



2021 Term 2 and Term 4 Check-in assessments

What are the Check-in assessments?

The Check-in assessments are online diagnostic assessments in reading and numeracy that assist schools to:

- supplement existing school practices used to identify how students are performing in reading and numeracy
- help teachers tailor learning to meet student needs and support planning.

The assessments were originally developed to provide an indication of student learning across the system and an early indication of potential recovery from COVID-impacted learning.

The Check-in assessments were first held in Terms 3 and 4 of 2020 for Years 3, 5 and 9. Following the success of the trial in 2020, they were offered again to Years 4, 6 and 8 in early Term 2 2021 and Years 3 to 9 in Term 4 2021.

The Check-in assessments provide schools with an additional source of information on student learning in reading and numeracy that complements NAPLAN and other school-based assessments.

Actionable reports

School-level reporting

Schools are provided with actionable reports that are available within 48 hours of completion. This enables teachers to rapidly analyse and consider appropriate strategies to address the learning needs of their students in a timely manner. The items are aligned to the NSW syllabus, National Literacy and Numeracy Learning Progressions and teaching strategies.

Features of the school reports in the Scout reporting platform include:

- information at item level with links to teaching strategies related to the skill being assessed
- information at syllabus stage and progression level for each student
- feedback on strategies students may have used alongside how each student responded.

Teachers can use the reports to:

- identify particular strengths or areas of focus at a school, class or individual student level to inform decisions around next steps in student learning
- identify evidence-based strategies to support explicit teaching to identified needs
- complement school-based reporting processes as an additional source of information that supports dialogue with parents and carers around student learning progress.

Teachers have valued the timely actionable data that Check-in assessments provide to promote professional dialogue and support school planning processes.

System level

The Check-in assessment data supports monitoring of learning across the system. The data can be used to:

- identify areas of learning that may require additional support across the system
- support monitoring of progress toward Premier's priorities in literacy and numeracy
- provide an additional source of data that assists in program level evaluation or targeting resources to support schools, for example, the COVID Intensive Learning Support Program (ILSP).

Support for teachers

Professional learning and assessment support is available to all teachers in participating schools. This includes how to administer the assessment, accessing and analysing feedback, and using this to inform planning for teaching and learning.

In 2021, the online professional learning was viewed over 12,800 times. Additionally teachers had access to:

- online support, including live chat to pose questions or share ideas with other teachers
- a range of online courses including guided professional learning to support the analysis of their students' assessment information
- strategies to identify areas for focus in reading and numeracy
- teaching strategies to address specific skills and understanding in reading and numeracy for their Year 4, 6 or 8 students.

Insights from the 2021 Term 2 and Term 4 Check-in assessments

In Term 2, 6 assessments were developed for Year 4, 6 and 8 cohorts and in Term 4, 14 assessments were developed for Year 3 to 9 cohorts. For each of these assessments, a quarter of the items were NAPLAN items with known psychometric properties and difficulty estimates on the NAPLAN scales. This provided the possibility of linking the Check-in assessments with NAPLAN scales to assist with further analysis.

After scaling and equating exercises for available results from Year 3 to Year 9, all Term 2 assessments and 10 out of the 14 Term 4 assessments were able to be equated to the NAPLAN scales. Year 3, 5, 7 and 9 reading from Term 4 were not able to be linked to the NAPLAN scale due to a range of factors, including test design differences between NAPLAN and the Check-in assessment and insufficient difficult items in the Check-in assessment. Although there are marked differences between the results of the Check-in assessments and NAPLAN, the results between the assessments in 2020, Term 2 2021 and Term 4 2021 demonstrate internal consistency within the Check-in assessment construct.

As not all students participated in the Check-in assessments, results were weighted (at student level and by prior performance band in NAPLAN test or Best Start Kindergarten assessment, remoteness and secondary selective status for secondary schools). As Years 4, 6 and 8 are not

years with external assessments like NAPLAN, the estimated mean scaled scores in Terms 2 and 4 of these grades (expressed on the NAPLAN scales) were compared to an estimated learning trajectory based on historical NAPLAN data for Years 3 to 9. For Years 3, 5, 7 and 9, the Term 2 and Term 4 mean scaled scores were also compared to the estimated trajectory as no standard has yet been established for the growth expected in 2 terms (compared with 2 years between NAPLAN tests).

The assessments were able to provide an indication that some cohorts, particularly Year 4 numeracy and Year 6 numeracy, have continued to progress along the expected learning trajectory compared to previous Check-in results in 2020. The results also suggest that Year 3 numeracy is performing better than the expected learning trajectory (that is, historical performance level 1) in Term 4 compared to the 'on-track' NAPLAN 2021 numeracy results. This indicates that these students experienced minimal learning loss in the second half of 2021 due to COVID-19. Average Year 5 numeracy results in NAPLAN 2021 are slightly above the trajectory, however average results in Term 4 Check-in dropped slightly below the expected learning trajectory.

For secondary grades, Year 7 and 9 numeracy in Term 4 Check-in are all below the expected learning trajectory despite being on track in NAPLAN 2021 results. Average Year 8 numeracy Check-in results in both Term 2 and Term 4 are below the expected learning trajectory. However these numeracy results are likely to be underestimated because of ceiling effects in numeracy assessments for most grades, except for Years 3 and 8.

For reading, average Year 4 results in Term 2 Check-in are below the expected trajectory but the average Term 4 results have moved closer to the trajectory. However Year 6 reading results are further below the expected learning trajectory in Term 4 compared to the 'on-track' results in Term 2. Similarly, average Year 8 reading results were already sitting below the trajectory in Term 2 and the results dropped further below the curve in Term 4.

Although reading results are less reliable due to test construct differences relative to NAPLAN reading assessments, overall Check-in reading and numeracy results for secondary year levels are below the expected trajectory. This suggests that learning loss was more pronounced in the secondary grades during the second half of 2021 due to COVID-19.

Figure 1

Check-in numeracy performances on trajectory of mean NAPLAN numeracy scale scores for even year levels

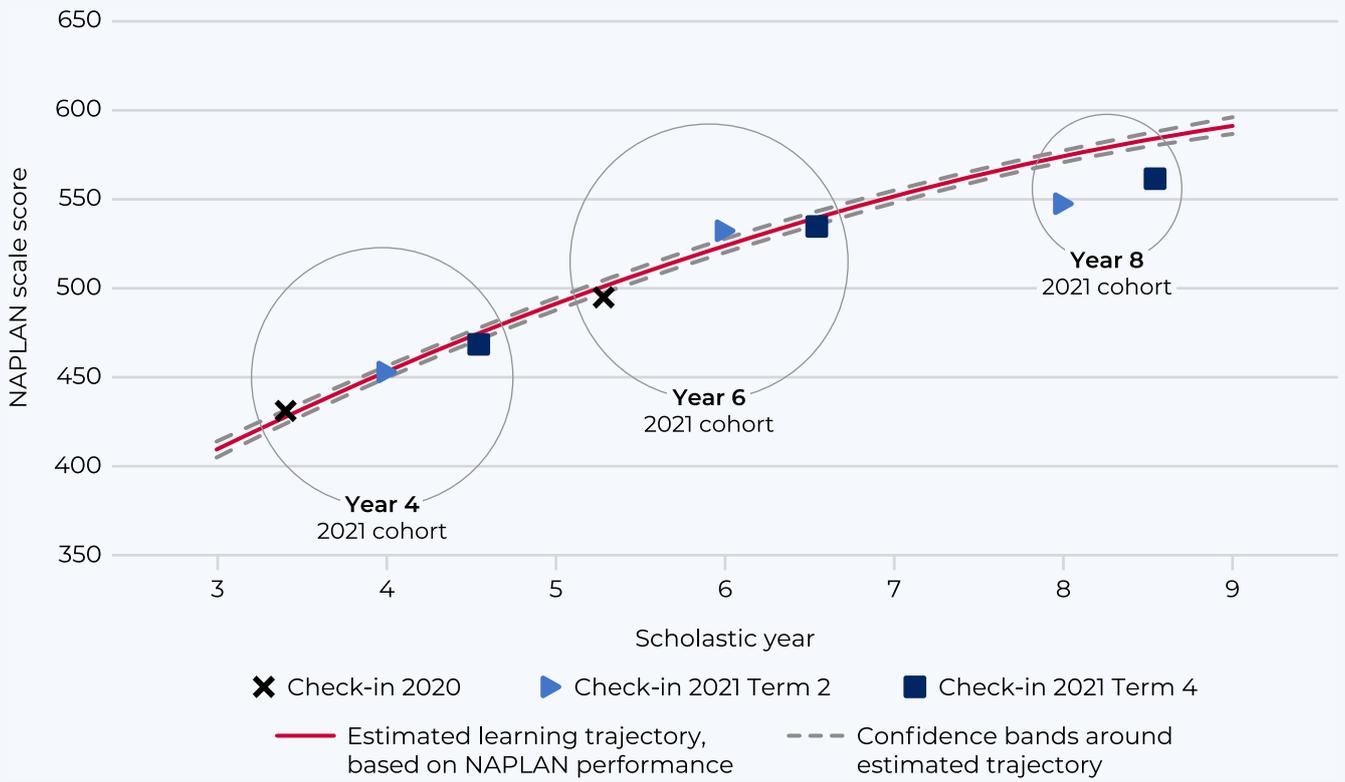


Figure 2

Check-in numeracy performances on trajectory of mean NAPLAN numeracy scale scores for odd year levels

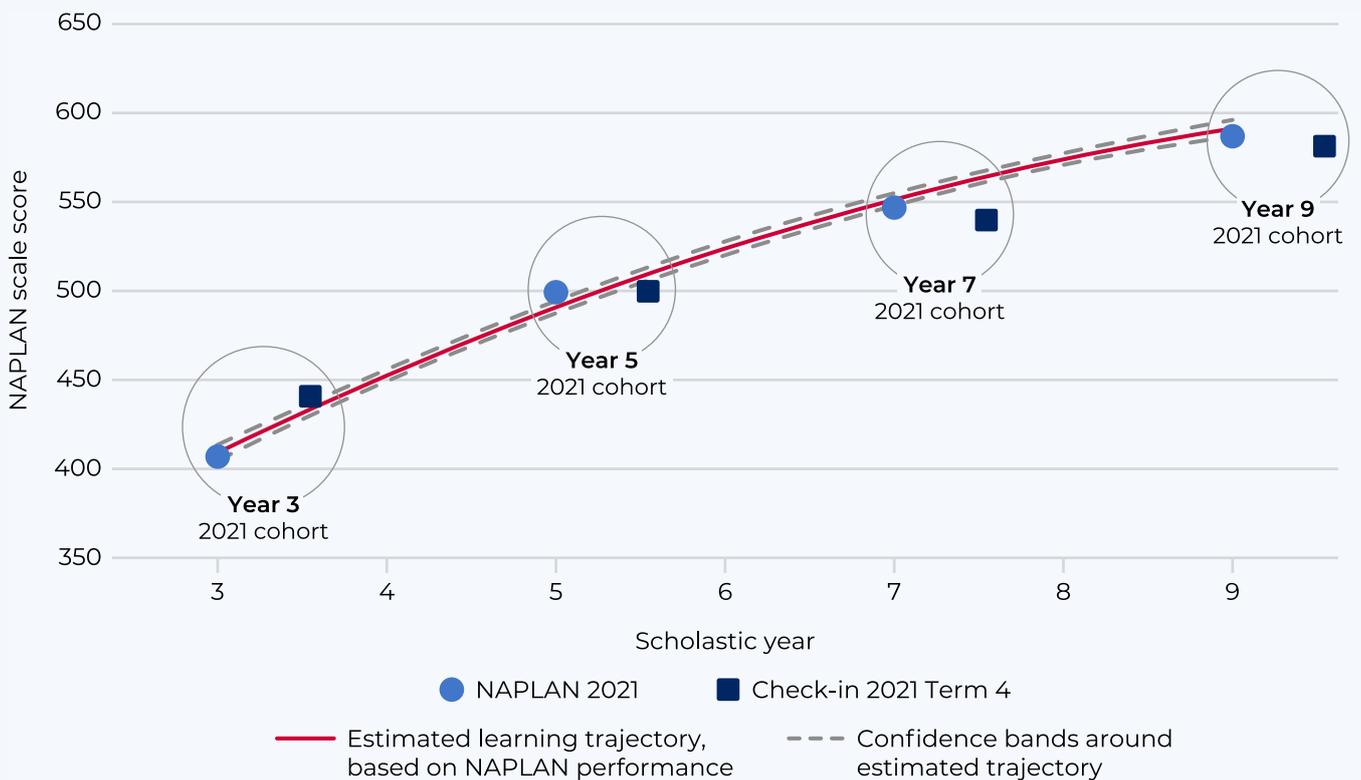
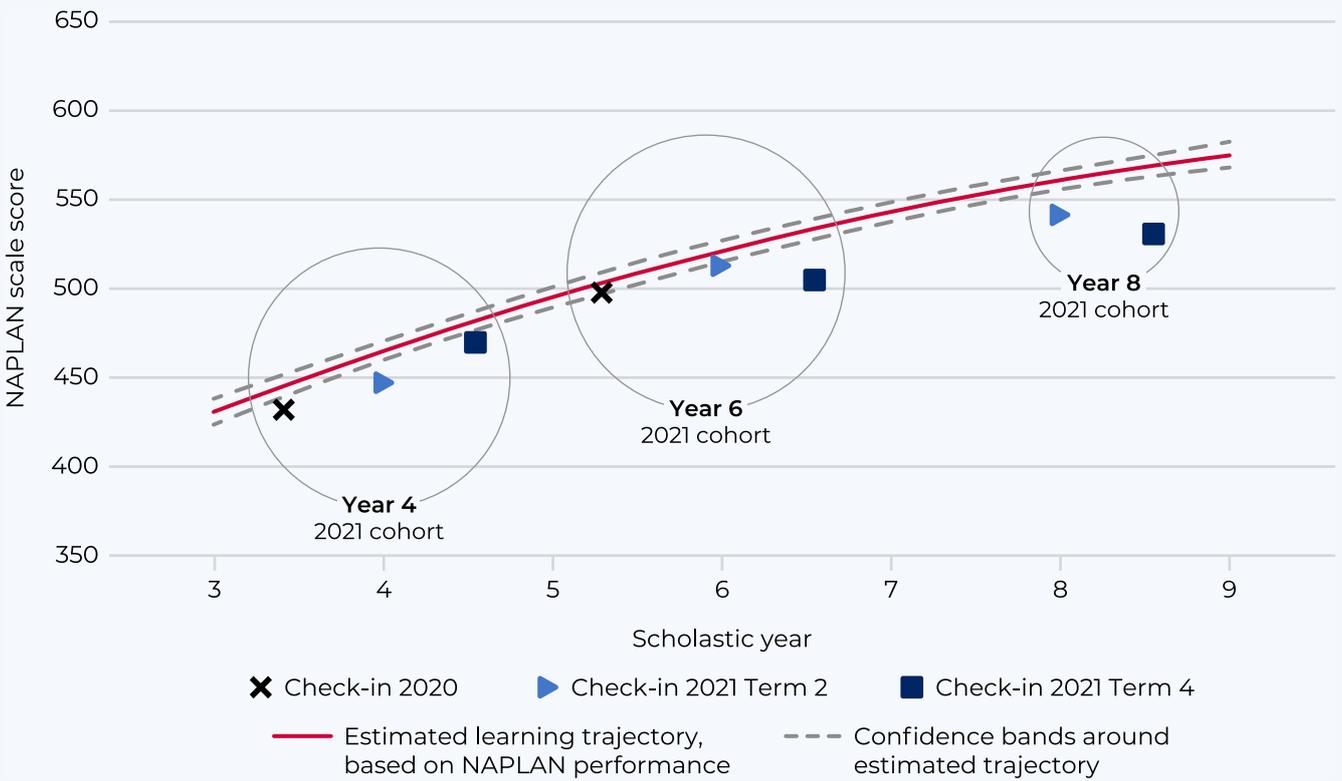


Figure 3

Check-in reading performances on trajectory of mean NAPLAN reading scale scores for even year levels



Note:

2017 to 2019 Years 3, 5, 7 and 9 cohort means were used to estimate a learning trajectory and associated confidence bands from Year 3 to Year 9 for reading and numeracy respectively. The modelling used scholastic years as a predictor and fitted quadratic functions to changes in mean results. The trajectories can be used to estimate mean results for a given cohort at any point in time between Years 3 and 9. A comparison to the estimated learning trajectory can be interpreted as a comparison to the estimated historical performance level.

Participation

Engagement by schools with the Check-in assessments was high in both 2020 and Term 2 2021. In 2020, 83% (1,775) of NSW Government schools with students in Years 3, 5 or 9 participated in the Check-in assessments. Participation in 2021 Check-in assessments was higher than in 2020, with 89% (1,879 schools) in Term 2 (of schools with students in Years 4, 6 or 8) and 97% (2,070 schools)

in Term 4. In each assessment, participation was higher among primary schools than secondary schools. Participation was largely representative across various student and school groups. Participation was higher in Term 4 2021, due to the expectation that all schools would participate and that all students in the COVID ILSP would be assessed.

Table 1: Term 2 2021 primary Check-in assessment participation, number of schools and students

School type	Number of students	Percentage of enrolment	Number of schools	Percentage of schools
Primary school	123,893	91.1%	1,487	94.0%
Central/community school	1,689	78.4%	56	82.4%
Schools for specific purposes	77	11.5%	15	21.7%
Total	125,659	90.5%	1,558	90.6%

Table 2: Term 2 2021 secondary Check-in assessment participation, number of schools and students

School type	Number of students	Percentage of enrolment	Number of schools	Percentage of schools
Secondary school	40,274	71.1%	311	81.0%
Central/community school	1,224	68.5%	56	83.6%
Schools for specific purposes	78	18.7%	22	29.3%
Total	41,576	70.7%	389	74.0%

Table 3: Term 4 2021 primary Check-in assessment participation, number of schools and students

School type	Number of students	Percentage of enrolment	Number of schools	Percentage of schools
Primary school	257,818	94.4%	1,587	99.2%
Central/community school	3,935	91.2%	66	97.1%
Schools for specific purposes	224	17.2%	27	38.6%
Total	261,977	94.0%	1,680	96.7%

Table 4: Term 4 2021 secondary Check-in assessment participation, number of schools and students

School type	Number of students	Percentage of enrolment	Number of schools	Percentage of schools
Secondary school	139,963	83.8%	376	97.2%
Central/community school	4,518	81.1%	66	98.5%
Schools for specific purposes	328	24.5%	36	41.9%
Total	144,809	83.2%	478	88.5%

Notes:

- Percentages of students participating are calculated based on all students enrolled in a NSW Government school in the relevant scholastic years as at 5 May 2021 (Term 2) or 14 December 2021 (Term 4), for each school type.
- Percentages of schools participating are calculated based on the total number of schools with enrolments in the relevant scholastic years as at 5 May 2021 (Term 2) or 14 December 2021 (Term 4), for each school type.
- Excludes Secondary College of Languages.

Limitations of the 2021 Check-ins

There are limitations to the conclusions that we might draw from the 2021 Check-in assessments due to the comparison between the Check-in assessment design and NAPLAN. This includes the linear design of the Check-in assessment in comparison to an adaptive test that has more items tailored to the entire range of student ability.

Student performance in Term 2 for Year 8 numeracy and Year 6 reading and numeracy domains is less reliably estimated due to a 'ceiling effect' issue, where there were not enough difficult items to further distinguish the upper ranges. As an example, 6.5% of Year 8 students received an extremely high numeracy score (including perfect marks) in Term 2, compared to 1% of students in the 2017 Year 7 NAPLAN paper numeracy test. The 'ceiling effect' issue meant these assessments did not contain enough difficult items to further distinguish the higher-ability students and that the average abilities of the cohorts may be biased as a result. Similar ceiling effect issues were observed in Term 4 2021 for all numeracy assessments, apart from Years 3 and 8.

Unlike 2020, it is not possible to express the differences between the estimated Check-in results and the expected performance in months of learning due to the level of uncertainty in the estimates and the lack of external assessments to refer to as a comparison group. In 2020, it was possible to infer the number of months students were behind as the results of the August to September Check-in assessments were similar to previous NAPLAN results in May.

Time between assessments and the length of the test window can affect the reliability of the results. The short time interval between the 2020 and the Term 2 2021 assessment period also limits any conclusions regarding whether overall learning growth is better or worse than expected. In Term 4, the assessment window ran from the beginning of Week 2 to the end of Term 4 for regional schools, whereas metropolitan schools were able to participate from Week 5 onwards. This extended assessment window introduced additional uncertainty in the analysis of results between schools because the assessment time difference among schools has not been accounted for in the analysis.

Relationship between Check-ins and NAPLAN

Differences exist between the purposes of NAPLAN and the Check-in assessments. Check-in assessments are designed as diagnostic, formative assessments. From 2021 onward, Check-in assessments will be administered twice a year for Years 4, 6 and 8, and once a year for NAPLAN cohorts. Feedback on item responses is available to teachers within 48 hours to allow teachers to quickly identify and implement strategies to support student learning. NAPLAN is a summative assessment administered at a single point in time each year. Students participate every 2 years from Year 3 to Year 9.

NAPLAN's adaptive test design means that the assessment contains more items tailored to the entire range of student ability, compared to the linear test design of Check-in. There are also construct differences between Check-in and NAPLAN. Additionally, test administration differs between the 2 assessments, with NAPLAN being a timed assessment completed within a 9-day window compared to Check-in being an untimed assessment with a variable testing window to allow high participation by schools.

Student performance in Term 4 Check-in for Years 3, 5, 7 and 9 demonstrated a strong correlation with their performance in NAPLAN 2021. Correlation coefficients for numeracy ranged from 0.83 in Year 3 to 0.87 in Year 9. The relationship was marginally lower for reading, where correlation coefficients were 0.79 for Year 9 to 0.82 for Year 5. The strong relationship between scores in NAPLAN 2021 and Check-in Term 4 2021 for both domains indicates students who achieved higher scores in Check-in Term 4 also achieved higher scores in NAPLAN 2021. Despite difficulties in equating reading results for Years 3, 5, 7 and 9 to the NAPLAN scale, this suggests reasonable predictive validity between the 2 assessments. Once more assessment data is available for cohorts participating in both Check-in and NAPLAN, the potential for Check-in to be used as a lead indicator for NAPLAN could be explored.

Benefits of Check-ins

Schools have reported many benefits of using the Check-in assessments both at a classroom and whole school level, including:

- quickly actionable data that can
 - help identify areas of focus for reading and numeracy improvement
 - support explicit teaching in classrooms soon after students complete the assessment
 - promote professional dialogue with colleagues for whole-school focus on literacy and numeracy
 - assist with monitoring student learning, both for individual students and across the school
- evidence-informed teaching strategies to support improvement in student learning
- data available in PLAN2¹ to assist monitoring student progress alongside classroom observations for targeted skill development.

Lessons learned for future improvement

The Check-in assessments continue to be a useful tool for teachers to support their teaching and learning practice. The department has been working to rapidly increase the availability of assessments to teachers and schools, which can lead to limitations in test design as there is insufficient time to pilot the assessments or establish a large bank of trialled items.

We are working to address these challenges by:

- undertaking a procurement for the writing of items with 3 providers to supplement department-developed items
- trialling assessment items from Term 4 2021, with over 300 items within the Check-in assessments. After analysis these items will be used in the Term 4 2022 assessments.

These activities will support the robustness and sustainability of future assessments to ensure that they function for students across all achievement levels and provide more accurate information for teachers for all types of students.

There is a strong desire among many schools to monitor student progress over shorter time periods than the current Check-in assessment schedules. This need underpins the department's accelerated development of formative assessments to help teachers to gain useful insights into individual students' skill development over a shorter time period. The department will progressively introduce a suite of on-demand diagnostic assessments that teachers can flexibly use to monitor student learning progress in specific skill areas to support targeted improvement across ages and stages of learning.

We are continuing to improve the support we provide to teachers using assessment data as part of teaching strategies for students. A focus in the future will be the development of professional learning to support consistent and reliable teacher judgements, as well as to support quality teacher assessment practices.

Feedback

The response from schools as to the administration and diagnostic value of the assessments has been very positive. Teachers have commented:

“This support platform is amazing and timely.”

“A big leap forward in collecting and analysing data.”

“Thank you for organising this valuable and well prepared resource. Great it links to the progressions. We were able to use this for collegial discussion.”

“Really useful data in a timely manner that we can actually use!”

“Would love these for other grades – one at beginning term and same one at end – this assessment has changed our teacher focus for next 10 weeks – thank you so much we love them.”

¹ PLAN2 is an online tool designed by the NSW Department of Education to support the use of literacy and numeracy learning progressions in all NSW schools.

Conclusion

The high participation rate and very positive feedback from teachers demonstrates the continuing value of these assessments to provide rapid insight into student performance and support teachers to tailor their teaching strategies to meet student need. The department will continue to invest in improving the range of assessments available to schools to ensure that they have access to the tools needed to support student learning. This includes refining the design and item-level robustness of the Check-in assessments to further increase the power and utility at the school and system levels.

The assessment provides directly actionable data for schools. Some caution should be used when considering possible learning loss or gain due to short time periods between testing and different construction from other literacy and numeracy assessments.

The Check-in assessments play a timely and vital role in supporting progress monitoring and the evaluation of the COVID ILSP. The program provides an intensive learning boost in literacy and numeracy to students whose learning may have fallen behind due to the disruptions of 2020. Schools used Check-in assessments to identify students who would benefit most from targeted literacy and numeracy support. Students selected for the program in Semester 1 2021 tended to be 53.6 points lower on average than their peers across Years 4, 6 and 8 in both literacy and numeracy assessments. Check-in assessments over 2020 and 2021 provide a broad and consistent measure of progress for school and program evaluation. They also provide schools with a common language to describe the more precise progress of individual students across a tuition cycle (10 to 20 weeks) as they are linked to the Literacy and Numeracy Learning Progressions.

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