# **Chapter Title**

Exploring the impact of Learning Development on student engagement, experience and learning

## Abstract

The Learning Development (LD) team at the University of Northampton comprises specialist tutors who provide advice and guidance to *all* students on academic and study skills. This advice is delivered through one-to-one tutorials, embedded workshops, drop-in sessions and their online Skills Hub.

A research project was initiated to ascertain the impact of their work. Measuring impact is challenging and is the perennial problem within the global Learning Development community.

The project aimed to:

- assess student awareness of the service
- identify the reasons why students use LD, or choose not to use it
- measure the effectiveness and impact of LD on the students who use the service compared to those who do not
- estimate the impact of the LD service on student retention

Over the period of an academic year several data collection methods were employed: reviewing longitudinal data from undergraduate student assessments (from 16,194 students) over three years; analysing a questionnaire with responses from over 250 current students taken from the entire student population; collating 161 questionnaires from students who have utilised the LD team and undertaking semi-structured interviews with current students.

This chapter outlines the impact of the LD team upon student learning and academic development. It examines the importance of the role of a LD service, reviews the focus of the team upon aligning its work to that of faculty colleagues to ensure that academic skills are embedded in the curriculum. Finally, it puts forward an approach to measure the impact of Learning Development as a discipline on the retention and progression of UK HE students.

### Keywords

Learning Development; Student Attainment; Measuring Impact.

## Introduction

The Learning Development team at the University of Northampton was created in the early 1990s to support students entering Higher Education as a result of increased widening participation. Nene College (as was) funded a learning and teaching project to support students with their academic skills at their smaller Arts campus. The institution welcomed the initiative, funding continued and it grew into the Centre for Academic Practice and was led by the late Sandy Gilkes who was awarded National Teaching Fellowship status due to her work in this area.

The Centre of Academic Practice was founded on the premise that it would support and encourage the development of *all* students; it was not intended to be remedial and this strong ethos rings true especially today. Now called Learning Development, (LD), the team has grown from a very small project to a team of 10 LD Tutors who support and enhance the academic (including maths and statistics) skills of over 13,000 students – undergraduates, postgraduates and even faculty colleagues. In the last few years, the University of Northampton has relocated to a purpose build town centre campus and has adopted an 'active blended learning' (ABL) approach to all of its teaching.

Active blended learning is taught through student-centred activities that support the development of subject knowledge and understanding, independent learning and digital fluency. Our face-to-face teaching is facilitated in a practical and collaborative manner, clearly linked to learning activity outside the classroom. Opportunities are provided for students to develop autonomy, Changemaker attributes and employability skills.

Institute of Learning and Teaching (2019a).

This small group teaching is undertaken online and face to face; there are no lecture theatres at the Waterside campus. This change has been embraced by the LD team alongside the university wide 'Integrated Learner Support' model whereby at the end of the project *all* students will receive embedded and bespoke sessions with the LD team (plus Academic Librarians and Changemaker champions). The COVID-10 Pandemic and its impact upon working practices must also be commented upon within the context of this research project too. The University of Northampton's move to a new campus coupled with embracing an Active Blended Learning model, served the Learning Development team well. All members of the team were able to leave campus and work from home during lockdown using the same technology: all drop-ins, tutorials and workshops could still be delivered as planned, albeit online. This is a new approach and does not impact the research reported here but it does give context: the institution sees the work of the LD team as integral to its success and has therefore placed it within the centre of a university wide approach to learning and teaching (Institute of Learning and Teaching, 2019b).

### **Understanding and Awareness of Learning Development**

Within the relatively new field of Learning Development there is always a considerable amount of discussion surrounding how to measure the impact of interventions deployed to students. Measuring the

impact of Learning Development is incredibly challenging and therefore It is imperative to outline from the beginning what is meant by "impact" as there are many potential definitions. Within this project, impact is measured utilising three metrics: 1) student attainment; 2) Awareness of the LD team and 3) Self-reported satisfaction when engaging with Learning Development The Learning Development community seeks to understand if its endeavours have any impact upon student attainment, progression, retention and their self-reported confidence. It is important to note that there are other stakeholders who want to know the impact of the LD team upon students; these include external bodies such as the Association of Learning Developers in Higher Education (ALDinHE), as well as government funded bodies, others such as Advance HE and the leaders at the University of Northampton. However, impact means different things for different stakeholders: Learning Development professionals want to understand whether the work they undertake has any impact upon the students' wellbeing and self-reported confidence whereas the move to ensuring the progression and retention of students in recent years has led University managers to want to understand whether Learning Development (and other interventions) have any impact upon student retention. To put crudely, the decision makers need to know where to invest their budgets to ensure the maximum impact and outcome, especially in the light of the HE sector being regulated by the Office for Students and the importance placed upon Access and Participation Plans and value for money.

Measuring the impact of Learning Development involves either of trying to isolate the appropriate student data which is very challenging or by gaining an understanding of student self-reported confidence; which is important in itself but does not give us the whole picture in terms of attainment, progression and retention. Understanding self-reported confidence does support the ethos of inclusivity. Another way of understanding Learning Development impact is by analysing the grades students achieve before and after a Learning Development intervention however this has its own challenges – time frames; number of students that can be analysed; availability of the data; the data being in the right format, etc. It is known that LD team, on average, see students with higher grades compared to the University's profile (Loddick and Coulson, 2018). While this knowledge is encouraging it does lead LD practitioners to consider the perennial problem of the Learning Development community: i) Do LD teams see students with better grades because they are more engaged students? ii) Or do students obtain better grades as a consequence of implementing the advice given by LD tutors?

The research presented here attempts to answer some of the questions the field of Learning Development discusses at length as outlined above in i) and ii). The LD team at the University of Northampton has designed a holistic approach to measure the impact of the interventions employed to improve and enhance students' academic skills. The research, developed over several years, has incorporated different strands of the meaning of impact. This design has been created in line with the work by Kirkpatrick and Kirkpatrick (2008) who developed a four-stage model to evaluate training programmes. These stage are:

- 1. Reaction evaluating who uses the service and how they react to it
- 2. Learning how much users change their attitude and improve their knowledge or skills
- 3. Behaviour how has behaviour changed from using the service?
- 4. Result has there been a change in the final result from using the service?

Within this research project, different types of data were utilised The first tranche, in line with the results stage of Kirkpatrick and Kirkpatrick (2008), was to examine the academic results of those students engaging with the Learning Development team. Students were flagged if they had engaged with the team and their grades were only recorded if they had submitted an assignment in the 30 days following the appointment. In total, 290,748 undergraduate student assessments (from 16,194 students) over the academic years: 2015/16, 2016/17 and 2017/18 were collected. The data generated allowed a comparison between those students who had attended LD and those students who had not. These results were then plotted against the University student profile to explore the distribution of grades of those students who attended the LD team.

Gillard et al. (2010) states that the concept of 'impact' is far more complex than suspected and cannot simply be measured by academic results. Therefore, the second tranche of data relates to the 'reaction' stage of the Kirkpatrick and Kirkpatrick model (2008). A survey was distributed to 20 percent of the student population who were taught from the Northampton campuses (2,080 students) and 266 responses (13 per cent) were received. It was sent to students as a Library and Learning Services survey and had general questions regarding the whole department. This was done to avoid a self-selecting sample and an over representation of students responding who were familiar with LD. However, within this survey there were questions regarding students' awareness and understanding of the LD team. This was undertaken to understand if students are aware of the LD team, its purpose and whether they felt that they needed advice from the LD team. Equally, this survey was concerned with investigating non-engagement.

The third tranche of data collected was concerned with the satisfaction of students who had attended a LD team tutorial. Data were collected on student perceptions relating to confidence and the development of their academic skills immediately following an LD team tutorial. This stage was completed by 161 students. This survey aligns to the 'Learning' stage of the Kirkpatrick and Kirkpatrick Model (2008) as students were asked about the development of their academic skills and knowledge following the tutorial. The researchers were aware that immediate feedback often results in a 'happy sheet' whereby the student is grateful after receiving help. In order to give students time to reflect on the service and understand if their 'behaviour' and approach had changed to learning, a second survey was administered after six weeks and 29 students responded.. Eleven of those 29 students participated in semi-structured interviews to further investigate the value of the appointments going beyond satisfaction and attainment to evaluate perceived outcomes, and, if the student had ever considered leaving the University.



Fig 2.1 – Approach taken to evaluate the impact of Learning Development

### **Awareness and Engagement**

In terms of awareness, 209 out of 266 students (78.6 per cent) responded that they had heard of the LD team. Although it is acknowledged that students gain an awareness of the LD team from multiple sources, most students (64.1 per cent) identified they were made aware of LD team by their lecturer or tutor and 30.6 per cent via LD workshops. These results are important since there is an obvious need for Learning Development practitioners to liaise and build a relationship with faculty-based colleagues. Consequently, this will lead to a greater opportunity to deliver embedded workshops, giving the students an increased awareness of the LD team.

In terms of engagement, from the 209 students who had heard of the LD team, it was found that 72 students (34.4 per cent) had attended LD for an individual tutorial or a drop-in session. This equates to 27 per cent of *all* students who attended LD. The reason given by students for attending was overwhelmingly that they had self-elected and only 6.8 per cent students engaged because they were directed to do so by their lecturer. Students are made aware of LD by their lecturer, but they do not attend because they are told to by their lecturer. Hence the motivation for engagement with LD must be the decision of the student themselves, to reach their potential or if they have recognised they have a learning need.

Students who did not engage with LD reported that they received the support they needed from elsewhere, this could be friends or family or from faculty based academic staff. This result was expected; however, it was found that 16.2 per cent of students who had heard of LD but had not

engaged, reported that they do not receive any academic support. This simply could be that they do not feel the need to access any support, or more worryingly, they do not feel that they can ask for the support, or they do not believe that the session will be beneficial to them.





Fig 3.1 Flowchart to highlight the awareness and engagement with LD

Although most students are aware of LD, the flip side of this is that approximately one in five students have not heard of LD, which is not a satisfactory level of awareness. Furthermore, it was found that once a student has an understanding of LD, they tend not to share this with their peers. Interestingly, only 20.4 per cent of students were made aware of LD from another student. Consequently, the LD team at Northampton have been actively involved in the development of an integrated learner support model implemented in the 2018/19 academic year. This model provides LD, in negotiation with faculty colleagues, the opportunity to deliver embedded academic skills in a timely and focused manner to all undergraduate students (timely: at certain points when advice was really needed such as first assignment, when feedback is received, before exams). Not only is this intended to strengthen the links between LD and faculty based academic staff, and embed academic skills within programmes, it will enable LD to increase their profile within the institution and ultimately make students aware of, and able to access LD if they feel that is appropriate.

By reaching more students this could have the added benefit of dispelling the myth that LD provision is remedial. On a scale of one to five (one represents strongly disagree, and 5 represents strongly agree), students who had attended LD gave a mean score of 1.74 (95% CI: 1.45 - 2.03) to the question that LD is for failing students. Hence, the students who engage recognise that LD is available to all students regardless of their current level. Although it is acknowledged that no data was collected for students on this question who did not attend LD. It is thought from previous studies (McIntosh and Barden, 2019), that some students, especially those not attending still consider LD to be a remedial

service. It is therefore believed this becomes a barrier for them to access LD. By directly engaging with all students, it is expected that not only will students be more aware of LD, but they will be aware that LD is available for everyone.

#### **Satisfaction**

Immediately following an LD tutorial, students were asked a series of questions regarding their engagement with the LD Tutor. Six weeks later the participating students were asked the same questions to determine if time had impacted their responses. The results are displayed in the clustered bar chart (fig 4.1) below and show the differences between immediate feedback and six weeks later. In addition, the 29 students who responded six weeks following the tutorial have been isolated in the immediate feedback to allow for comparisons of the same individuals.



Fig 4.1 Percentage of students agreeing immediately following an LD tutorial and 6 weeks following

It can be seen that immediately following a tutorial, the students have reported higher levels of confidence. This is not an unusual response and is often reported (Croft, 2012; Gillard, Robathan and Wilson, 2012). This could be a result of someone listening to their concerns or that they now have a plan or a direction for their query. However, Buchanan (2015) refers to this level of data as merely 'happy sheets' and the results should be taken with caution. For that reason, the questions the students were asked were repeated to measure the longitudinal impact six weeks later. Here it was found that confidence had not significantly diminished, and the students had maintained high levels of increased confidence. This is likely due to them applying the skills they discussed in the tutorial. Despite students reporting increased levels of confidence, it was shown that only 15 per cent of students declaring that the tutorial had given them everything they needed to independently complete their study. In contrast, and with no further intervention, six weeks on this figure had risen to 52 per cent. Hence, it can be surmised that it appears to take several weeks for students to fully realise all the information they had taken from the tutorial.

This finding is further supported by students stating they had increased levels of academic skills since their initial tutorial, 55 per cent of students reported this, however six weeks on, the percentage had risen to 82 per cent. This suggests that it might take time for students to practice and embed the skills they have discussed in their appointment, into their assignments, and until this has been done they do not consider that they have increased their academic skills. To ensure the reliability of the respondents, students were asked if they required additional sessions with LD. These results were almost a perfect mirror of the academic skills question; with 41 per cent initially claiming they required additional sessions with LD, although this figure reduced to 17 per cent when they had time to independently apply the guidance given to them from the appointment.

Therefore, these results suggest that although students might feel more confident following a tutorial, they still do not realise they have the necessary skills to independently complete their studies. However, the confidence they gain from the tutorial, could be sufficient in getting the student to attempt to apply the skills they might already had, or have gained in the tutorial to their studies. Hence the tutorial, by merely increasing confidence can be the catalyst for students to progress and become active in their learning. It is not until this happens that they fully realise the skills they possess, and they become an independent learner. This viewpoint is further supported by Pascarella *et al*, (2008) who found effective classroom instruction increased student satisfaction, which in turn, increased the probability of students persisting with their studies.

The next stage to be undertaken in this ongoing research project will concentrate on the quantitative impact of LD on retention. However, students did comment on retention at this stage during the interviews with four students stating that they would have left the institution without the intervention of LD. Although the numbers are relatively small, it does give justification to the future development of survival analysis models for students who attend LD and those who do not. Overall these results clearly demonstrate that students find LD helpful and have had a perceived impact on their academic studies. The next section will investigate the actual impact on attainment for those students who attend LD compared to those students who do not.

#### Attainment

The results below focus on the overall impact on LD tutorials on students' attainment. The results delve into demographic differences to understand if there are groups of students who benefit differently in terms of attainment from the tutorials. A descriptive analysis was conducted to compare students who had tutorials with LD with those that did not to highlight if there are differences between the groups. In addition, the results of whether the number of tutorials impact attainment were analysed and whether prior tutorials have an impact on future attainment. Both the mean and median average attainments are presented in the tables below. Due to the skewness of assessment grade data, twelve per cent of assessments were awarded a zero mark as they were not handed in. Whilst being conscious of the skewness, the mean values are used for the

interpretation of the results due to the large sample size and they provide more detailed changes between the groups.

In Table 1 it can be seen that across all undergraduate studies, assessments with an LD tutorial were on average just under six per cent higher (1-2 sub grades) than for those assessments without (no tutorial - M=51.04 per cent, one or more tutorials - M=56.76 per cent). This finding is consistent with research by Van Veggel and Amory (2014), Berry, Mac An Bhaird and O'Shea (2015) and Choudhary and Malthus (2017) who found a positive impact on attainment from study skills tutorials. These results combined with the large population size of this study gives further evidence tutorials have on student attainment.

Where students had more tutorials within 30 days of their assessment deadline their grades continued to increase by a further three per cent and this trend peaked at four tutorials. Students seeing the LD team five or more times made improvements, but were only awarded one sub grade higher compared to no tutorials. One possible explanation could be that students seeking support from LD more than four times lack independence in applying tutorial knowledge rather than gaining new learning from additional tutorials. Further research examining these students is required to understand this fully.

	Grade					
Number of Learning Development tutorials	Number of		SE of			
within 30 days of assessment date	assessments	Mean	mean	Median		
No tutorials	283997	48.66	.05	55.00		
1	4705	55.92	.27	58.00		
2	1287	56.79	.52	61.00		
3	477	56.55	.88	61.00		
4	162	57.15	1.33	58.00		
5+	120	55.78	1.49	58.00		

Table 1. Mean and Median student assessment grades by number of tutorials with Learning Development

Attainment increased further if students had seen LD previously gaining just over two per cent extra compared to those seeing the LD team for the first time and six percent (2 sub-grades) compared to those assignments where the student had no LD tutorial support (Table 2). This finding is in line with research by Young-Jones et al. (2013) that found a continued relationship with the academic advisor (students meeting at least once per semester) impacted student success when compared to those meeting less frequently. The goal of Learning Development is to develop students into independent learners and this result suggests that one way this can be enhanced is by building a relationship with students.

Table 2: Number of assessments and average grade based on LD tutorials and whether the student had seen LD previously

		Grade				
Number of Learning						
Development tutorials	Seen Learning			Standard		
within 30 days of	Development	Number of		Error of		
assessment date	previously	assessments	Mean	Mean		
No tutorials	No	256572	48.08	.05		
	Yes	27425	54.10	.13		
1 or more	No	3416	54.81	.32		
	Yes	3335	57.54	.31		

Demographic difference in attainment

As well as understanding if LD tutorials generate an impact on student attainment, identifying if there are any demographic differences in students' attainment progress from tutorials is crucial to improve support and expand good practice. The demographic profiles compared were: -

- Gender
- Ethnicity
- Faculty of study
- Disability
- Age
- Polar4 quintiles the proportion of young people who enter higher education aged 18 or 19 between the years 2009-10 and 2014-15.

Table 3 - Mean and median assessment attainment based on demographics and whether the student had a tutorial with LD

Caracters chica		Laura nan						Mean Change	Median		
		No Tutorial				Talanta					
		No. of		Standard Error of				Santa Esserat			
		asses sme nts	Mean	Mean	Median						
Gender	Feasie	170461	50.57	.06	58.00	6495	56.50	24	61.00	6.23	3
	Nin in	1 13456	45.80	.08	55.00	1252	53.54	.68	68.00	7.54	3
	Officializing	80	38.35	3.22	41.00	1	58.00		68.00		
Really	Faculty Of Arts, Science & Technology	69661	49.96	.10	58.00	678	54.M	10	68.00	4.65	0
	Faculty Of Business &	68657	47.80	.10	55.00	1471	58.70		61.00	10.40	6
	Faculty Of Education & Reporting	35924	52.79	.11	58.00	+107	60.00	R	61.00	7.30	3
	Faculty Of Beath & Society	75843	48.44	.09	55.00	760	54.53		68.00	6.19	3
	Joint Borours	33912	43.81	.14	51.00	005	53.64	a	58.00	9.83	7
Elimidiy	Aslan	38651	49.87	.12	55.00	1073	66.68	6	68.00	5.81	3
	Clock	69864	38.24	.10	45.00	1901	-	A	66.00	11.18	10
	Nizad	7738	45.11	.30	55.00	162	12.55	162	68.00	7.22	3
	wate	19969	47.97	.18	55.00	550	58.00	36	61.00	11.03	6
	Unincentralized States	147771	53.54	.06	58.00	3075	60:10	.30	61.00	6.65	3
Ci misiliy	ile Known diestillig	249377	48.85	.05	55.00	807	67.07	24	61.00	8.21	6
	Known deabling	34620	47.26	.14	55.00	1173	61.63	.54	68.00	4.57	3
Sistenia age d dele all	1 20 years or under	195901	47.71	.06	55.00	3909	56.63	л	61.00	8.72	6
	21-34 <b>juan</b>	42013	49.97	.12	55.00	1076	56.84	.66	61.00	6.87	6
	25-23 <b>juan</b>	15133	51.16	.21	58.00	482	53.54	100	68.00	2.68	0
	34-20 pers	18532	51.89	.19	58.00	72	67.24		61.00	5.35	3
	40 years and over	12366	51.31	.22	58.00	663	53.07	л	68.00	2.66	0
POLAEL Cuintine	gris sing	959	49.13	.82	58.00	10	7430	344	75.08	25.17	18
	1 - the instantiants of participation of 12-13	37085	48.19	.13	55.00	504	5 <b>4</b> :9	.60	68.00	5.94	3
	2	46715	48.91	.12	55.00	1126	666	.60	61.00	6.63	6
	3	63676	48.98	.10	55.00	1365	66.77	ы	68.00	6.79	3
	4	62324	46.22	.10	55.00	1224	54.60	.54	68.00	8,38	3
	5 - the highest rate of cardicical co of 16-27	43450	48.49	.12	55.00	1024	67.42	.66	61.00	8,93	6
	<b>.</b>	29788	53.48	.13	58.00	875	60.18	R	61.00	7.07	3

The demographic breakdown by attainment and whether the student had an LD tutorial for the assessment is shown in table 3. Using a two-way ANOVA, gender observed no difference in terms of attainment from tutorials compared to those within the same group that did not have a tutorial [( F2, 290293 = 1.561, p = .210).].

Across all faculties an increase in attainment was seen for those assessments where students sought support from LD. However, there was also a statistically significant interaction effect across the faculties and having a LD tutorial [(F4, 290289=10.576, p < .001).] The Faculty of Business and Law observed the largest increase in attainment (mean increase 10.4) and the Faculty of Arts, Science and Technology the least (mean increase 4.65). Further analysis is needed to understand these differences.

Students who identified themselves as having either black or white ethnicity have a greater average increase in attainment from tutorials with LD compared to other ethnic backgrounds (mean increase 11.18 per cent and 11.03 per cent respectively) [( F4, 290289= 14.873, p < .001).] However, black students have on average, lower attainment than students from other ethnic background (M=38.54) and white students the highest levels of attainment (M=53.68). There may be reasons other than ethnicity affecting the impact of LD as black students are also more likely to be from the Faculty of Health and Society and the Faculty of Business and Law  $[(\chi 2(20, N=17244)=3174.8, p<0.01)].$ 

Students age has an impact on attainment after engaging with LD [( F4, 290289= 13.778, p < .001).]. It was found that students aged 25 and below at the beginning of the academic year saw an average increase in attainment of 7.8 per cent (95% CI [6.9-8.7]). However, students aged over 25 saw an average increase of 3.9 per cent (95% CI [2.6-5.3]). Further research showed that mature students who gain less from LD tutorials have no specific demographic profile in terms of faculty, programme studied, ethnicity or mode of study. This is a surprise finding from the research as multiple studies have shown that mature students gain similar or greater levels of attainment to non-mature students (Sheard, 2010; Crosling, Heagney, and Thomas 2009). Further research will be required therefore to understand why mature students are gaining less from LD tutorials.

The Polar4 quintiles classify areas across the UK based on the proportion of 18 or 19-year olds that participates in higher education into five quintiles (Office for Students, 2018). This study places students into the quintiles based on their home (non-term time) address. Quintile one is the lowest rate of participation in higher education and quintile five, the highest rate of participation. The research shows a significant interaction between the Polar4 quintiles and LD tutorials on student attainment [( F6, 290285= 2.478, p = .01)] with students from areas with higher HE participation rates gaining more from a tutorial than those from lower participation areas. Mountford et al (2015, 2017) presented findings confirming that students from higher Polar4 quintiles achieved higher grades at university (Mountford-Zimdars et al., 2015, 2017) although this research has similar results across the quintiles for the non-tutorial group. However, these results suggest that those from the higher quintiles can achieve greater academic attainment from tutorials.

#### Limitation

One of the limitations of the research is that of causality. It is possible that those students who have chosen to seek support via the LD tutorial system are already engaged in the learning process. Although there are differences in attainment for students who have tutorials with LD we cannot categorically claim that is it the tutorials that caused this but it would be a logical assumption.. Kirkpatrick and Kirkpatrick (2008) state in their 4-stage model that well designed learner support systems create users (or students in this case) who change their attitudes to learning and subsequently improve their knowledge and skills. This would explain why student attainment improved. Further research is required to develop a measure of engagement that can be used to control for this and see if there is an impact. This issue has been addressed in similar research looking at the impact of tutorials (Manalo, Marshall, and Fraser 2009; MacGillivray, 2009) who concluded that these were limitations of the research but examining the patterns from the research would provide conclusions into the impact of tutorials.

#### **Conclusion and Future Directions**

The research presented here allows readers to conclude that LD interventions have an impact upon student satisfaction, initially students leave the LD team feeling happy and more confident about their academic work. This is to be expected as this type of measurement is often referred to as 'happy sheets' but at the six week follow up mark, these students are still happy but in a different way: they assert contrary to their previous statements that they need to return to LD for more support regarding a different topic but that their initial needs were met. So, LD interventions allows students to understand what they don't know and then enable them to identify other areas of their academic skills that need developing. This seems obvious but will have an impact upon how LD tutors approach tutorials in the future at Northampton by including more signposting to other LD resources and topics at the conclusion of a tutorial.

Student awareness of the LD team stands at 78.6 per cent; so four out of five students have an understanding of the team. This does need to be improved and the roll out of the Integrated Learner Support (ILS) model from 2018-19 onwards should ensure that levels of awareness increase. This then implies that the number of students engaged with the team will rise; this can only be seen as a good thing for student satisfaction and attainment. However, the required resources (funding; staff) need to be planned and resourced by the stakeholder who manage budgets. In essence, the funding and support for bigger LD provision needs to be in place to meet student demand.

The highlight of this research project so far is the incredible findings around student attainment. The data concludes that student grades increase when they interact with the LD team. This is a fantastic sound bite when advocating for the importance and continuance of the LD team at Northampton and beyond. However, the team will not rest on its laurels as the data pointed to differences between the impact upon some groups of BAME students compared to non BAME students; it is clear that the starting grade of some groups of BAME students is, on the whole lower, and therefore more gains can be made. But why is this the case? How can LD support bridging that gap for some BAME groups? The other area of discrepancy is age – why do older students not benefit as much as younger students? The research team have already decided to turn this project into a longitudinal study so that cohorts can be compared, and data will be collected during each academic year to see any changes over time or whether the ILS project has any impact. Survival analysis is also being considered as a serious option to understand LD impact upon non-continuation.

#### **Cross-References**

**References** (up to 50; refer to author guidelines for citation and bibliography styles to use for this publication)

Berry, E., Mac an Bhaird, C. and O'Shea, A. (2005) Investigating relationships between the usage of Mathematics Learning Support and performance of at-risk students. *Teaching Mathematics and its Applications*, [online] **34**(4), pp.194–204. Available from: <u>https://academic.oup.com/teamat/article-lookup/doi/10.1093/teamat/hrv005</u> [Accessed: 30 July 2019].

Buchanan, A. (2015) Anecdotal to actual: identifying users of learning development to inform future practice. *Journal of Learning Development in Higher Education*. **9**, pp.1–16.

Croft, T. (2012) Gathering student feedback on mathematics and statistics support provision a guide for those running mathematics support centres. [online] Available from: <u>http://www.mathcentre.ac.uk/resources/uploaded/sigma-brochure-for-accfeb5-</u> <u>finalv1opt.pdf</u> [Accessed: 13 December 2019].

Choudhary, R. and Malthus, C. (2017) The impact of targeted mathematics/numeracy tutorials on maths anxiety, numeracy and basic drug calculation exam marks. *Journal of Academic Language & Learning*, **11**(1), pp A5-A6.

Crosling, G., Heagney, M. and Thomas, L. (2009) Improving student retention. *Australian Universities review*, **51**(2), pp.9–18.

Gillard, J., Robathan, K., and Wilson, R. (2010) Measuring the effectiveness of a mathematics support service: an email survey. *Teaching Mathematics and Its Applications 30*, pp.43-52.

Institute of Learning and Teaching. (2019a) *Defining Active Blended Learning. University of Northampton.* [online]. Available from: <u>https://www.northampton.ac.uk/ilt/current-projects/defining-abl/</u> [Accessed: 14 July 2019].

Institute of Learning and Teaching. (2019b) *Integrated Learner Support. University of Northampton.* [online]. Available from: <u>https://www.northampton.ac.uk/ilt/academic-development/integrated-learner-support/</u> [Accessed: 14 July 2019].

Loddick, A. and Coulson, K. V. (2018) *Give us the money! Evaluating the effectiveness of Learning Development (and justifying our existence!).* Paper presented to: 15th Association for Learning Development in Higher Education (ALDinHE) Conference. University of Leicester, 25-27 March 2018.

McIntosh, E. and Barden, M. (2019). The LEAP (Learning Excellence Achievement Pathway) framework: A model for student learning development in higher education. **14**, pp.1-21.

Mountford-Zimdars, A., Sabri, D., Moore, J., Sanders, J., Jones, S. and Higham, L. (2015) *Causes of differences in student outcomes*. [online] Available from: <u>https://ore.exeter.ac.uk/repository/bitstream/handle/10871/31891/HEFCE2015\_diffout.pdf?seguence=1&isAllowed=y</u>> [Accessed: 5 July 2018]. Mountford-Zimdars, A., Sanders, J., Moore, J., Sabri, D., Jones, S. and Higham, L. (2017) What can universities do to support all their students to progress successfully throughout their time at university? *Perspectives: Policy and Practice in Higher Education*, [online] **21**(2–3), pp.101–110. Available from: <u>https://www.tandfonline.com/doi/full/10.1080/13603108.2016.1203368</u> [Accessed: 27 June 2019].

Office for Students. (2018) POLAR – *Participation of Local Areas*. [online] Available from: <u>https://www.officeforstudents.org.uk/data-and-analysis/polar-participation-of-local-areas/</u> [Accessed: 27 June 2019].

Pascarella, E., Seifert, T., Whitt, E., & Braxton, John M. (2008). Effective instruction and college student persistence: Some new evidence. *New Directions for Teaching and Learning, 2008*(115), 55-70.Sheard, M. (2010) Hardiness commitment, gender, and age differentiate university academic performance. *British Journal for Educational Psychology*, **79**(1), pp. 189-204.

Van Veggel, N. and Amory, J. (2014) The impact of maths support tutorials on mathematics confidence and academic performance in a cohort of HE Animal Science students. *PeerJ*, [online]. Available from: <u>https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4081135/</u> [Accessed: 15 August 2019].

Young-Jones, A.D., Burt, T.D., Dixon, S. and Hawthorne, M.J. (2013) Academic advising: does it really impact student success? *Quality Assurance in Education*, [online] 21(1), pp.7–19. Available from: <a href="http://www.emeraldinsight.com/doi/10.1108/09684881311293034">http://www.emeraldinsight.com/doi/10.1108/09684881311293034</a> [Accessed: 15 March 2018].