School Name

PAT Case Study Analysis
High Performing Students
2010 - 2012

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PAT Case Study Analysis 2010 – 2012 – High Performing Students

Bands:

Band	Percentile Rank
P10	10th percentile and below
P25	11-25th percentile
P50	26 – 50th percentile
P75	51 -75th percentile
P90	76 – 90th percentile
P100	above 90th percentile

Cohort: A group of students.

Cut score: Selected points on the score scale of a test. In this report, the cut off score for a percentile rank.

Gain or change: Gain or change of cohort performance is measured by the difference in average scale scores obtained by the matched cohort. A key assumption in measuring gain or change is that test scores have been placed on a common scale, and test scores can be directly and meaningfully compared across Year levels.

Matched Cohort: A group of students who have taken the same scaled test in previous years.

Mean: The average or central tendency of a distribution.

Percentile: A percentile is the value of the scale score below which a certain percent of students fall. For example, the 10th percentile is the score below which 10 percent of the students may be found.

Scale score: **S**cale score points are different from the "raw score" results that you would get by adding up the number of score points for correct answers on each part of the assessment. It is then possible to make meaningful comparisons of results between different years, and between different Year levels, even though the tests that are administered are not the same.

Standard Deviation (SD): A way to measure the spread of a distribution.

Standard Error of Mean (SE): The standard deviation of the sample mean estimate of a population mean. It is a measurement of sampling error.

DATA DESCRIPTION

School (x) has a total of xx students sitting PAT tests in three consecutive years (2010 to 2012). This report focuses on the students whose first assessment (in 2010), saw them achieve results above the 90th percentile, according to the PAT Norm table. These students have been defined as "High performing". This report seeks to establish if this level of performance is maintained over consecutive sittings.

Table 1 shows the mean, standard deviation, standard error and number of students in the School (x) cohort in 2010. This cohort sat three consecutive sittings.

Table 1 School (x) cohort

Year Level in 2010	Form Used	2010				2011				2012			
		Mean	SD[1]	SE[2]	N[3]	Mean	SD	SE	N	Mean	SD	SE	N
3	3	118.6	5.986	1.3	30	126.4	10.87	1.2	30	132.4	5.792	1.1	30
4	4	132	4.979	1.1	59	138.2	10.81	1.1	59	139.8	9.702	1	59

1. **SD: Standard Deviation; 2. SE: Standard Error of Mean; 3. N: Number of Students**

CASE STUDY OF THE HIGH PERFORMING STUDENTS FROM 2010 TO 2011

In this section, tracking analysis has been done for the high performing students (students whose PAT scores are above the 90th percentile scores) in the matched cohort from 2010 to 2011. The aim of the analysis is to observe whether there is any performance variation of these high performing students in two consecutive years.

Figure 1 shows the growth of the average PAT score from 2010 to 2011 for the students who are identified as the high performing students in 2010. The slope of the line indicates the rate of change in average PAT scores. It can be seen from the graph that the rates of growth for the students in both year levels are similar.
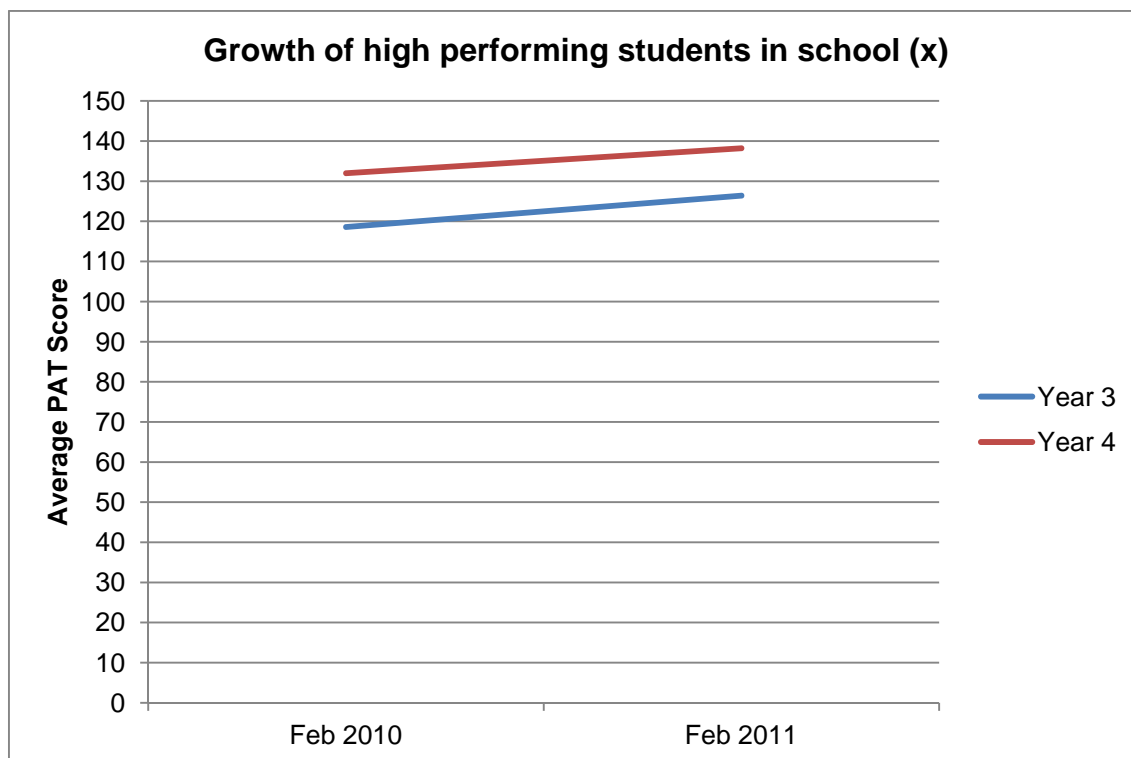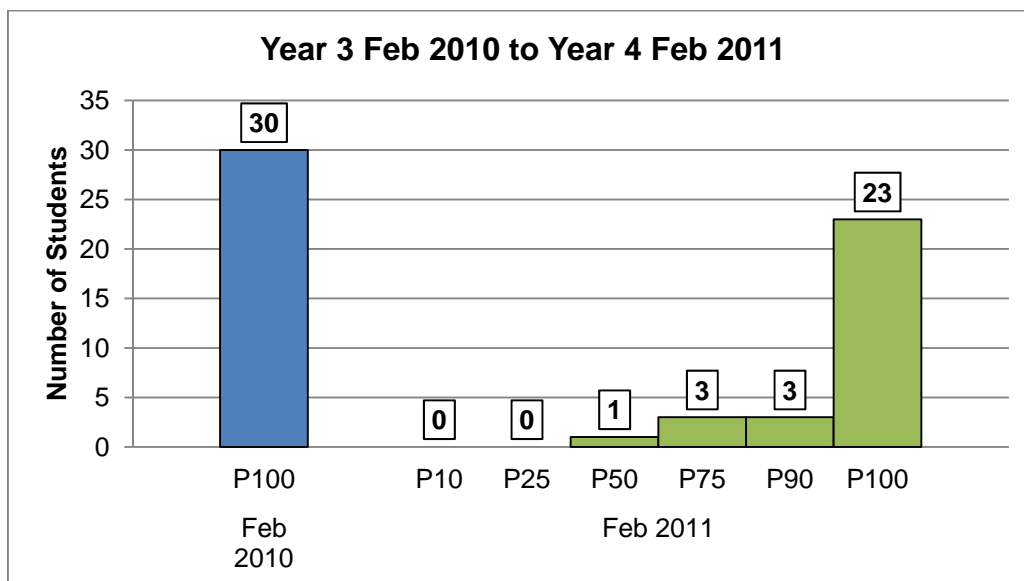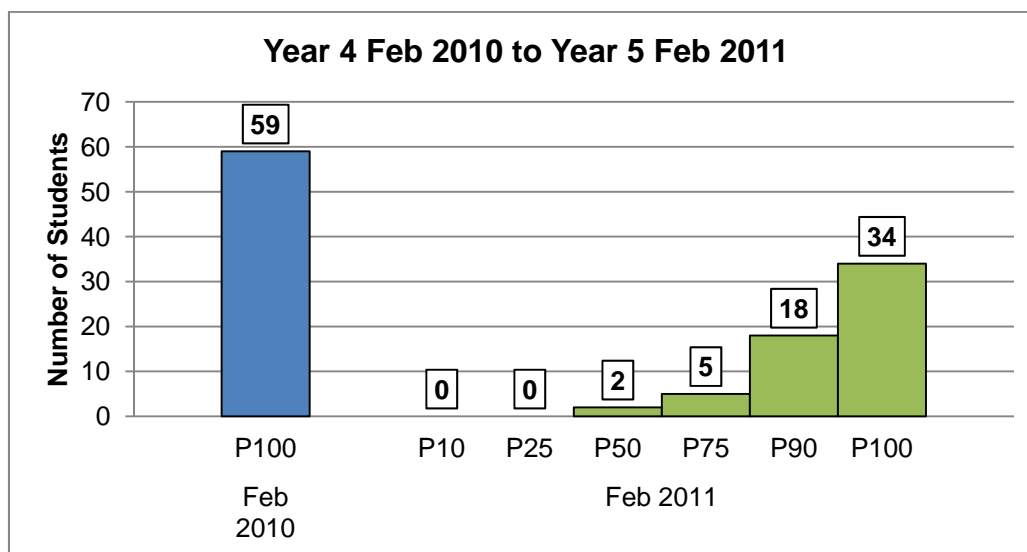

Figure 1 Growth of high performing students in School(x) matched cohort 2010-2011

In addition to showing the average growth rate of the high performing students from 2010 to 2011, Figure 2(a–b) shows the distributions of the high performing students in 2011 in percentile "bands" for Year 3 and Year 4. The left hand side of each of these figures shows the number of students above the 90th percentile in 2010. The right hand side for 2011 shows the distribution of students in all bands[1]. In both year levels, not all the high performing students (from 2010) have maintained their level of performance, with both year levels showing a small number dropping back to P50. Year 3 shows 76% have maintained the high performance level of P100, while only 58% of the Year 4 students have remained in the P100 band.

(a) Year 3

(b) Year 4

Figure 2 Distributions of high performing students from 2010 to 2011

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[1] Bands are defined in the Glossary

Figure 3 shows the growth of the average PAT score from 2010 to 2012 for the students who are identified as high performing students in 2010. The slope of the line indicates the rate of change in average PAT scores. It can be seen from the graph that growth of high performing students in consecutive years is observed for both year levels, however the growth for Year 4 seems to drop between 2011 and 2012 compared to between 2010 and 2011. Year 3 seems fairly steady over 2010 to 2012. The rates of growth for these students in both year levels are similar.
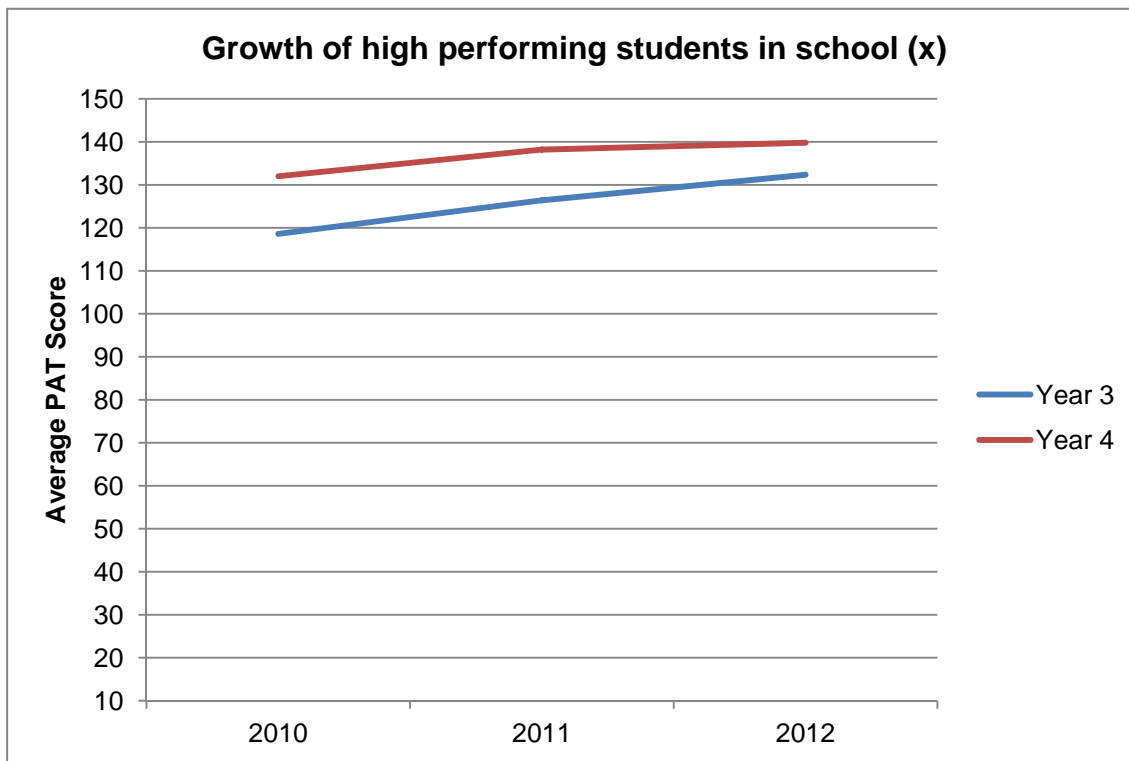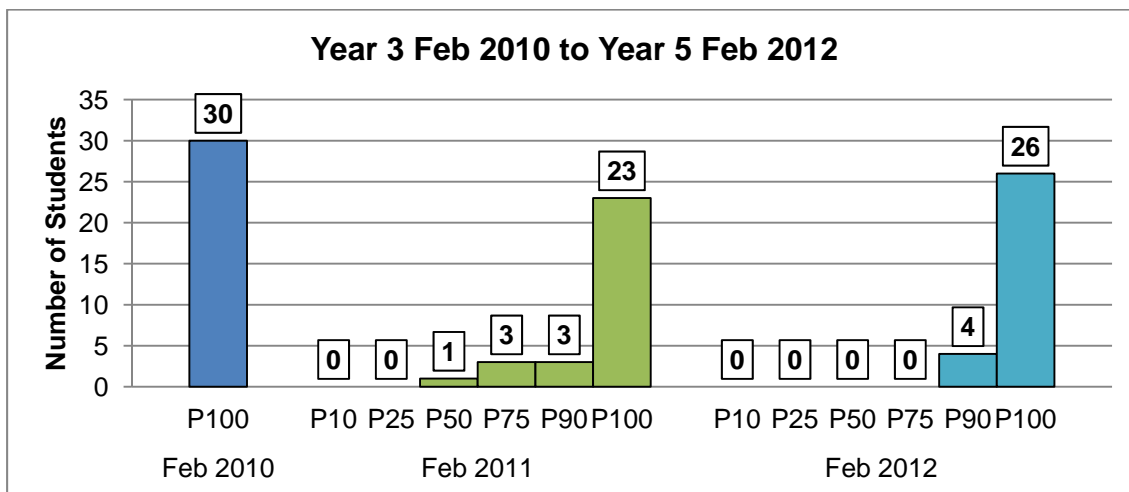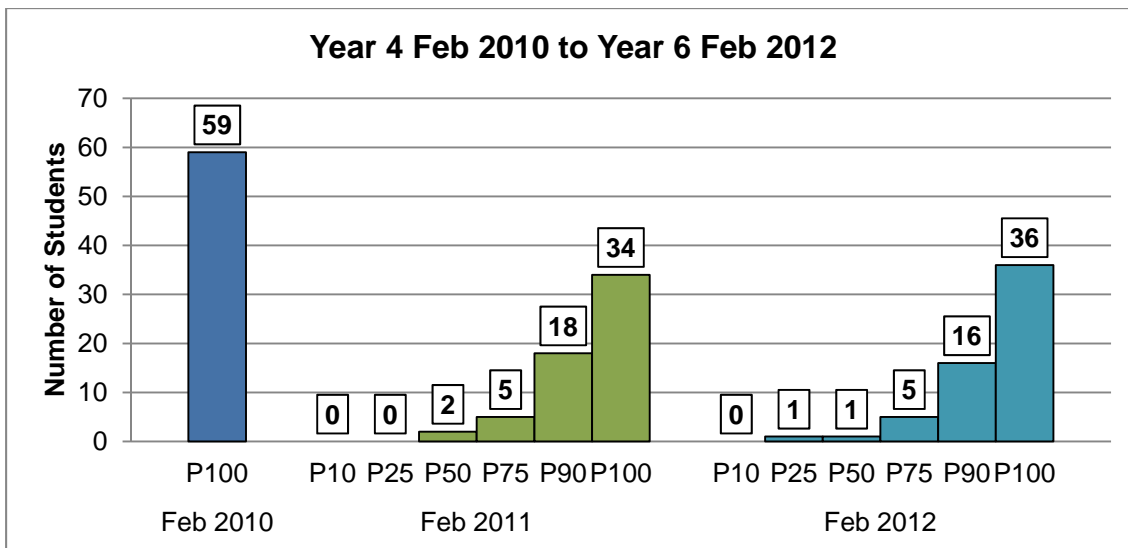

Figure 3 Growth of high performing students in School(x) matched cohort 2010-2012

Figure 4(a) indicates there was growth for the high performing students from 2011 to 2012. The lowest band in 2012 is P90, whereas in 2011 it was P50. There is also an increase in the number of students in P100 in 2012 (from 2011).   Figure 4(b) shows the biggest spread of performance levels is in 2012, with students ranging from P25 to P100. Although fairly consistent with 2011 data, Year 4 shows a considerable drop in students performing within the highest band from 2010 to 2012, with only 61% of the high performing students in that band in 2 years from original sitting.

(a)   Year 3

Year 4 Feb 2010 to Year 6 Feb 2012

(b)   Year 4

Figure 4 Distributions of high performing students from 2010 to 2012

- The *Executive Summary* will be an overall summary/explanation of what the analysis shows, and will aim t o answer specific questions which may have been asked by the client from the onset, (if data allows).

- This template shows analysis for 3 consecutive years sitting, but this can be extended for as long as the cohort is using the test.

- Minimum numbers for cohorts are required (especially if wanting to analyse class groups or certain sub groups).