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Student Retention In Third Level - Have The First Year Experience And College Interventions Impacted Student Retention?

Anne Hurley

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1. Introduction

The focus of this paper is on exploring the impact of interventions during the first year of college. The paper considers the performance of students and their points level at entry, their participation in structured learning classes, tutorials etc. and their gender.

This analysis will inform the School of Hospitality Management and Tourism strategy around the first year experience. It is also hoped it would provide valuable insights for the Institute as a whole and for developing TU4Dublin first year experience strategy.

The school to date has prioritised enhancing student retention in first year with particular emphasis on the first year experience. This study will contribute to a greater understanding of the issues impacting on student retention and the effectiveness of various interventions.

A recent report published by the Higher Education Authority (HEA, 2014) on progression in Irish Higher Education Institutions highlighted an area of concern for institutes of technologies, where the non-progression figures increased from 22 percent in 2007/2008 to 24 percent in 2010/2011 and these are also significantly higher than comparable figures for the universities. Thus it is timely to develop informed strategies to enhance student retention and progression within the institute of technology sector.

2. Literature Review

The HEA study finds that overall the national non-progression rates across all sectors and all levels was 16 percent in 2010/2011 up from 15 percent in 2007/2008. The rates of non-progression vary significantly according to the NFQ level, ranging from 31%/28% in 2010/2011 at levels 6/7 compared to 25%/26% in 2007/2008 to 17 percent at level 8 compared to 16 percent in 2007/08. The HEA study has some key findings for institutes of technology in terms of student retention and progression. The 2010/2011 full-time undergraduate new entrants rates differ considerably according to the sector, ranging from 24 percent in an institute of technology (IoT) compared to 22 percent in 2007/2008 to 9 percent in a university and 4 percent in other colleges, consistent with the last study performed by the HEA.

Ireland is not unique in terms of dealing with the challenges of student retention and progression and considerable research is being conducted in the US in this area. A Harvard Graduate School of Education study cited in O'Keeffe (2013) concludes that student attrition is of particular prominence in the United States, which has the highest rate of student attrition in the industrialised world. Therefore there has been significant research activity in the US. O'Keeffe (2013) cites a study conducted by The American Institutes for Research in 2010 which concluded that the attrition rate among first year college students in the United States has been found to be between 30 and 50 percent. O'Keeffe (2013) cited a report from The Department of Education, Science and Training (DEST, 2004) that the attrition figures in Australia for domestic commencing undergraduate students was 21.2 per cent, whereas the attrition rate for commencing international undergraduate students compared to 18.0 percent.

Both the power of persuasion and placing a greater emphasis on the welfare of our students is key to retention. Cameron, Roxburgh, Taylor and Lauder (2011) state "one of the most important findings was that at least 50 percent of those who completed a nursing programme had considered leaving at some stage but had changed their minds". This is interesting because it demonstrates that a significant number of potential leavers can be persuaded to continue on the programme. Research has shown the importance of closer contact between students and teachers in improving retention (Hovdhaugen and Aamodt) cited in Hovdhaugen, Frolich and Aamodt (2013).

Various studies have pointed towards the importance for colleges of allocating resources first on the first year experience, Veefra comments in Thompson and Turner (2012) "the first year of college is critical to educational persistence and retention" (2012, p. 1).

The adoption of interventions sooner rather than later for first years is important and effective. Noel, Levitz, and Salud cited in Brown (2012) "Research indicates that college students usually decide to drop-out of college at the end of their freshman year", "which means interventions must occur during the freshman college year to be the most effective"(Brown, 2012, p. 4).

One method of preventing student attrition was identified in a study by Heisserer and Parette, cited in O'Keeffe (2013) "the single most important factor in advising students who are at risk is helping them to feel that they are cared for by the institution" (2013, p. 4).

The use of interventions for example, support systems, programs, mentoring, peer support and counselling are areas researched by many institutions. The objective of these interventions is to enhance the first year experience, Jafee cited in Thompson and Turner (2012) that in the US most colleges address this issue by creating a first year support method for new students. Some colleges have sought external expertise to ensure students receive the necessary facilities, Tinto cited in Thompson and Turner (2012) that many colleges today have identified the importance of the need for experts, strategic planning and developing initiatives for programs offered to their new students. The adjusting to college phase can be assisted with peer mentoring and peer support playing a key role in the first year experience, Santos and Reigadas cited in Cerezo, McWhirter (2012) "Mentoring has been found to help in college adjustment by helping students gain knowledge about resources on campus and improving their self-esteem" and Battencourt, et al cited in Cerezo, McWhirter (2012) "Peer support has been found to enhance adjustment, especially when peers support students' social and academic needs and share social identities" (2012, p. 2). Attendance monitoring as an intervention has a positive effect on attainment, I will investigate if this is true in the school. A study conducted by John Colby states "There is a definite and proven correlation between attendance at teaching sessions and attainment in assessment." Newman-Ford et al identified that the more a student attends classes, the less chance they have of failing exams and it increases their chances of attaining higher grades.

The introduction of a core module 'introduction to higher education for first years' incorporating in-class group work, lecture topics for example, study skills, time management etc. and reflection. Brooman and Darwent suggest "our study supports the findings of previous research in indicating the value of encouraging the use of a reflective diary" (2012, p. 12).

Is this the question that should be asked Cameron, Roxburgh, Taylor and Lauder "retention (why students stay) as opposed to attrition (why students leave)" (2011, p. 1).' I am in favour of asking both questions, however, information on attrition or why students leave is often obtained by way of exit interview or questionnaire. In real life it can be difficult to obtain this information if students do not make contact prior to or on departure. A student retention questionnaire is an area that I would like to explore for second, third and fourth year students.

This study on student retention and college interventions aims to review student retention in the School of Hospitality Management and Tourism in DIT. The literature on retention on the first year experience and on interventions is predominantly from outside Europe, mainly from US and Australia. While the HEA's recent study provides statistics on student progression in Ireland it does not explore the impact of intervention or strategies on progression rates in Ireland. On completion, this study will add to the knowledge base on the first year experience and student retention in Ireland.

3. Research Methodology

The methodology includes both primary and secondary research.

Secondary research involved a review of relevant literature and consideration of various reports on student retention in Ireland and elsewhere.

The primary research involved collating and analysing data from the School of Hospitality Management and Tourism on student retention and performance. Statistical analysis was employed to test various hypotheses - is there a correlation between attendance/participation and performance, is there a correlation between leaving certificate points level and average score and is there a difference in performance between genders.

The data considered was the 2013/2014 first year student cohort. 290 students accepted a place on one of the six full time programmes offered in the school, of these 240 students registered for the programmes. Students entered the programmes through a number of different pathways, these were classified as:

- ✚ Leaving certificate - direct entry from completion of leaving certificate in 2013
- ✚ Access with points - disadvantaged students who reached the minimum entry points level for the programme
- ✚ Access without points - are disadvantaged students who were accepted on the programme without having the minimum entry requirements for the programme
- ✚ Deferrals are students who deferred entry having received an offer for a previous intake
- ✚ Disability scheme with points - students classified as having a disability who attained the minimum entry points for the programme
- ✚ Disability without points - students who did not have the minimum entry requirements for the programme
- ✚ FETAC are students that have applied through the CAO with a FETAC qualification
- ✚ Mature students are student aged 23 years or older who have applied through the CAO system
- ✚ Non standard referred to students that do not enter through pathways outlined above
- ✚ International are Non-EU fee paying students.

4. Findings

The first findings presented for the study are the 2013/2014 progression rate for the school. Each table include pathways in information, this highlights any areas of concern – low progression rates for the school. Table one shows the progression rate for all programmes is 75 percent, the non-progression rate is 25 percent, this is close the HEA report of 24 percent for IoT for 2010/2011. Table two shows the progression rate for level 7 programmes is 70 percent, the non-progression rate is 30 percent, this is higher than the HEA report of 28 percent for 2010/2011. Table three shows the progression rate for level 8 programmes is 81 percent, the non-progression rate is 19 percent, this is higher than the HEA report of 17 percent for 2010/2011. The table for each programme in the school is included in the appendices.

Table 1: DT401, DT406, DT408, DT411, DT412, DT413 (Combined) 2013-2014

Table one shows the progression rate for all programmes is 75%, the non-progression rate is 25%, this is close the HEA report of 24% for IoT for 2010/2011.

Entry Route	Acceptances	Registered	Passed all subjects Semester 1	Passed all subjects Semester 2	Progressed to next year	Percentage progressed*
Leaving Cert	184	153	97	73	118	77%
Access with points	13	9	6	5	8	89%
Access without points	13	12	7	3	7	58%
Deferrals	6	5	3	1	3	60%
Disability scheme with points	0	0	0	0	0	0
Disability scheme without points	4	4	1	0	3	75%
FETAC	46	40	26	18	29	73%
Mature students	23	16	9	7	11	69%
Nonstandard	1	1	1	0	1	100%
International	0	0	0	0	0	0
Total	290	240	150	107	180	75%

*Percentage progressed divided by registered.

Table 2: Level 7: DT406, DT408, DT411 (Combined) 2013-2014

Table two shows the progression rate for level 7 programmes is 70%, the non-progression rate is 30%, this is higher than the HEA report of 28% for 2010/2011.

Entry Route	Acceptances	Registered	Passed all subjects Semester 1	Passed all subjects Semester 2	Progressed to next year	Percentage progressed*
Leaving Cert	96	78	42	34	57	73%
Access with points	6	5	3	2	4	80%
Access without points	10	9	4	2	4	44%
Deferrals	5	5	3	1	3	60%
Disability scheme with points	0	0	0	0	0	0
Disability scheme without points	3	3	1	0	2	67%
FETAC	19	15	10	8	10	67%
Mature students	17	14	8	6	10	71%
Nonstandard	0	0	0	0	0	0
International	0	0	0	0	0	0
Total	156	129	71	53	90	70%

*Percentage progressed divided by registered.

Table 3: Level 8: DT401, DT412, DT413 (Combined) 2013-2014

Table three shows the progression rate for level 8 programmes is 81%, the non-progression rate is 19%, this is higher than the HEA report of 17% for 2010/2011.

Entry Route	Acceptances	Registered	Passed all subjects Semester 1	Passed all subjects Semester 2	Progressed to next year	Percentage progressed*
Leaving Cert	88	75	55	39	61	81%
Access with points	7	4	3	3	4	100%
Access without points	3	3	3	1	3	100%
Deferrals	1	0	0	0	0	0
Disability scheme with points	0	0	0	0	0	0
Disability scheme without points	1	1	0	0	1	100%
FETAC	27	25	16	10	19	76%
Mature students	6	2	1	1	1	50%
Nonstandard	1	1	1	0	1	100%
International	0	0	0	0	0	0
Total	134	111	79	54	90	81%

*Percentage progressed divided by registered.

The impact of interventions for example attendance monitoring is a key indicator of performance for all students across all programmes and levels in the School of Hospitality Management and Tourism. Correlation coefficient testing showed this finding, where a correlation coefficient between 0.5 to 1.0 is high correlation and 0.3 to 0.5 is weak correlation. The correlation coefficient for each figure one, two and three are between 0.5 and 1.0 showing high correlation, that is the higher the percentage attendance, the higher the average scores.

Fig 1 All Programmes: Correlation coefficient 0.7271

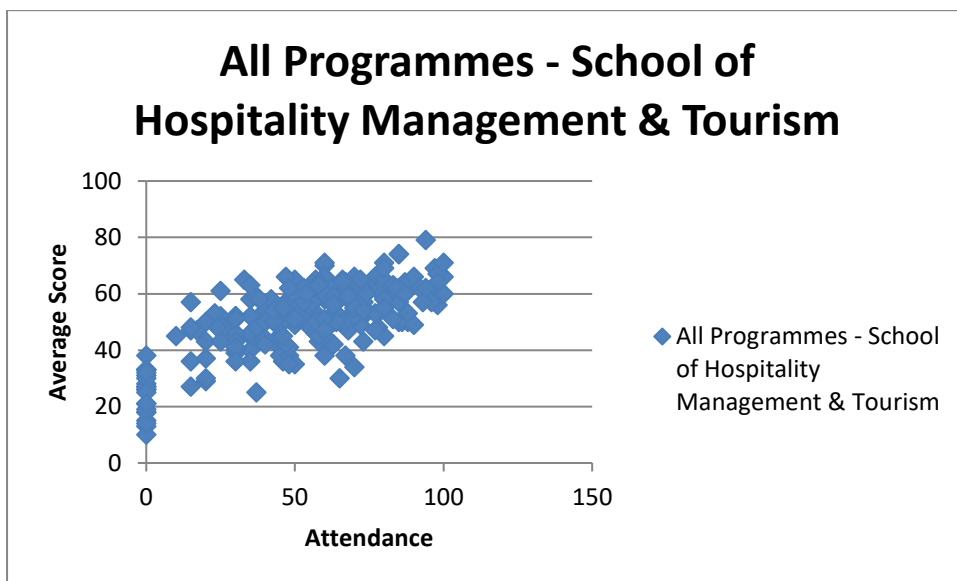


Fig 2 Level 7 Programmes: Correlation coefficient 0.7567

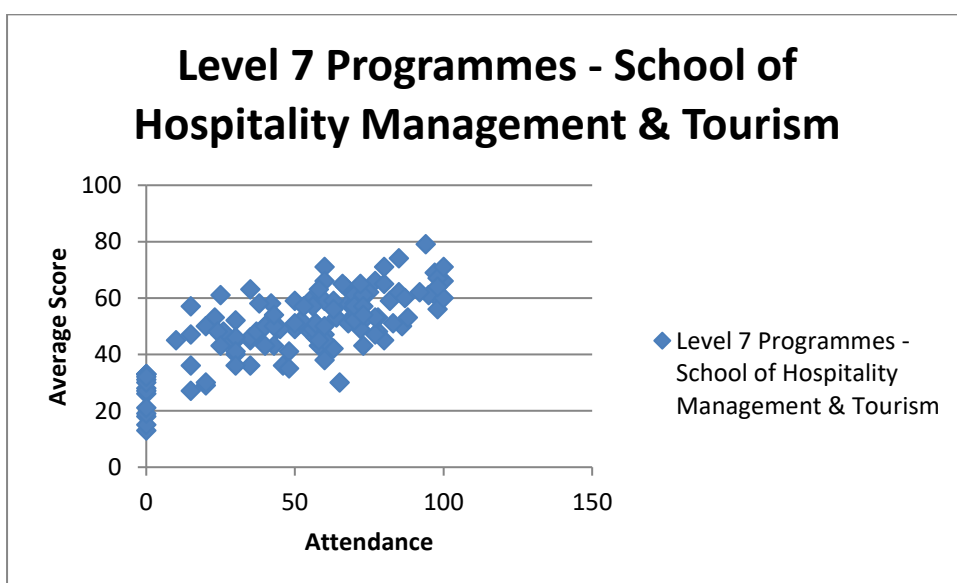
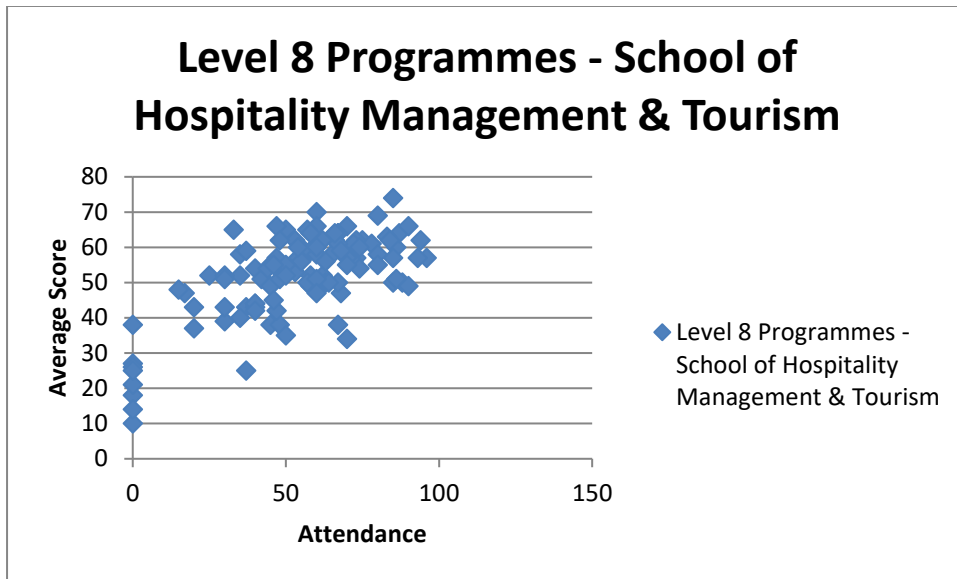


Fig 3 Level 8 Programmes: Correlation coefficient 0.6857



The impact of interventions for example attendance monitoring was examined for each programme and by gender. The high correlation coefficient findings showed attendance as a key indicator of performance for both males and females for all programmes in the school except for one programme (DT401 - Honours Degree in International Hospitality Management) where a low correlation of 0.1910 existed in relation to males.

Fig. 4 DT 401: Correlation coefficient 0.6628

A high correlation between attendance and performance exists

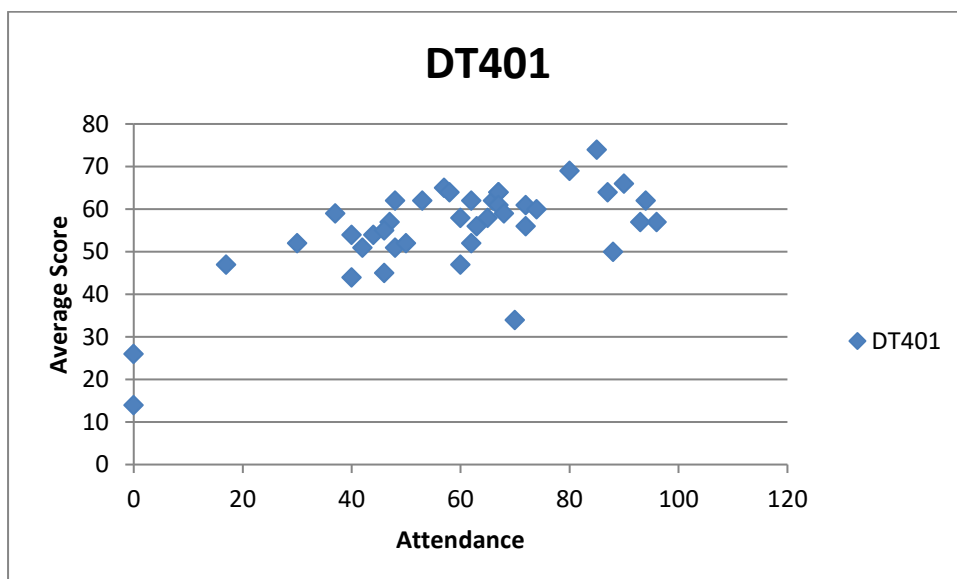


Fig. 5 DT 401 Males: Correlation coefficient 0.1910

A low correlation between attendance and performance exists

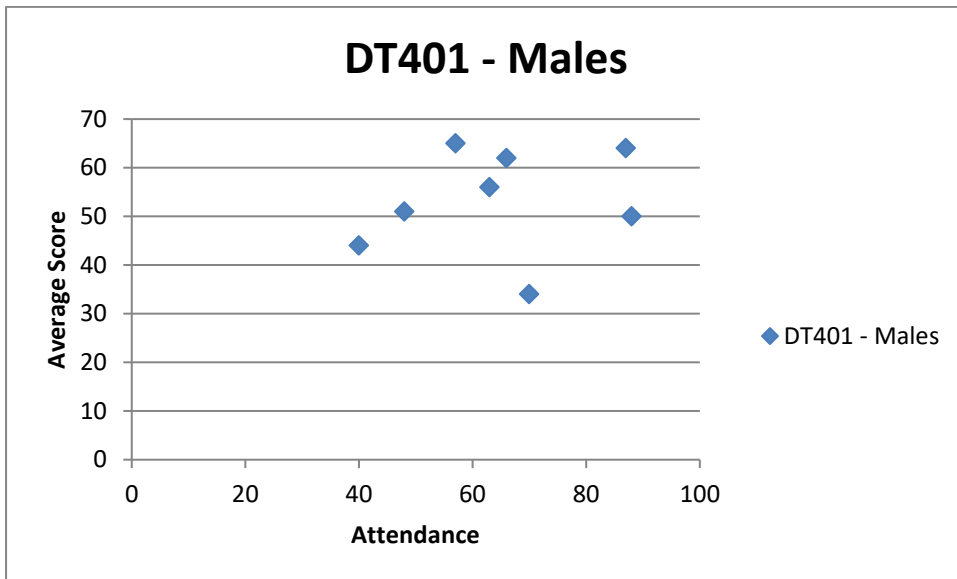


Fig. 6 DT 401 Females: Correlation coefficient 0.7612

A high correlation between attendance and performance exists

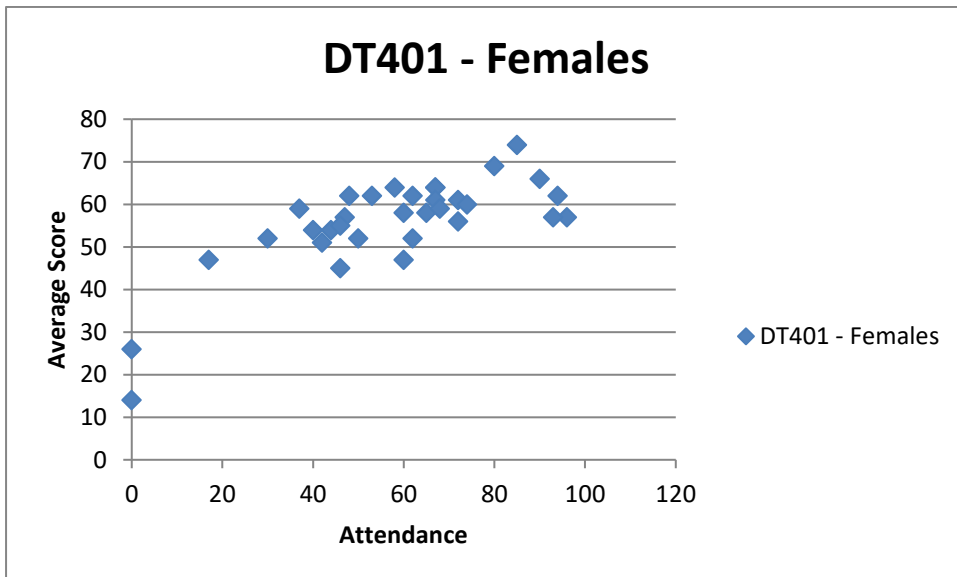


Fig. 7 DT 406: Correlation coefficient 0.7227

A high correlation between attendance and performance exists

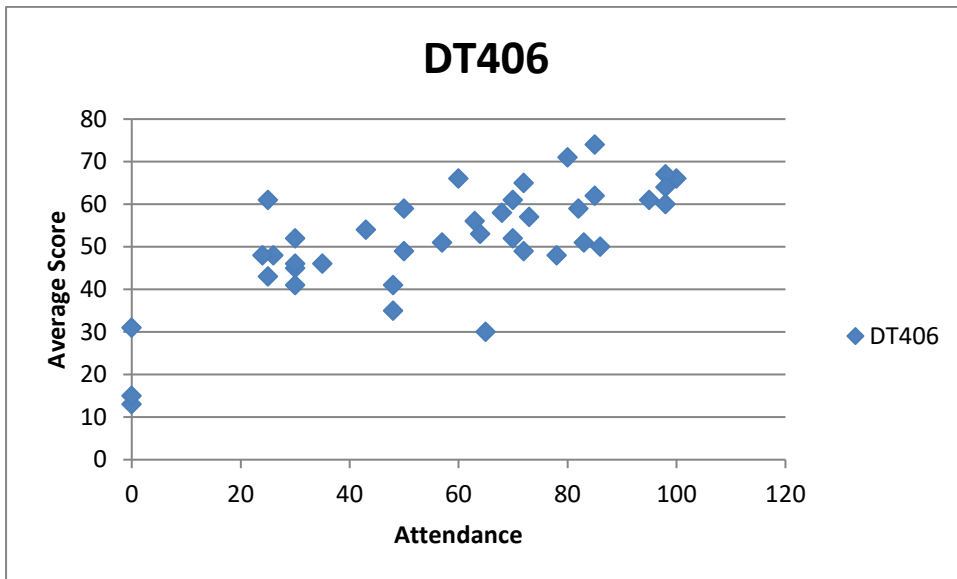


Fig. 8 DT 406 Males: Correlation coefficient 0.9481

A high correlation between attendance and performance exists

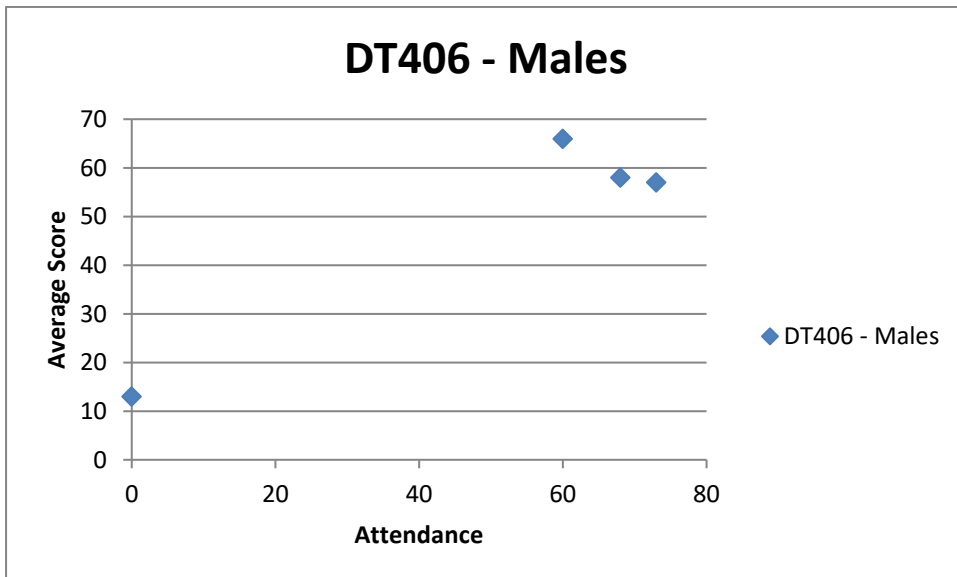


Fig. 9 DT 406 Females: Correlation coefficient 0.6907

A high correlation between attendance and performance exists

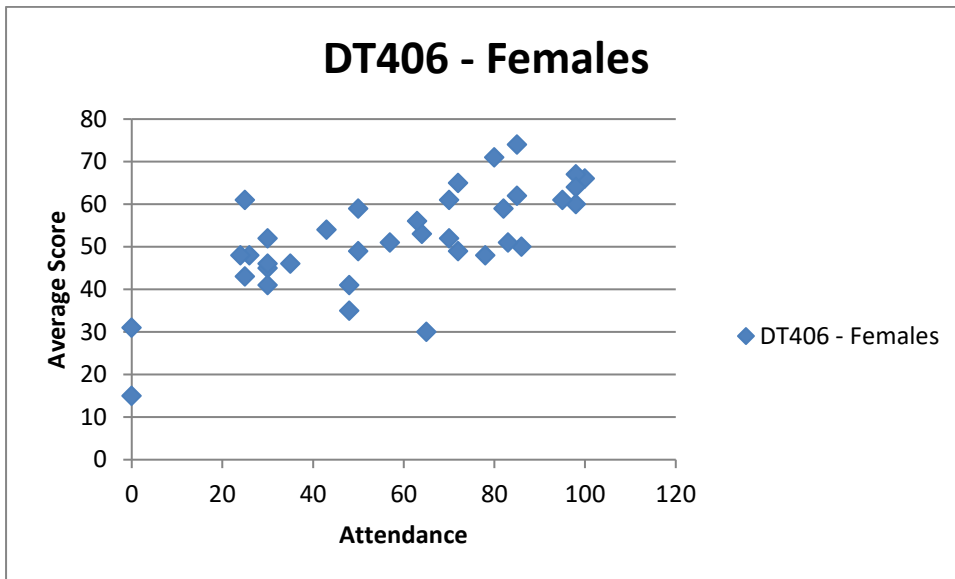


Fig. 10 DT 408: Correlation coefficient 0.8511

A high correlation between attendance and performance exists

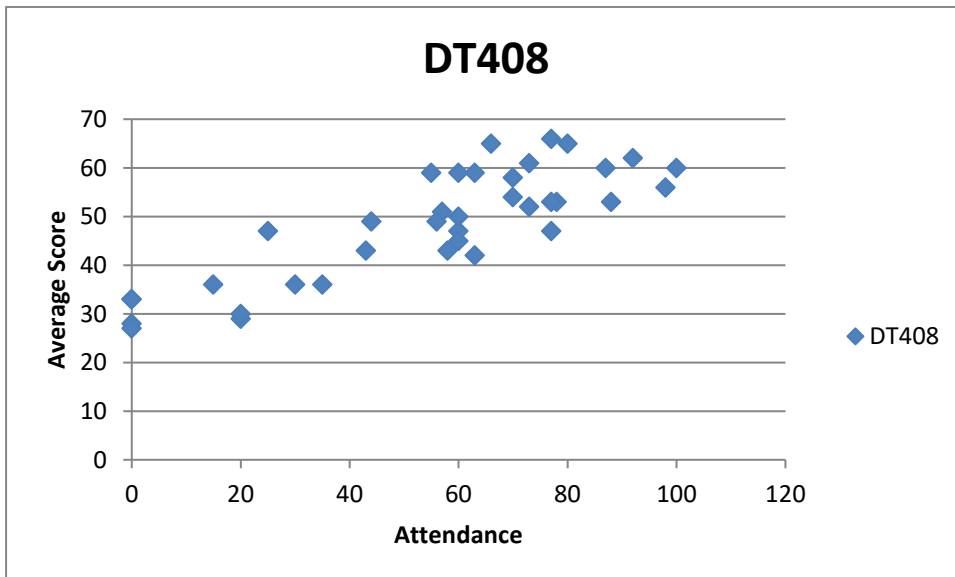


Fig. 11 DT 408 Males: Correlation coefficient 0.8033

A high correlation between attendance and performance exists

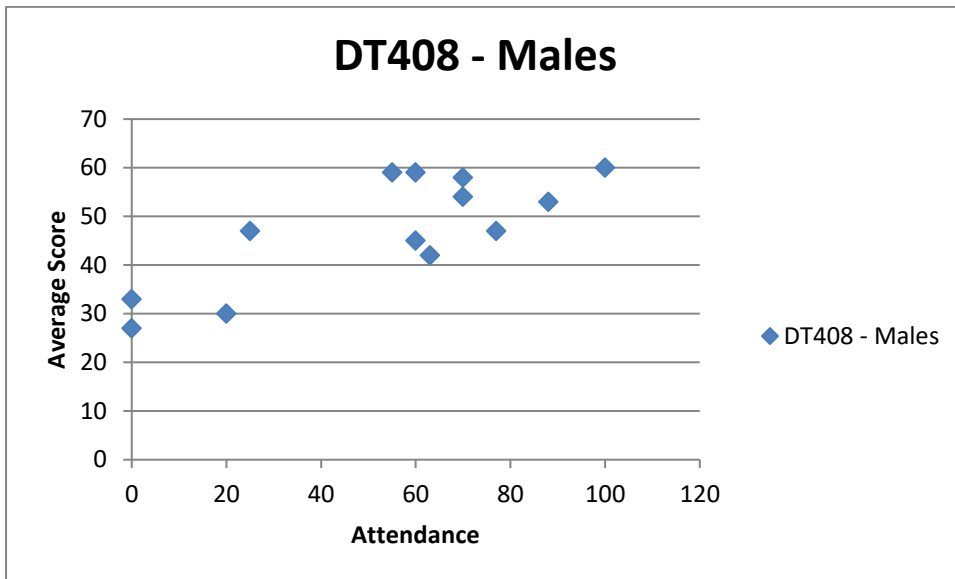


Fig. 12 DT 408 Females: Correlation coefficient 0.8839

A high correlation between attendance and performance exists

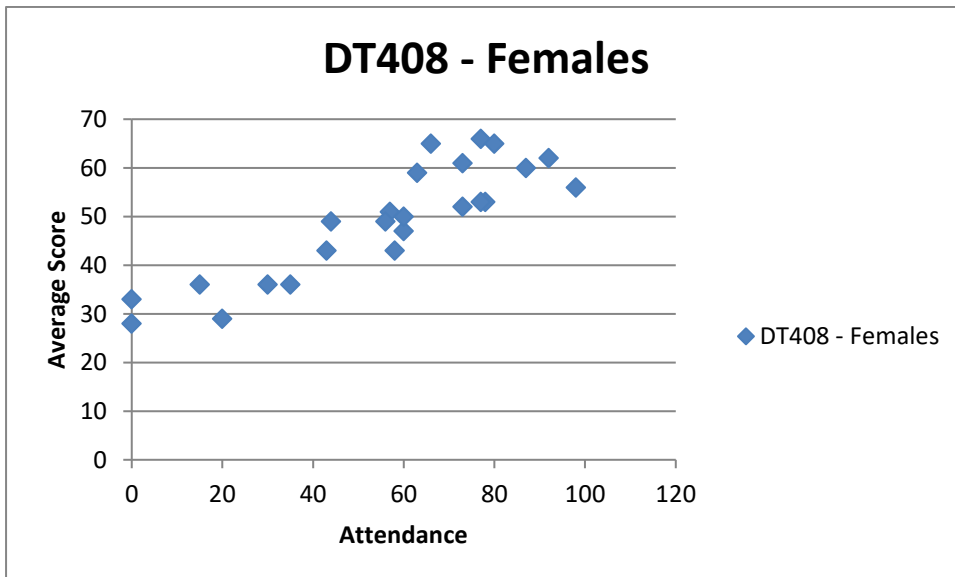


Fig. 13 DT 411: Correlation coefficient 0.7512

A high correlation between attendance and performance exists

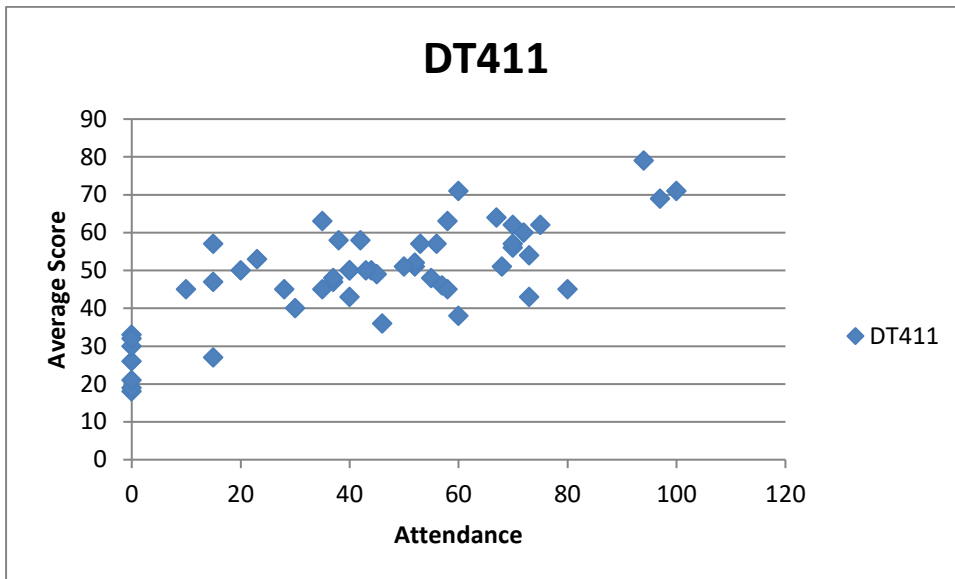


Fig. 14 DT 411 Males: Correlation coefficient 0.7700

A high correlation between attendance and performance exists

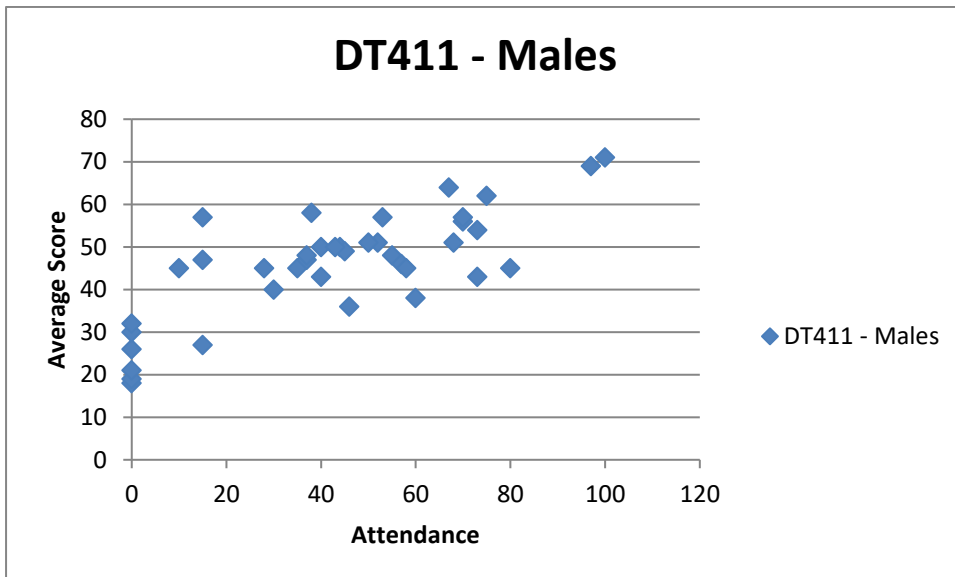


Fig. 15 DT 411 Females: Correlation coefficient 0.8444

A high correlation between attendance and performance exists

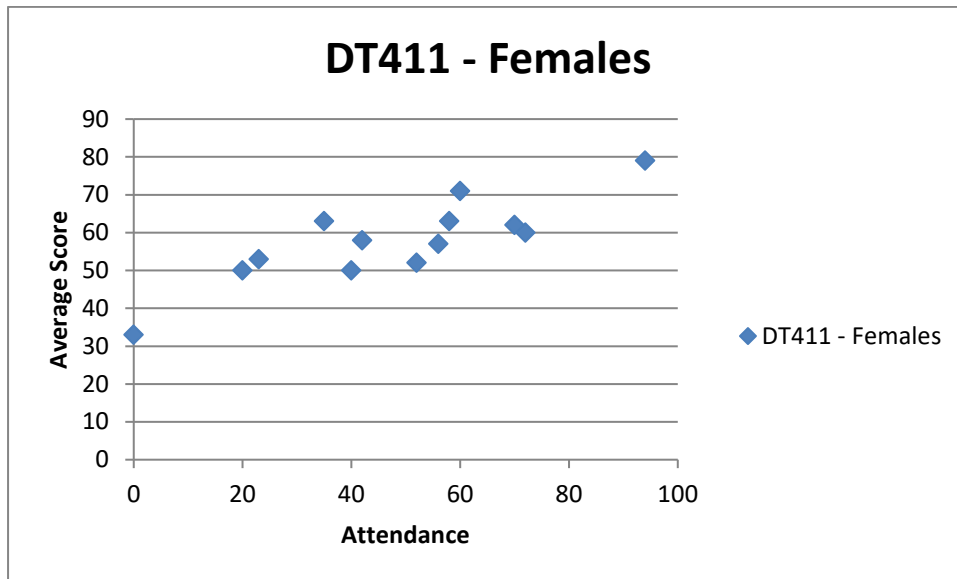


Fig. 16 DT 412: Correlation coefficient 0.7318

A high correlation between attendance and performance exists

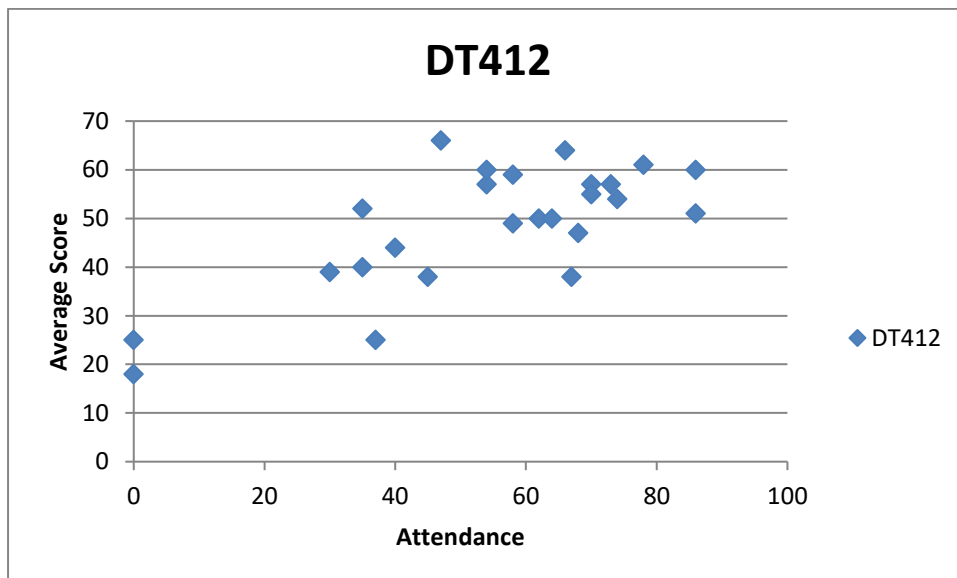


Fig. 17 DT 412 Males: Correlation coefficient 0.7987

A high correlation between attendance and performance exists

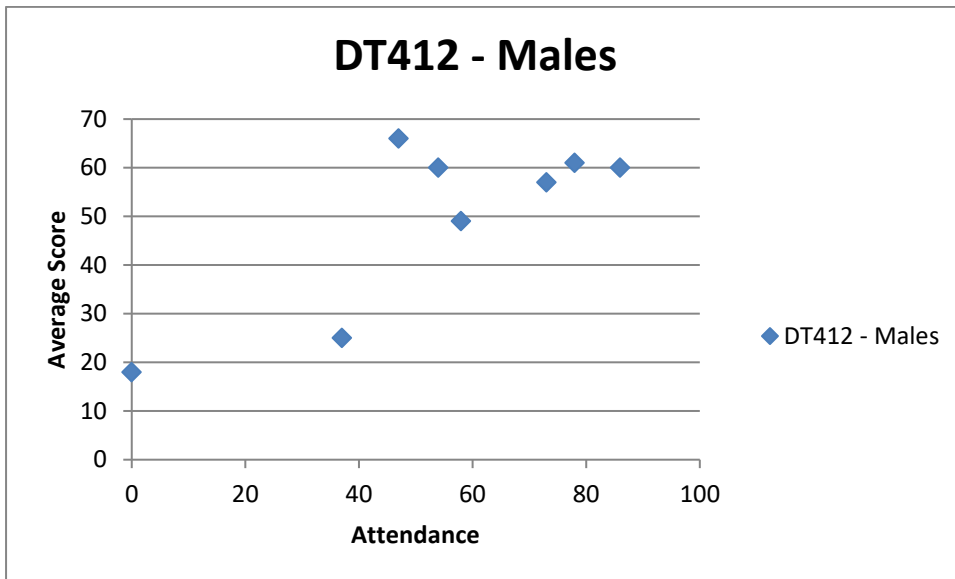


Fig. 18 DT 412 Females: Correlation coefficient 0.6868

A high correlation between attendance and performance exists

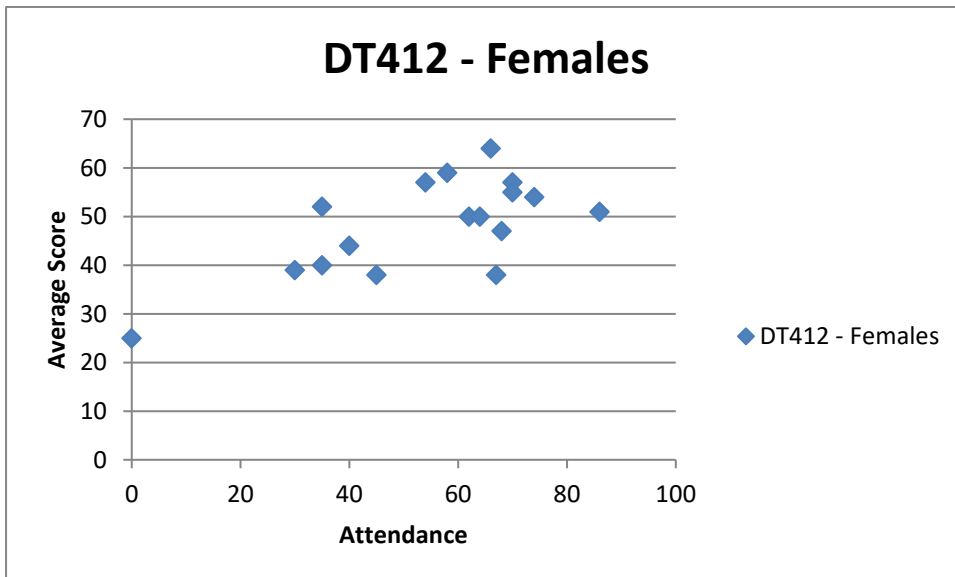


Fig. 19 DT 413: Correlation coefficient 0.6795

A high correlation between attendance and performance exists

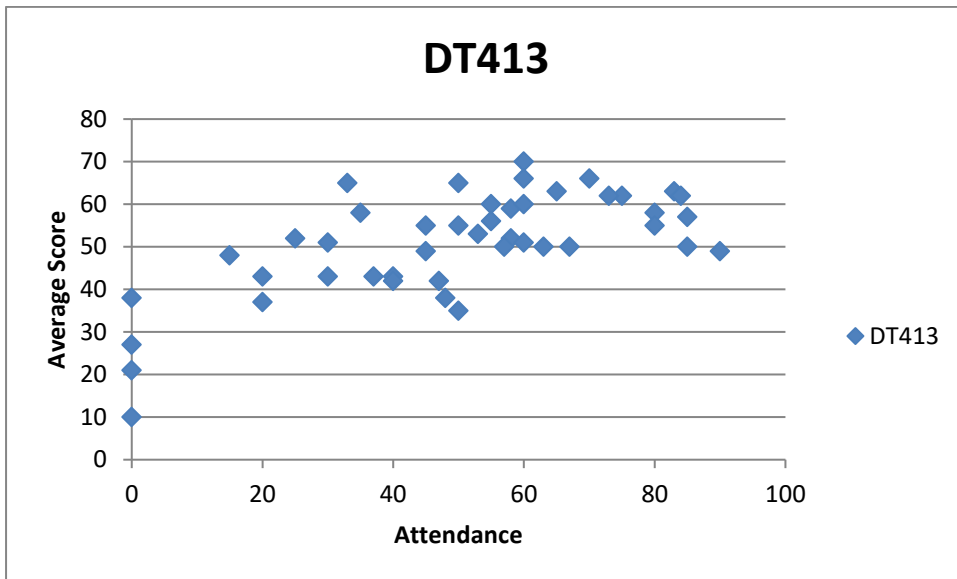


Fig. 20 DT 413 Males: Correlation coefficient 0.6254

A high correlation between attendance and performance exists

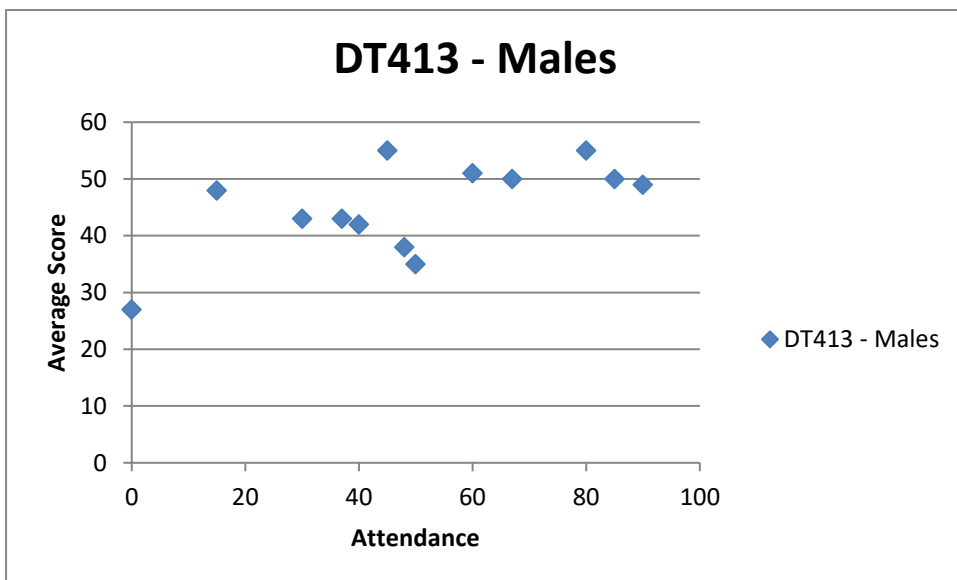
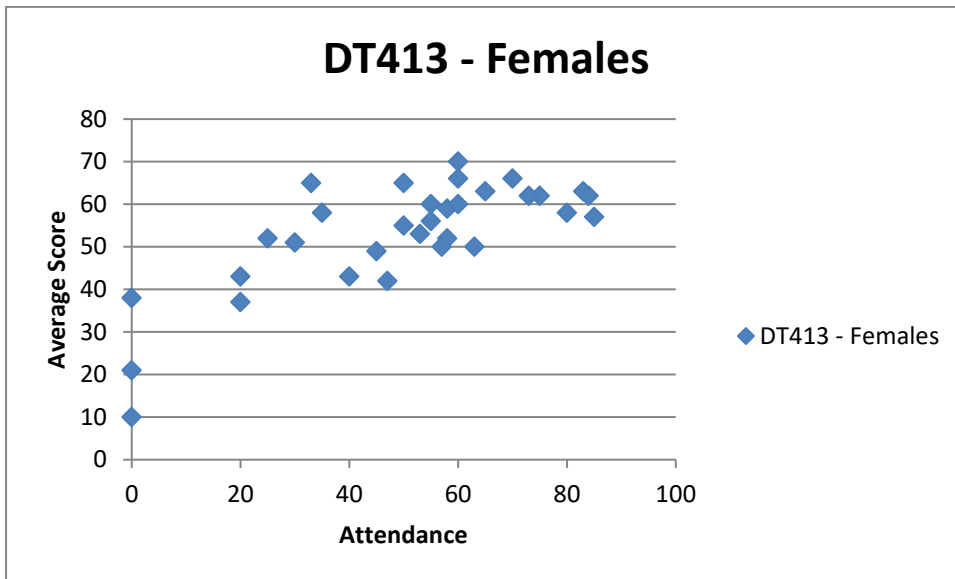


Fig. 21 DT 413 Females: Correlation coefficient 0.7611

A high correlation between attendance and performance exists



The points level at entry does have an impact on student performance (average score) for programme DT401 (Honours Degree in International Hospitality Management) showing a weak correlation coefficient of 0.4363, meaning the higher the leaving certificate points the higher the average score. This does not hold true for the other five programmes in the school, which shows little or no correlation between leaving certificate points level and average score. The following graphs illustrate this point for each of the programmes.

Fig 22 DT 401: Correlation coefficient 0.4363

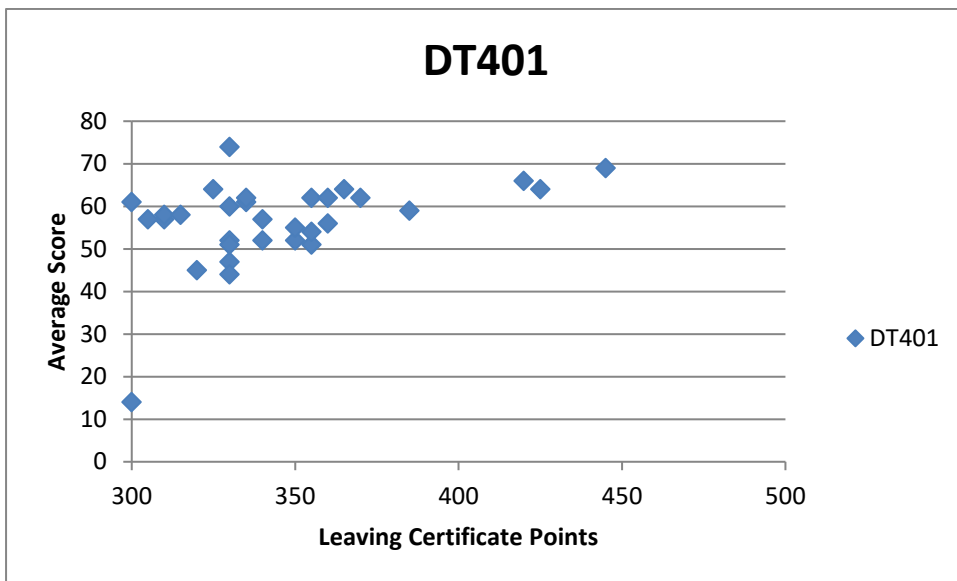


Fig. 23 DT 406: Correlation coefficient 0.3077

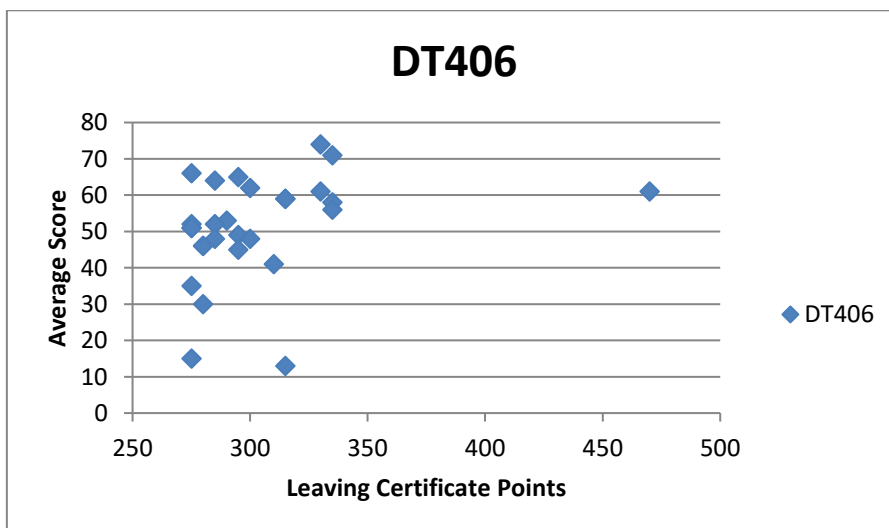


Fig. 24 DT 408: Correlation coefficient 0.2768

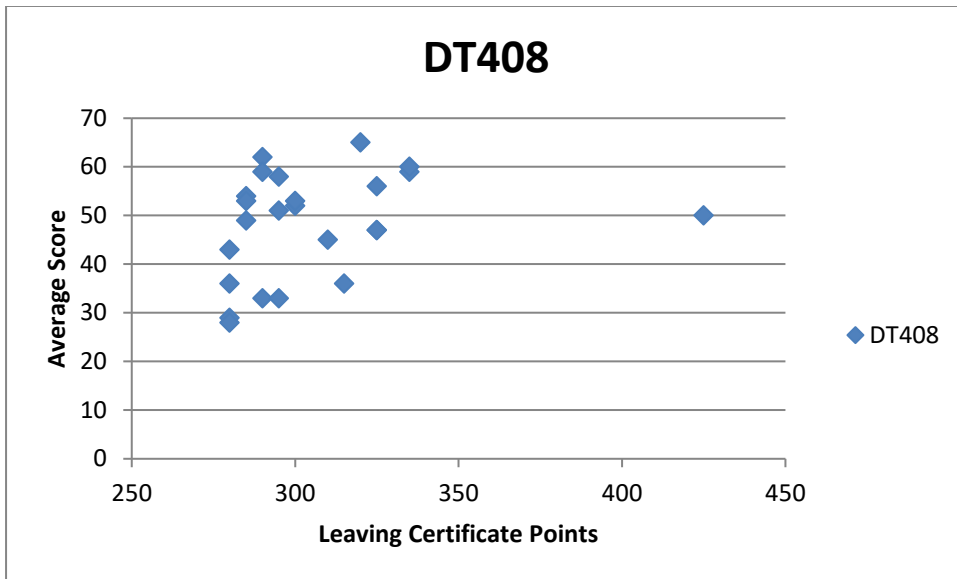


Fig. 25 DT 411: Correlation coefficient 0.2419

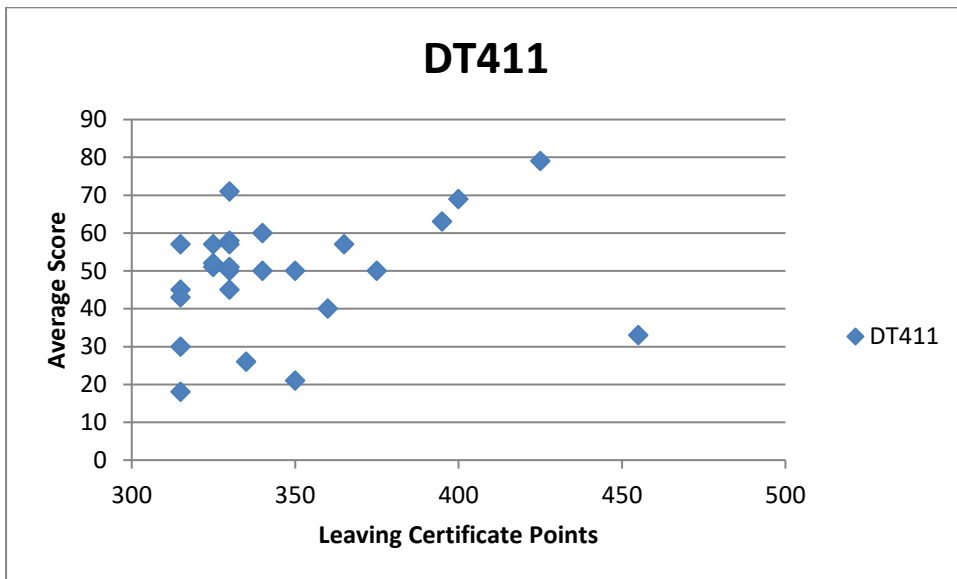


Fig. 26 DT 412: Correlation coefficient 0.0996

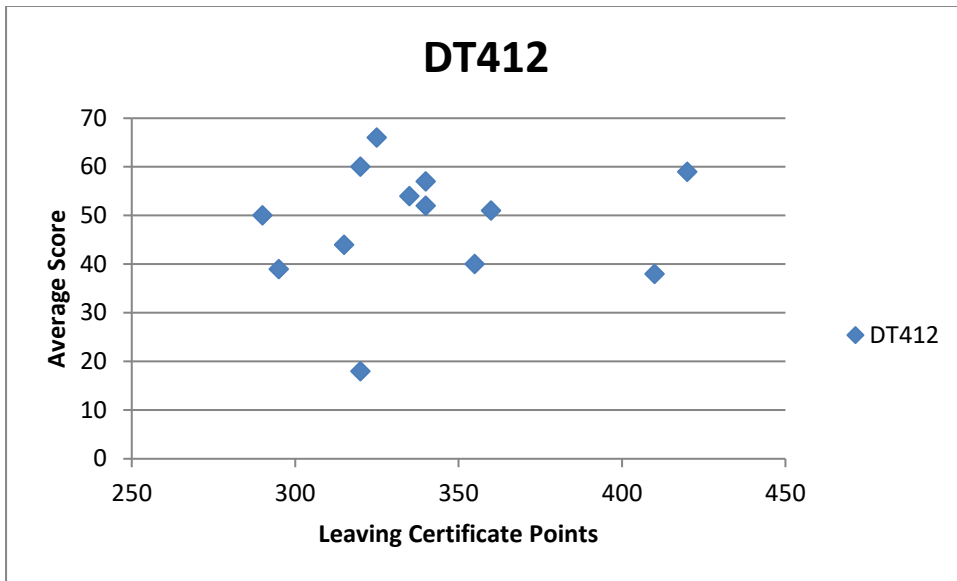
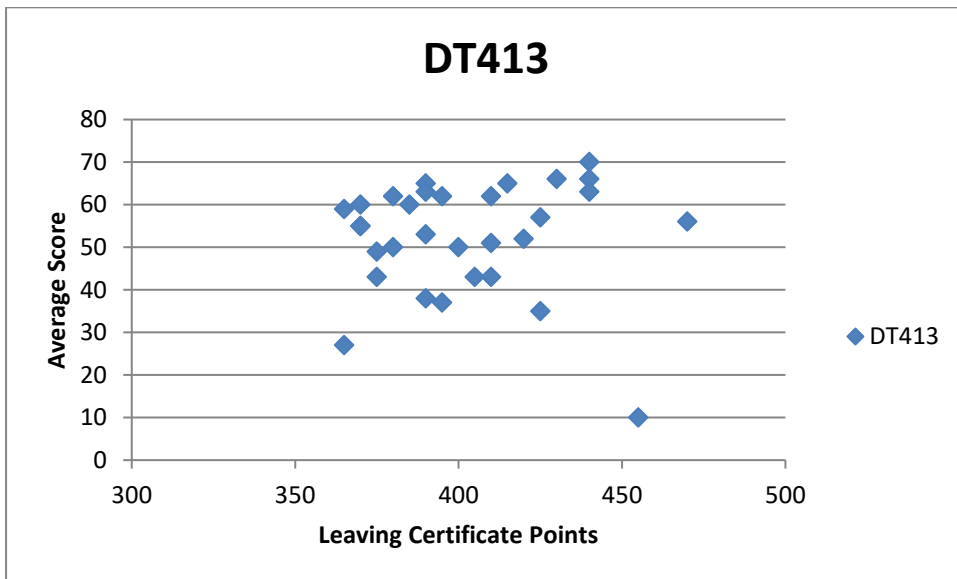


Fig. 27 DT 413: Correlation coefficient 0.0060



An analysis was conducted to investigate if a significant difference existed between the performance of males and females across the different programmes. An independent sample t-test was conducted using excel. The table below shows the average score for both males and females across each programme and the associated p-value for the independent sample t-test. A significant difference was identified on two programmes DT411 and DT413 with a p-value being less than 0.05 in both cases, for both these programmes, females significantly out-performed males.

Fig. 28 Hypothesis

Programme Code	Male – Average	No. of Males	Female – Average	No. of Females	p.value
All programmes	47	85	53	155	0.001427
DT401	56	8	53	33	0.56488
DT406	49	4	52	36	0.80431
DT408	47	13	49	24	0.61519
DT411	46	39	58	13	0.00395
DT412	50	8	48	17	0.85665
DT413	45	13	53	32	0.01856

The statistical analysis showed a high correlation between attendance and performance, a weak correlation existed for one of the six programmes between leaving certificate points at entry and average scores. However, for all other programmes no correlation existed.

5. Conclusions and Recommendations

The study identified the actual percentage of non progression for 2013/2014 in the school and for each of the pathways onto the programmes. The leaving certificate points level at entry showed little or no correlation with student performance. This is somewhat counter intuitive and at variance with other studies. It seems that once students achieve a certain minimum points score probably around 250 points their performance in the first year is impacted by other factors. The analysis comparing student participation/attendance on performance is clearly demonstrated across all programmes in the school.

The analysis by programme on retention across various pathways shows the areas focus and attention may be required. One intervention - attendance monitoring was tested against performance (average score) showing a high correlation between attendance and performance. I further analysed this by gender showing the same findings except for one programme DT401 for males, where little or no correlation existed.

I conclude by recommending that I have identified a need for further qualitative research with students including interviews and questionnaires, and addressing some questions this study has opened up regarding the main factors influencing students drop out in the school of Hospitality Management and Tourism and the impact of other interventions such as peer mentoring has on performance.

Student retention in third level - have the first year experience and college interventions impacted student retention? The high correlation between attendance and performance shows an impact on retention. A comparison with prior and future years figures is important in determining if the first year experience in the school is impacting student retention.

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Appendices

DT401 Honours Degree in International Hospitality Management 2013-2014

Entry Route	Acceptances	Registered	Passed all subjects Semester 1	Passed all subjects Semester 2	Progressed to next year	Percentage Progressed*
Leaving Cert	38	31	26	17	27	87%
Access with points	5	3	2	3	3	100%
Access without points	1	1	1	0	1	100%
Deferrals	1	0	0	0	0	0
Disability scheme with points	0	0	0	0	0	0
Disability scheme without points	0	0	0	0	0	0
FETAC	7	5	1	2	3	60%
Mature students	1	1	1	1	1	100%
Nonstandard	0	0	0	0	0	0
International	0	0	0	0	0	0
Total	53	41	31	23	35	85%

*Percentage progressed divided by registered.

DT406 Ordinary Degree in Tourism Management 2013-2014

Entry Route	Acceptances	Registered	Passed all subjects Semester 1	Passed all subjects Semester 2	Progressed to next year	Percentage progressed*
Leaving Cert	34	28	15	15	23	82%
Access with points	2	2	1	1	2	100%
Access without points	2	2	1	0	1	50%
Deferrals	2	2	2	1	1	50%
Disability scheme with points	0	0	0	0	0	0
Disability scheme without points	1	1	0	0	0	0
FETAC	3	2	2	0	1	50%
Mature students	4	3	3	3	3	100%
Nonstandard	0	0	0	0	0	0
International	0	0	0	0	0	0
Total	48	40	24	20	31	78%

*Percentage progressed divided by registered.

DT408 Ordinary Degree in Hospitality Management 2013-2014

Entry Route	Acceptances	Registered	Passed all subjects Semester 1	Passed all subjects Semester 2	Progressed to next year	Percentage progressed*
Leaving Cert	28	24	9	7	17	71%
Access with points	1	0	0	0	0	0
Access without points	2	2	1	1	1	50%
Deferrals	0	0	0	0	0	0
Disability scheme with points	0	0	0	0	0	0
Disability scheme without points	0	0	0	0	0	0
FETAC	11	9	5	5	7	78%
Mature students	2	2	0	1	1	50%
Nonstandard	0	0	0	0	0	0
International	0	0	0	0	0	0
Total	44	37	15	14	26	70%

*Percentage progressed divided by registered.

DT411 Ordinary Degree in Leisure Management 2013-2014

Entry Route	Acceptances	Registered	Passed all subjects Semester 1	Passed all subjects Semester 2	Progressed to next year	Percentage Progressed*
Leaving Cert	34	26	18	12	17	65%
Access with points	3	3	2	1	2	67%
Access without points	6	5	2	1	2	40%
Deferrals	3	3	1	0	2	67%
Disability scheme with points	0	0	0	0	0	0
Disability scheme without points	2	2	1	0	2	100%
FETAC	5	4	3	3	2	50%
Mature students	11	9	5	2	6	67%
Nonstandard	0	0	0	0	0	0
International	0	0	0	0	0	0
Total	64	52	32	19	33	63%

*Percentage progressed divided by registered.

DT412 Honours Degree in Tourism Marketing 2013-2014

Entry Route	Acceptances	Registered	Passed all subjects Semester 1	Passed all subjects Semester 2	Progressed to next year	Percentage progressed*
Leaving Cert	14	13	6	6	8	62%
Access with points	0	0	0	0	0	0
Access without points	0	0	0	0	0	0
Deferrals	0	0	0	0	0	0
Disability scheme with points	0	0	0	0	0	0
Disability scheme without points	0	0	0	0	0	0
FETAC	10	10	7	6	8	80%
Mature students	5	1	0	0	0	0
Nonstandard	1	1	1	0	1	100%
International	0	0	0	0	0	0
Total	30	25	14	12	17	68%

*Percentage progressed divided by registered.

DT413 Honours Degree in Event Management 2013-2014

Entry Route	Acceptances	Registered	Passed all subjects Semester 1	Passed all subjects Semester 2	Progressed to next year	Percentage progressed*
Leaving Cert	36	31	23	16	26	84%
Access with points	2	1	1	0	1	100%
Access without points	2	2	2	1	2	100%
Deferrals	0	0	0	0	0	0
Disability scheme with points	0	0	0	0	0	0
Disability scheme without points	1	1	0	0	1	100%
FETAC	10	10	8	2	8	80%
Mature students	0	0	0	0	0	0
Nonstandard	0	0	0	0	0	0
International	0	0	0	0	0	0
Total	51	45	34	19	38	84%

*Percentage progressed divided by registered.