Library and Learning Services
SKILLZONE

Re-pacing mathematics support

TRANSCENDING THE PROPENSITY FOR "CRAMMING"

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Maths Support at UEL

- 4 part-time maths tutors for 7 schools across 2 campuses
- Academic Skills Support at UEL = Skillzone
- Most of us started in February 2015

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- Weekly drop-in hours
- Bookable appointments (1 – 1 support)
- Workshops
  - Non-timetabled, extra-curriculum
  - Timetabled, embedded in modules

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- Student body with diverse range of abilities and needs
  - Widening participation / access
  - No GCSEs
  - Difficult circumstances
  - Mature with years off education

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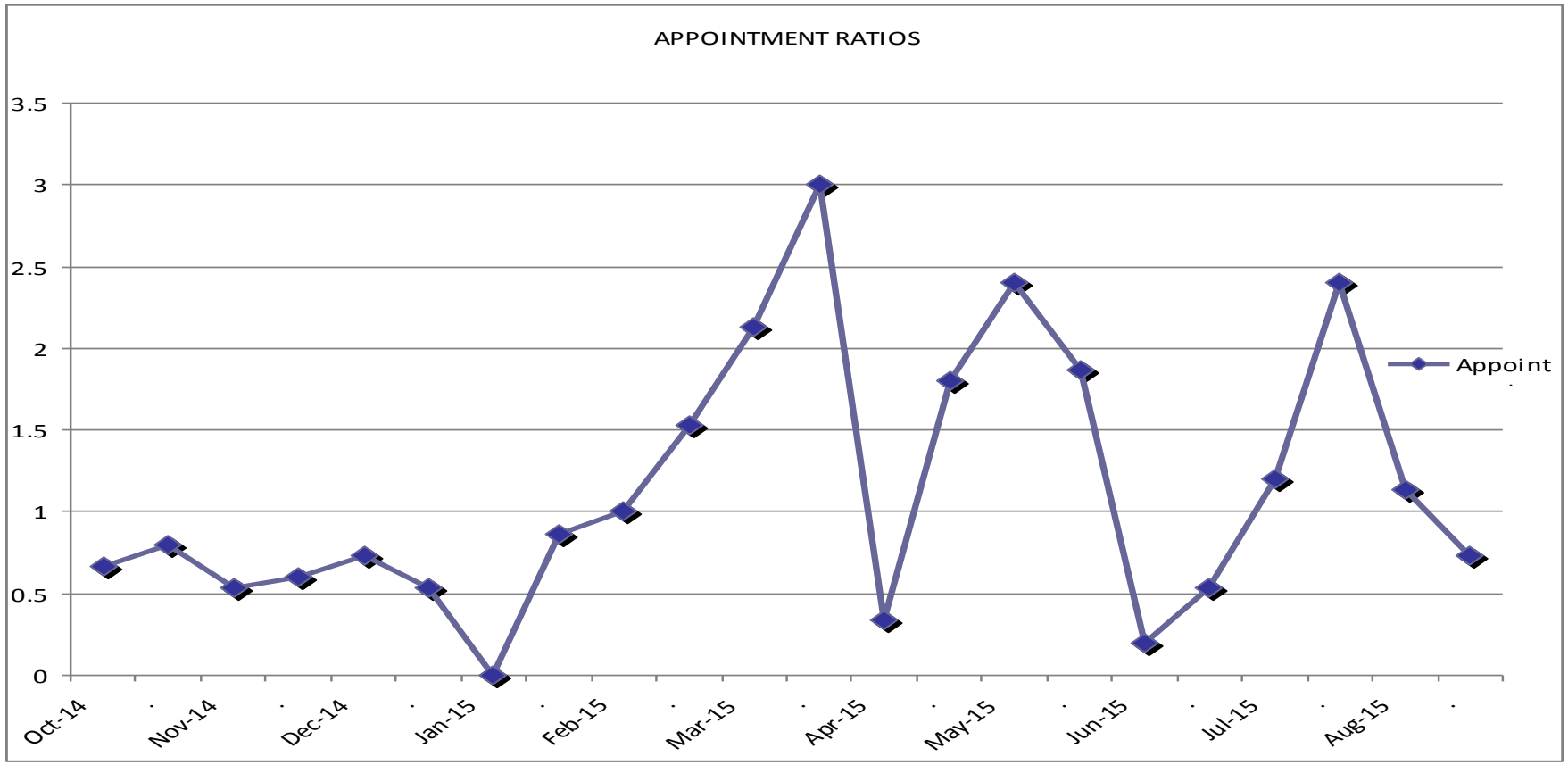
- Maths support can still have some impact, but limited

Evidence across Schools

1 unit = appointments in first half of February



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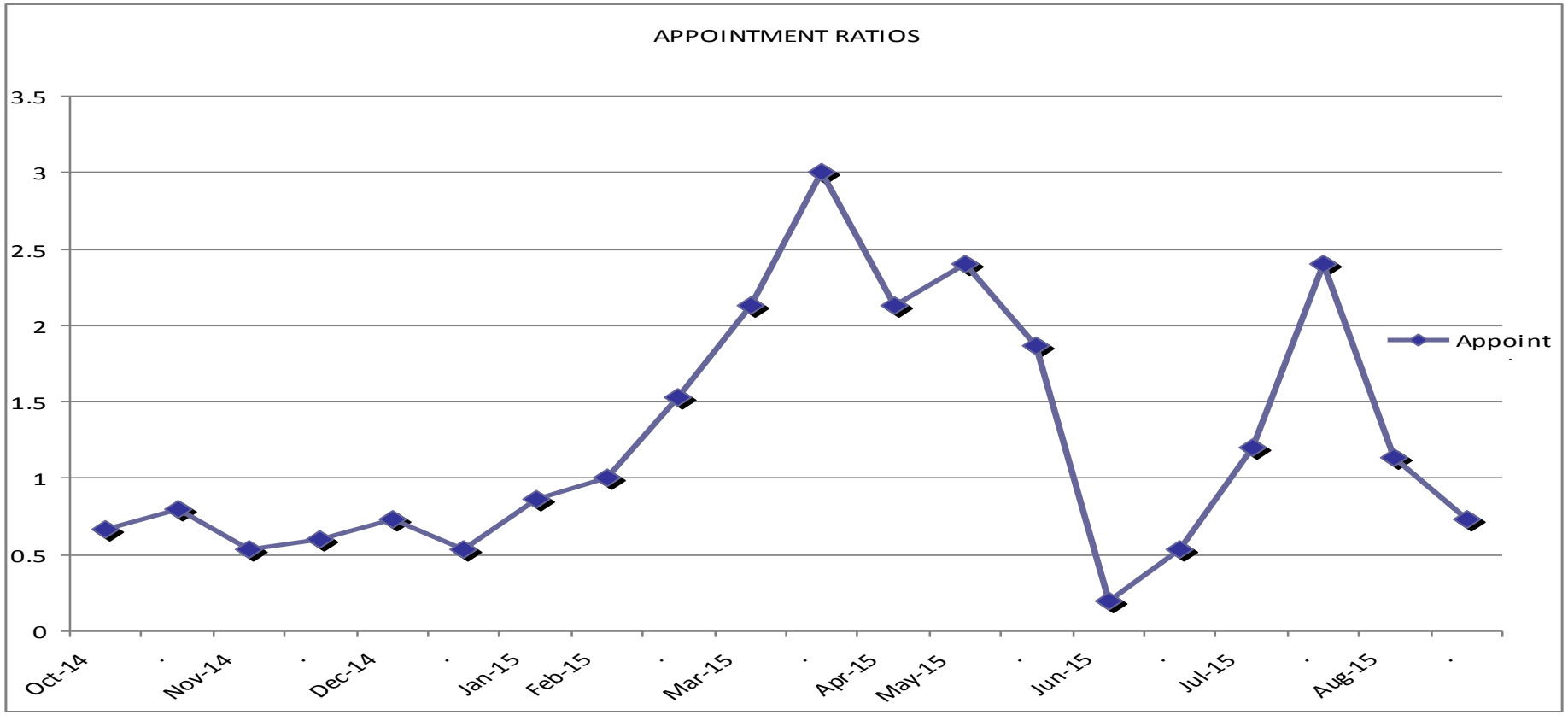


Evidence – Engineering module A

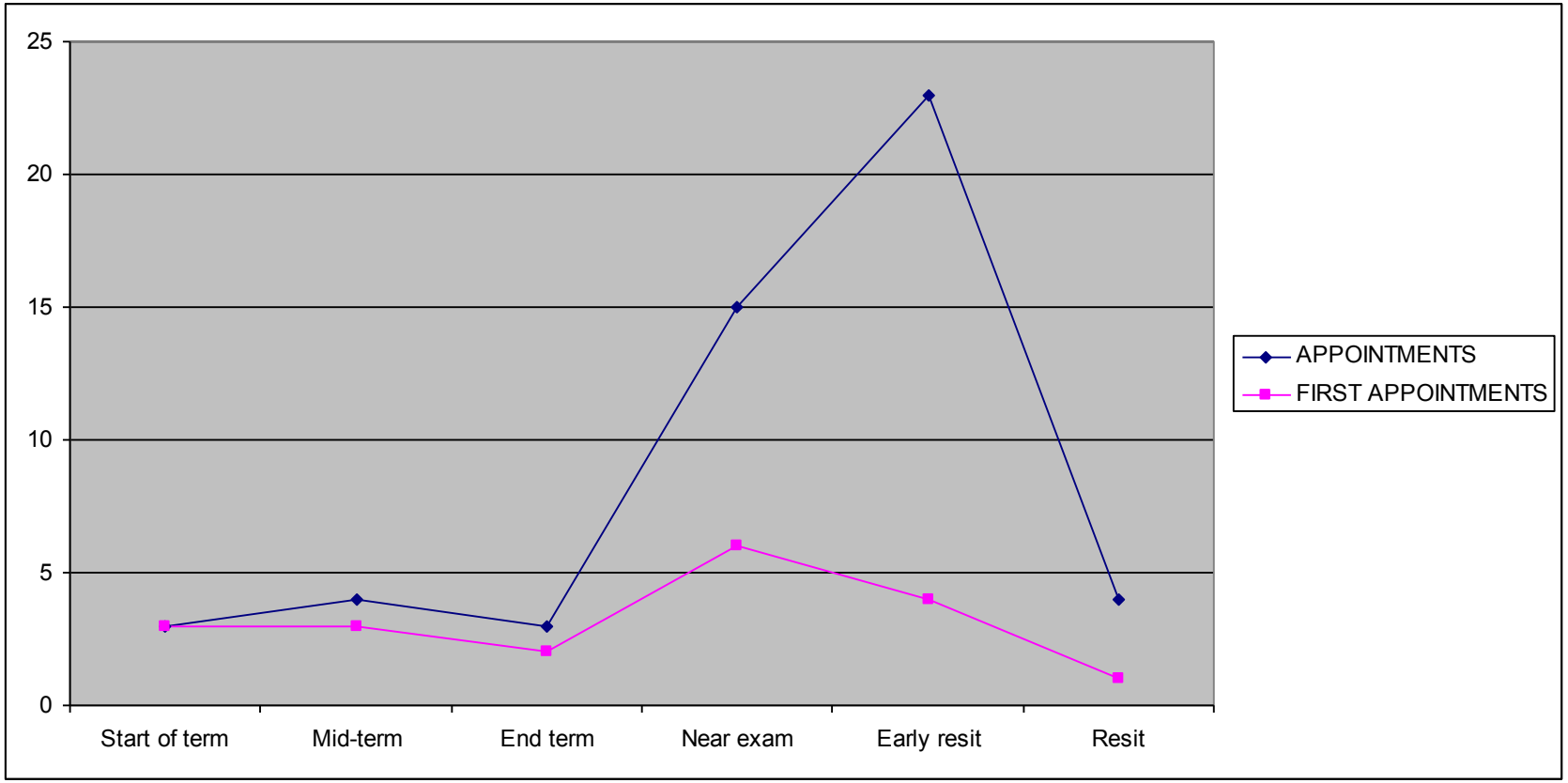
INTERVENTIONS

Diagnostic Test at the start of the term

Evidence – Engineering module B

INTERVENTIONS

Advertised special
Resit drop-in



Data Analysis of exam results for students resitting Basic ICT and Maths Module

Despite increasing demand for one-to-one appointments, majority of students are still not reached, since many leave it too late, or never get round to accessing support.

Many students are having to resit modules in Level-3 mathematics.

Post-resit outcomes for 61 students required to resit one or both of the maths examinations

	Pass	Fail	Absent	**TOTAL**
One or more appointment(s) attended	5	1	1	**7**
No appointments(s) made/attended	14	15	25	**54**
TOTAL	**19**	**16**	**26**	**61**

Of the 6 students who attended the resit and saw me, 5 (i.e.: 83.3%) passed.

Of the 29 students who attended the resit but did not see me, 14 (i.e.: 48.3%) passed.

H_0: The presence or absence of Skillzone appointments has no bearing on whether a student passes, fails, or is absent from the resit;

H_1: The presence of one or more Skillzone appointments has a bearing on whether a student passes, fails, or is absent from the resit.

Chi-squared test: d.f.=2; X^2=6.039; critical value at p=0.05 is 5.991

Therefore, reject H_0 at 95% significance level.

Comparing the performance of: students who passed and saw me; and students who passed but did not see me

	N	Mean	s.d.
One or more appointment(s) attended	5	57.20	8.52
No appointments(s) made/attended	14	44.71	10.65

H_0: Considering exclusively students who passed the resit, the presence or absence of Skillzone appointments has no bearing on a student's score;
H_1: Considering exclusively students who passed the resit, the presence of one or more Skillzone appointments has a positive bearing on a student's score.

one-tailed t-test, with N_1=5; N_2=14:
d.f.=17; t=2.626; critical value at p=0.01 is 2.567

Therefore, reject H_0 at 99% significance level.

Numerical Reasoning Workshops for Health Study Year 2 Students

In contrast to Skillzone workshops, these workshops are compulsory and geared towards a specific test;

111 students across four groups: each group had two timetabled sessions during March and April, after a mid-year mock examination in which performance had been very poor;

Student feedback, in common with Skillzone workshops, expressed desire for more sessions and more contact time to practise questions.

Comparing performance in mid-year mock assessment (before intervention) and end-of year real assessment (after intervention)

	Number (Percentage) of students who passed	Mean overall mark
Mid-year mock assessment	32 (28.9% of cohort)	26%
End-of-year real assessment	81 (73.0% of cohort)	41%

Delivering mathematical support – research and recommendations

Diagnostic testing a vital tool for identifying where guidance is needed (and for whom);

For staff, diagnostic test results provide a formal infrastructure to identify ‘at-risk’ students (Matthews et al. 2012, p.19);

For students, diagnostic tests encourage them to confront issues early (Mireles and Ward 2011, p. 40).

Mathematical Support at UEL in the new academic year

Diagnostic testing and regular sessions as timetabled facets of undergraduate courses;

Provision of a dedicated study space at ‘arm’s length’, opened in March 2015 (cf. research by Croft et al. 2008, pp.13–16);

Consideration of how to deploy resources, with regard to impact on student behaviour; cf. cramming, procrastination, the ‘local traveller’ syndrome (Bell et al. 2001, pp.120–121), and the effects of ‘blended teaching’ (Inglis et al. 2011).

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