



How does online learning impact results in national assessments?

National Efficacy Study

Report compiled from analysis of the 2015 New Zealand Qualifications Authority's National Pilot Online Assessments Program.

How does online learning through Education Perfect impact results in national assessments?

Data from the three 2015 NZQA National Online Pilot Assessments in Maths, Science and French.

It generally goes without saying that if a student learns course material they'll perform better in assessments. Below are grade distributions for students that participated in the three NZQA National Pilot Assessments run in 2015 for Maths (11,753 students), Science (5,073 students) and French (906 students).

These graphs look at the relationship between varying amounts of Education Perfect learning material that students completed before the assessment, and a corresponding view of their results in the NZQA National Pilot Assessments.

It is important to recognise that there are many factors that influence students' performance in assessments. These include familiarity with interfaces, student motivation, and other factors. This report presents the correlation between more learning completed, and varying levels of achievement. More research will be needed to draw any conclusions.

This data has been released with the permission of NZQA. For more information about Education Perfect, please contact Tim Vaughan - tim.vaughan@educationperfect.com.

Education Perfect has no commitment, at this stage, to be involved with the NZQA Digital Pilot Programme beyond 2015. The three pilots will be reviewed and decisions will be made towards the end of 2015. Even if Education Perfect were to be involved further in the NZQA Pilot Online Assessments, schools would not need to purchase a login to Education Perfect to sit the NZQA National Pilot Assessments online.

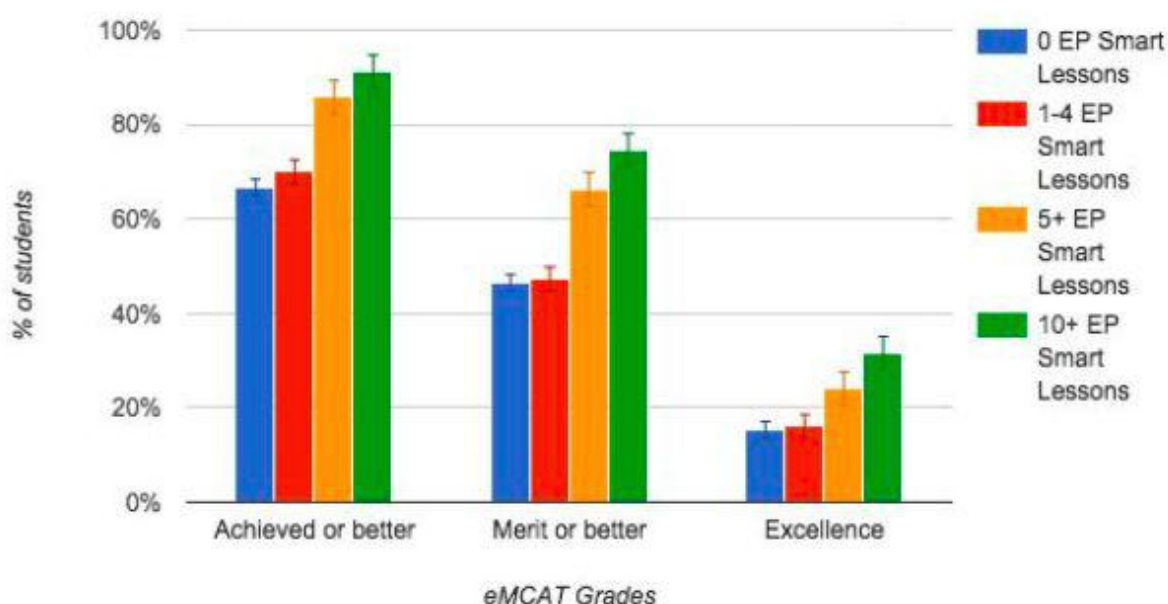
Education Perfect (EP) staff involved in building EP Learning Material (Smart Lessons) did not have access to the assessments before it was released to schools. The assessments were created, written and marked by NZQA, and /or contracted markers normally subject specialist school teachers.

The Online Practice Exams completed for this pilot were not subject to the same levels of quality assurance that would be applied to external examinations. Therefore the data presented in these graphs is raw data that has not been moderated and has not been subject to the usual quality assurance checks carried out by NZQA.

Year 11 Maths Common Assessment Task (eMCAT)

Data from 11,053 students across 146 schools

eMCAT grades relative to the amount of learning material completed on Education Perfect. These are represented in the number of lessons completed



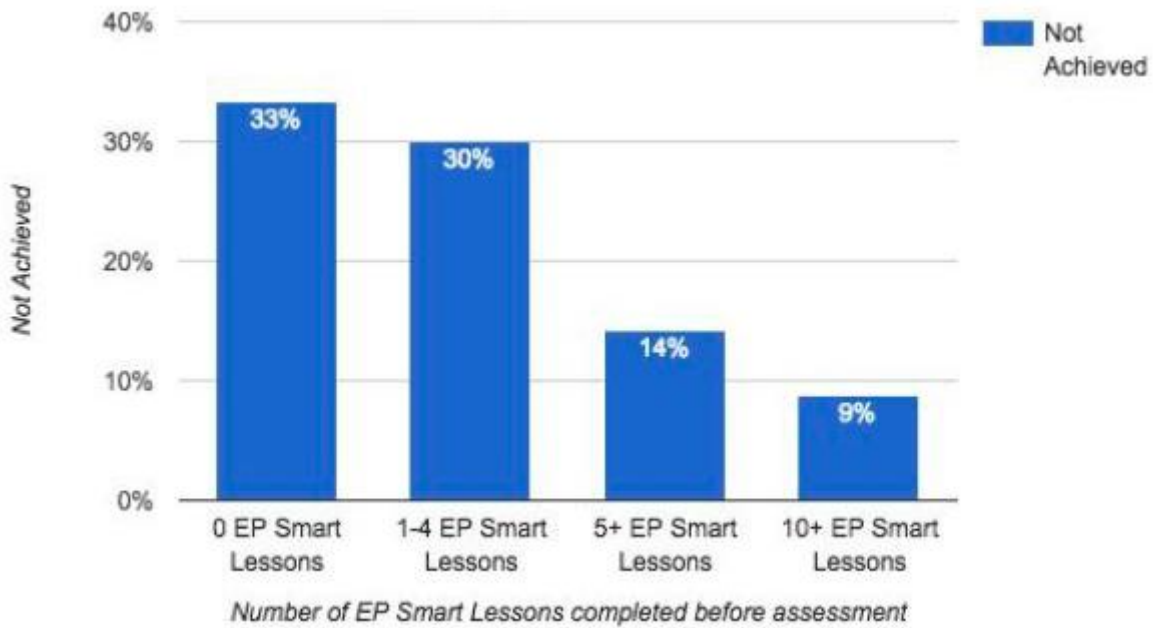
The Online Assessment: eMCAT Electronic Maths Common Assessment Task. A Year 11 (NCEA Level 1) Assessment in which students are required to demonstrate an understanding of algebraic concepts (using multistep working). This assessment was created, written and marked by NZQA.

Achieved or better refers to students that earned Achieved, Merit or Excellence. Merit or better refers to students that earned Merit or Excellence.

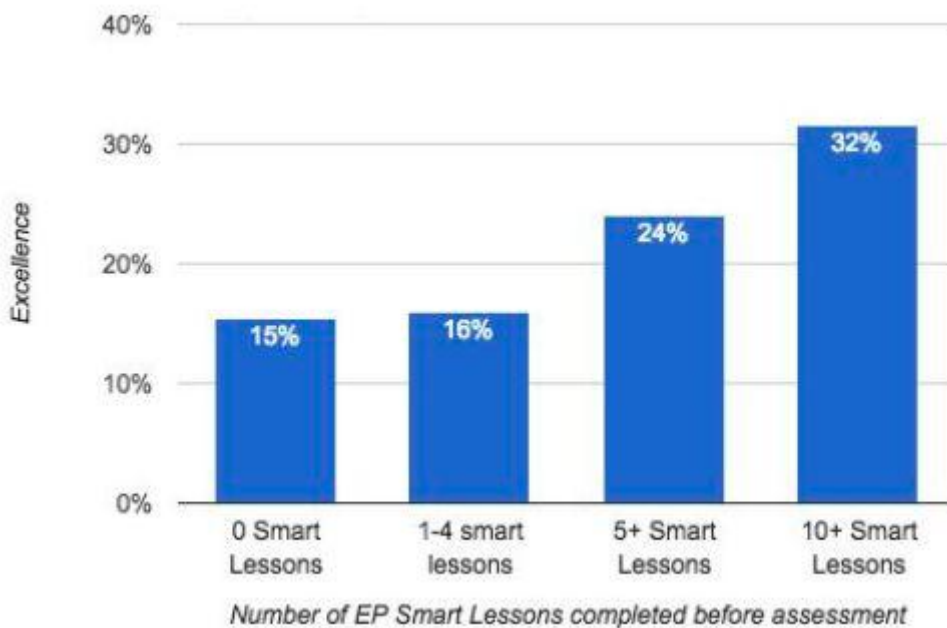
Education Perfect Learning Material used by students in preparation for the assessment. All students that sat the eMCAT were given free access to Education Perfect’s learning material for a number of weeks leading up to the assessment. Some students/schools used the learning material extensively, others did not. This usage is represented in the number of EP Smart Lessons completed by a student (Each EP Smart Lesson covers one topic that may be tested in the assessment). An EP Smart Lesson scaffolds a student's learning through a specific concept, starting with core skills and guiding them up to higher order skills.



Percentage of students with 'Not Achieved' in eMCAT, relative to the number of Education Perfect Smart Lessons completed prior to the assessment



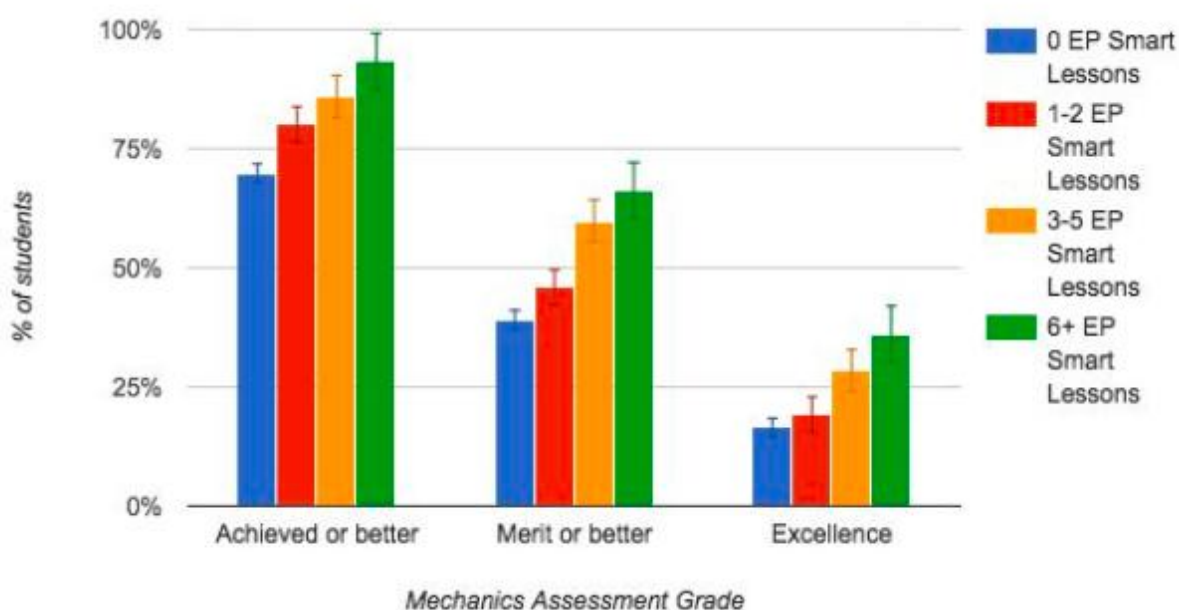
Percentage of students with "Excellence" in eMCAT, relative to the number of Education Perfect Smart Lessons completed prior to the assessment



Year 11 Physics (Mechanics)

Data from 5,073 students across 100 schools.

Mechanics grades relative to the amount of Education Perfect learning material completed (represented in number of EP Smart Lessons)



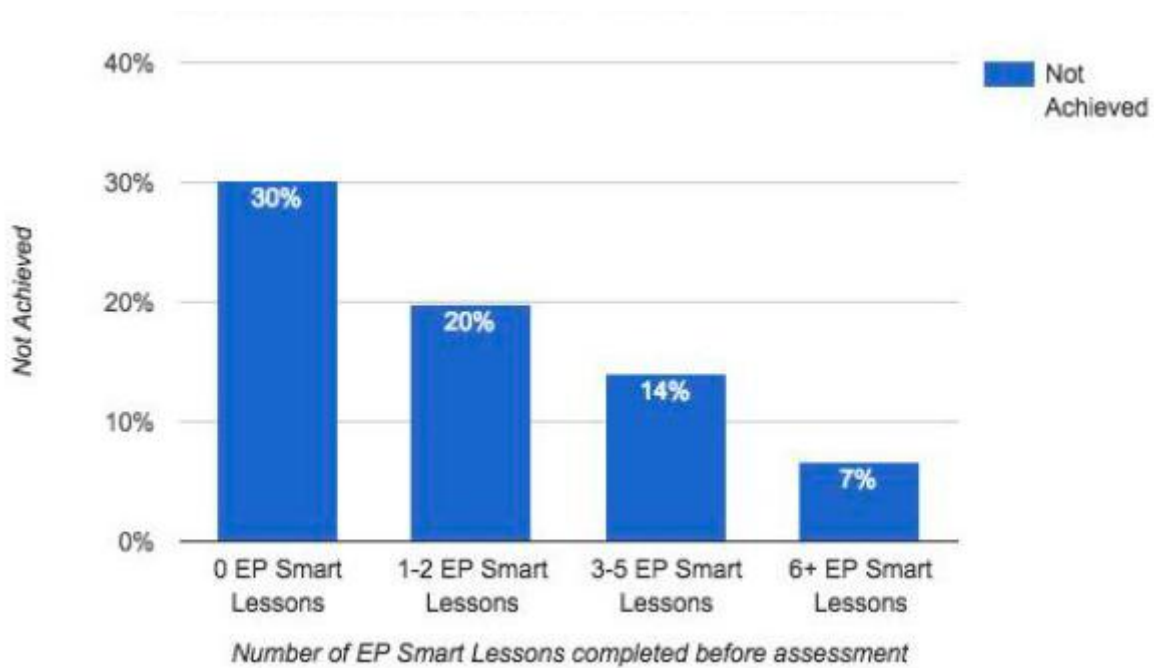
The Online Assessment: The assessments were created and written by NZQA, and marked by school teachers.

Achieved or better refers to students that earned Achieved, Merit or Excellence. Merit or better refers to students that earned Merit or Excellence.

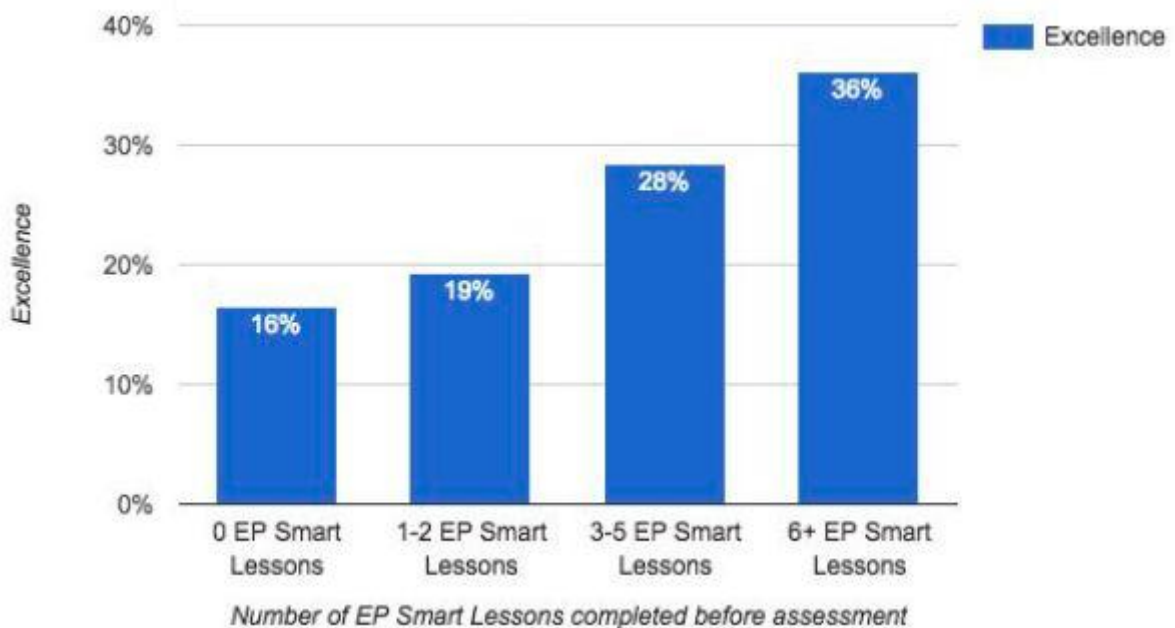
Education Perfect Learning Material used by students in preparation for the assessment: All students that sat the Online Mechanics Assessment were given free access to Education Perfect's learning material for a number of weeks leading up to the assessment. Some students/schools used the learning material extensively, others did not.

This usage is represented in the number of EP Smart Lessons completed by a student (Each EP Smart Lesson covers one topic that may be tested in the assessment). An EP Smart Lesson scaffolds a student's learning through a specific concept, starting with core skills and guiding them up to higher order skills.

Not achieved - Mechanics, relative to number of Education Perfect Smart Lessons completed prior to the assessment



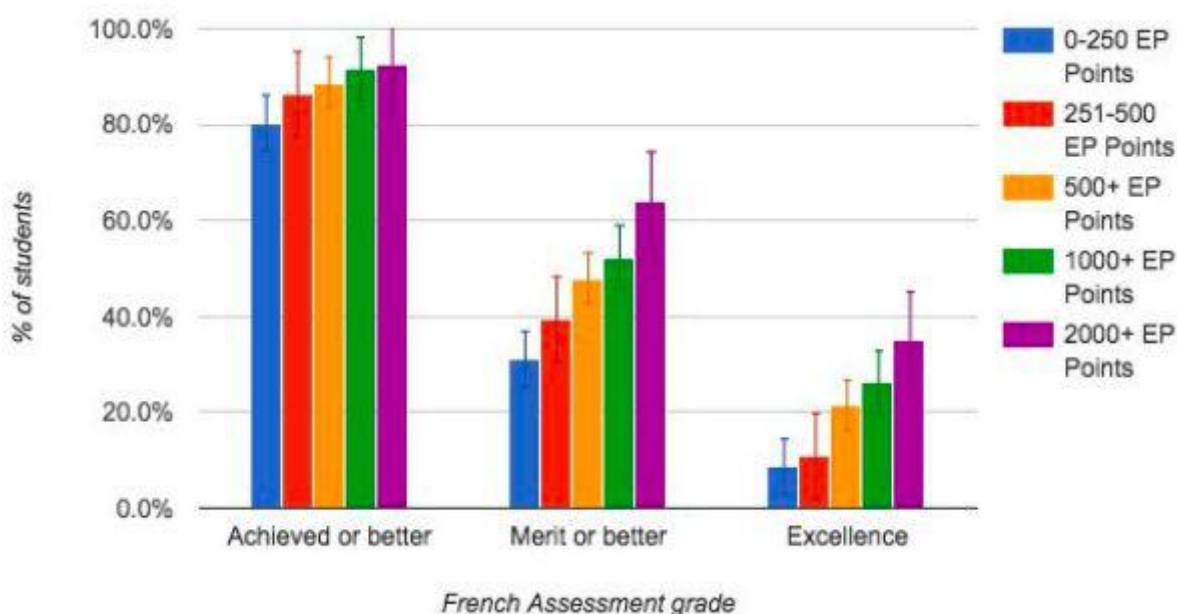
Excellence - Mechanics, relative to number of Education Perfect Smart Lessons completed prior to the assessment



Year 11 French (Listening Assessment)

Data from 906 French students from 75 schools

French Assessment grades relative to the amount of Education Perfect learning material completed



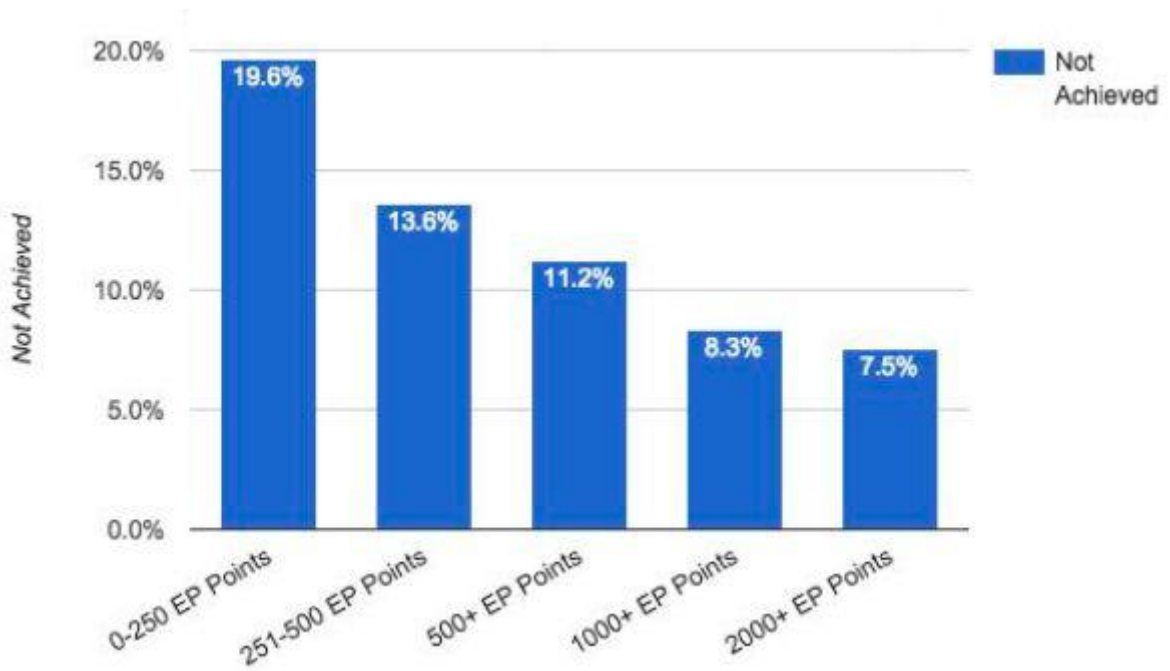
The Online Assessment: The assessments were created and written by NZQA, and marked by school teachers.

Achieved or better refers to students that earned Achieved, Merit or Excellence. Merit or better refers to students that earned Merit or Excellence.

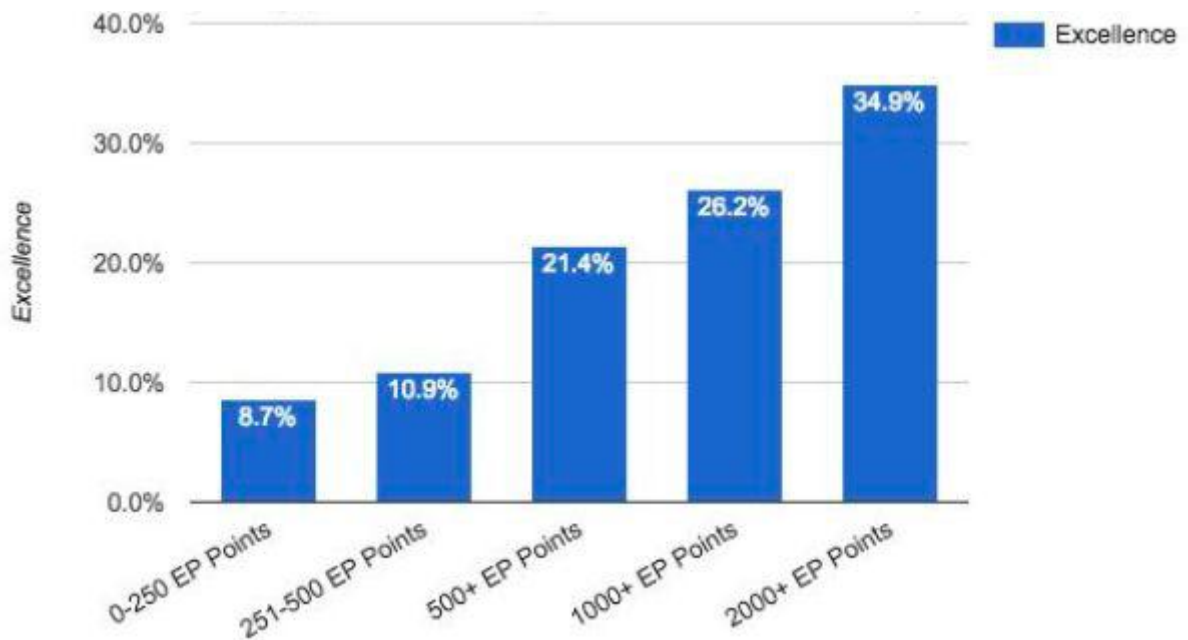
Education Perfect Learning Material used by students in preparation for the assessment: All students that sat the Online French Listening Assessment were given free access to Education Perfect's learning material for a number of weeks leading up to the assessment. Some students/schools used the learning material extensively, others did not. This usage is represented in the number of EP Points earned. In NCEA Level 1 French there is a prescribed vocabulary list that students need to learn.

A student earns a point on Education Perfect when they have correctly answered a word a number of times. They can revisit material at certain time intervals (spaced repetition) to earn more points and reinforce material. They can also answer questions in up to 4 different learning modes Reading, Listening, Writing and Dictation.

Not Achieved - French, relative to the amount of Education Perfect learning material completed (i.e by points earned prior to the assessment)



Excellence - French, relative to the amount of Education Perfect learning material completed (i.e by points earned prior to the assessment)



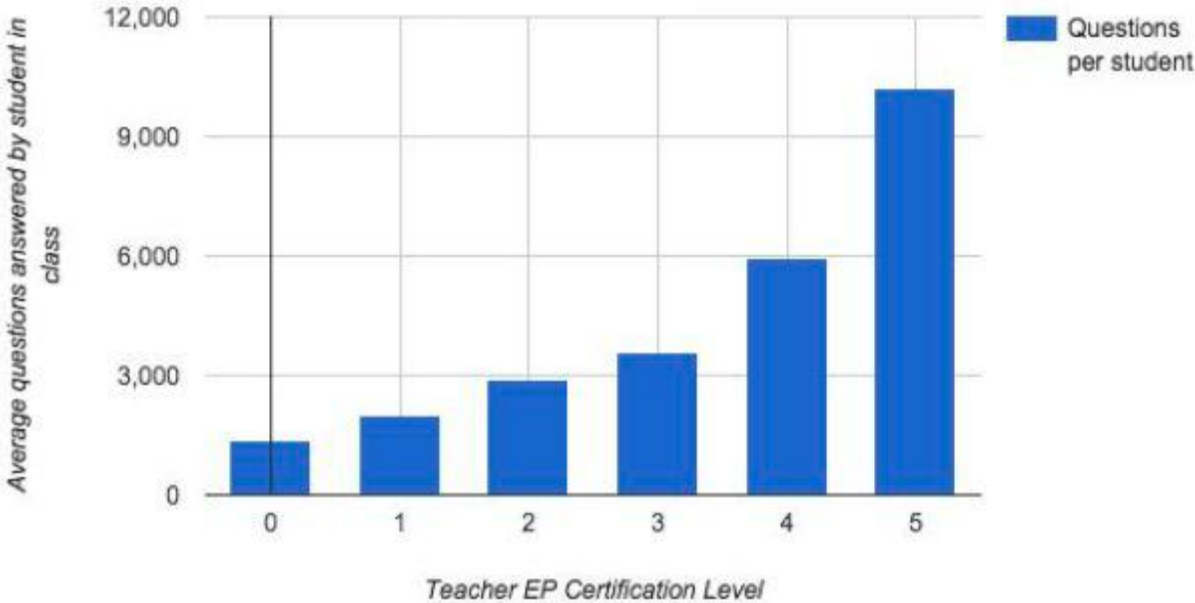
Maximising the impact of Education Perfect in teaching and learning.

We can see from the graphs above that there are clear trends between the amount of learning material a student has completed prior to an assessment, and how well they will perform in the assessment.

Education Perfect provides teachers with a live view of exactly which students have completed specific material, and gives them the ability to then direct students to appropriate lessons based on their ability.

The impact of a teacher fully engaging with the live analytics, and advanced features within the Education Perfect platform has a notable impact on the amount of learning students will complete over the school year (view graph below). A teacher’s proficiency at utilising Education Perfect is measured automatically through their “Teacher Certification Level”, which ranges from Level 0 to Level 5. Level 0 teachers don’t engage with many of the analytical + customisation tools, while Level 5 teachers are the most advanced users on the system.

As teachers increase their Teacher Certification level on EP, the average student in their class answers more questions



The data indicates that the average student in the class of a teacher with Level 5 certification, will use the platform around seven times as much as a student in the class of a teacher with Level 0 certification. The more a teacher engages, the more students engage. A teacher that upskills themselves with the advanced features, and then uses them effectively could substantially impact the results their students achieve in assessments.



Thank you to the schools, teachers, and stakeholders who participated in this research.

"We believe that *Language Perfect* (Education Perfect) plays an important role in the learning and teaching of languages in Aotearoa New Zealand. The feedback from our members underscores the perception that *Language Perfect* is engaging, user friendly and, most critically, leads to positive benefits and learning outcomes for students in our classrooms. *Language Perfect* is also a significant tool in classroom teachers' arsenal with regard to motivation and engagement."



Martin East
President of the NZ Language Teachers Association



"The power of regular, engaging revision activities for students is clearly evident in the results of the NZQA online assessment pilot. Add to that the live analytics for teachers and instant feedback for students and we see an exciting recipe that is making a real impact on students' achievement."

Chris Duggan
New Zealand Association of Science Educators

"The online engagement, the competitive excitement and the fun factor is compelling for students and the results speak for themselves. This new data suggests an added opportunity for teachers to further foster student participation and learning by engaging with the advanced online features like the live analytics"



Vic Dobos
CEO, Australian Science Teachers Association



