Student 4	1327	1425	0.870837395
Student 5	1327	1378	0.453190889
Student 6	1209	1447	2.114890816
Student 7	1241	1509	2.381473692
Student 8	1448	1402	-0.40876041
Student 9	1209	1175	-0.302127259
Student 10	1327	1098	-2.034915954
Student 11	1241	1209	-0.284355068
Student 12	1378	1327	-0.453190889
Student 13	1176	1209	0.293241164
Student 14	1271	1447	1.563952873
Student 15	1403	1489	0.764204245
Student 16	1043	1299	2.274840542
Student 17	1271	1447	1.563952873
Student 18	1241	1353	0.995242737
Student 19	1490	1547	0.506507464
Student 20	1176	1425	2.212637871
Student 21	1271	1353	0.728659861
Average	1276.238	1366.048	
Spread	108.2972	116.7735	
Average Spread		112.5354	
Effect Size		0.798056	

The overall class effect size was 0.798056. The data on the previous page shows that five of the 21 students tested gained a negative effect size with the lowest effect size score being -2.03. 15 of the 21 students gained an effect size greater than 0.4 the highest of these being 2.38. The remaining student gained a positive effect size gain however this was below the 0.4 growth mark.

Below are comments made about the OneNote Learning Tools using the Microsoft Forms Survey Tool. The responses are edited for grammar and unnamed for confidentiality purposes.

Question One:

How does the OneNote Learning Tools help you with writing?

- When I use the learning I can hear my mistakes and when I find these mistakes I change them.
- Yes Immersive reader helps me by reading my story to me so I can fix the mistakes.
- Immersive reader helps me write because it finds mistakes for me.
- It helps your writing, because I can use immersive reader which helps me understand what I have written.
- It helps me with my writing by letting me listen to what I wrote and I can find all the mistakes.
- Learning tools can help your writing by reading your work and say the word. There is a book in the top right that can show what which words are verbs, syllables, nouns, conjunctions, adjectives and comprehension.

Question Two:

Do you think the OneNote Learning Tools is helpful? Why?

- Yes because it can help you with finding the mistakes in your story.
- I think that Learning Tools are very helpful because without it we might think that some words are different than they look.
- It is really helpful so I am glad we can use it.
- Yes because it helps you in learning.
- Yes, it helps you to find mistakes and it helps you with reading, writing and other stuff.
- It helps me because I can hear the mistakes that I make with immersive reader

These comments reflect the positive effect that the children felt the OneNote Learning tools had on their learning. It also specifically states how they OneNote Learning tools were used by them in their learning.

Discussion

The method of testing was thought not to be reflecting the tool e-AsTTle being assessed rather than the learning tools. The first collection of data showed little or no progress at all. As a result, I adapted the test within the parameters of e-AsTTle as best as I could, and the students completed the writing on OneNote.

On the third occasion this was completed within the set timeframe with no time allowed to use the Learning Tools in the editing process. On the fourth occasion the students were given 15 minutes to complete the editing process using the Immersive reader on OneNote Learning Tools.

By doing the testing this way I felt that there was a greater reflection of the tools influence on the testing. This is reflected in the greater difference in the total effect size of the whole group of children 0.00759 in the first set of testing (well below the expected effect size for achievement) to 0.798056 in the second cohort of students. Unfortunately, this data is flawed given the fact that it reflects two different groups of students so is not an accurate reflection of the results. If repeated in the future it would be interesting to see if the data would be similar across another group of children.

Limitations

- Dictate tool does not record the NZ accent very well this then lead me in a different direction with my inquiry.
- Ensuring when collecting assessment data that we test what we want to test i.e.in this case testing the OneNote Learning Tools.
- Using a small sample size this may not show a clear reflection of what the tool was capable of.
- The limited timeframe with the first set of children (less than 6 months).
- Only one small group tested, it may have been beneficial to see results across several classes.
- Students' confidence with using a computer to write (typing ability). This made writing on the computer slow and when the students were writing their stories on OneNote this limited them.
- The relative newness of the OneNote Learnings Tools. This was something I was unfamiliar with and was learning alongside the students while teaching them how to use it as well.
- The skewed results due to the two different cohorts of students. This made the data unreliable.
- Completing a research report as this is a new process for me. So, I was unsure of what I was doing and if I was doing it the right way what information should be included.
- Time management and organising myself to complete tasks within a set timeframe. As being a fulltime classroom teacher sometimes this Grassroots project got pushed back as I had other things to complete sooner.

Implications/Recommendations

From the findings, I believe that the OneNote Learning tools can be used in ways that benefit students writing. It is, however, not a tool that can be used easily for testing purposes due to the way the testing is administered.

I would recommend that they are used as a support within the writing process, particularly to help students with the editing process throughout their writing. It would be beneficial if the dictate tool is at some stage in the future able to record a wider variety of accents as this part of the Learning Tools will be of great value.

As the OneNote Learning tools are now multi-platform, this is a tool that can be used in any classroom to support our learners. This tool has potential use in a variety of curriculum areas including math for reading word problems. I believe that it is important to look further into the tool and how it can be used in a variety of classrooms.

More accurate research may need to be completed to reflect the true capabilities of the OneNote Learning tools and other ways in which they can be used to support a differentiated learning environment.

Conclusion/Additional comments

Throughout this process I have been aware of the short time frame to implement this tool in class and develop its use. I would be keen to run the project for a full year with a control group or control data (not sure how this would look) so I have more robust data to show whether this tool is as effective as I think it could be.

I would also like to get the students more confident with using the dictate tool to write as now they speak rather quietly and at times they cannot be heard by the tool and it also mishears what they say, the key thing with this aspect of the tool is to speak clearly.

Although this project has been a challenge for me, I have discovered that when using tools in the classroom, it is beneficial to identify the weaknesses as well as the strengths. The OneNote learning tools has potential within a classroom but needs to be adapted to suit the needs of the children using it from which ever part of the world they come from.

References

<https://www.dyslexicadvantage.org/top-dyslexia-apps-2016-microsoft-one-note-with-learning-tools/>

<https://www.theverge.com/2016/1/19/10786250/microsoft-learning-tools-beta-onenote-reading-dyslexia>

Appendix A



Administration guidelines and instructions for e-asTTle writing

Points to note:

- Prior to administering this paper test, familiarise yourself with the prompt, the marking rubric, the annotated exemplars, and the teacher script below.
- Some students (e.g., students with identified learning needs) may require more time or some other consideration.
- Students **cannot** use alphabet cards, word cards, dictionaries, thesauruses or other spelling aids, as spelling and vocabulary are two of the elements students are assessed on.
- Refer to *The e-asTTle Writing Manual* for detailed guidance regarding the use of e-asTTle writing. The manual can be found at <http://e-asTTle.tki.org.nz>

Teacher script and instructions

Introduce the test

Use the following verbal instructions as a guide. Younger students may require more time to understand the instructions and feel at ease with the process.

SAY: Today you are going to do a writing task in a booklet that I will hand out. In the booklet you will be told what to write about. Please try your best. Please do not open the booklet or start writing until I tell you.

Hand out a writing booklet to each student.

Complete the front cover page

Ask students to fill in the required information on the front cover of their booklets (name, school, etc.). Please give help or answer questions as necessary. For younger students it might be helpful if you fill in some of this information prior to the testing session.

Read the prompt

Have the students turn to the prompt in the booklet.

SAY: Look at what you will write about – the prompt. Read the prompt with me as I read it to you. There are some points listed on this page that will help you. I will read the whole page first, then I will go back over it to explain anything that you are unsure about.

Read the prompt to the students. You may need to reword or clarify the prompt.

Discuss the prompt

Take up to five minutes to discuss the prompt with the students. However, **no** written record of the discussion is to be made for the students to refer to. Use this time to ensure students understand what is expected, to support them to begin to think of their own ideas, and to ensure they can come up with concrete examples for abstract words used in some prompts, such as "community" or "special".

SAY: You now have 40 minutes to plan and write about this prompt in your writing booklet. If you finish early, please go back and check your writing. It is OK to edit as you go along or at the end, or both. You might like to use the blank page at the front of your booklet to plan.

Start now.



Make sure that all the students have started the assessment. Younger students could use every second line to write on if this is their usual classroom practice or if they need more space.

Complete the assessment

Students have up to 40 minutes to complete their piece of writing. If all students finish early then draw the session to a close. Move around the room to observe how students are coping and answer questions as necessary. If any student appears distressed, use your judgement as to whether they should continue. If students require extra pages, provide these and staple them onto their booklet. Please tell students when they are half way through the allocated time and when there are five minutes left to write. When 40 minutes are up, ask students to stop writing. Collect all the writing booklets.

Score the assessment

The assessment is scored using the marking rubric and annotated exemplars provided. Please refer to *The e-asTTle Writing Manual* for detailed instructions on how to score a completed assessment.