INTRODUCTION TO SECTION 8

Analysis of UCAS Destinations

Aim: To analyse the data relating to UCAS applications from the FEC and evaluate the subject trends in applications.

Contents:

Methodology: This Section of the portfolio was based upon an analysis of the UCAS information provided by the college (known as the FEC). It is used to some extent in Section 2 of the portfolio, but extended in this study to determine the general progression trends for students from a large college of further education. The analysis used primary sources of information to show that choice of university degree was not necessarily linked to future employment, which is of particular concern considering that the majority of the students are working class, with no family history of higher education.

UCAS data is sent to the college on an annual basis, although very little analysis is conducted with this information. Upon my quest for information, I found that the college has to report upon the proportion of students who progress to Higher Education, with clear targets for improvement. Statistics are presented to the governors in the form of a short report, but there is no accountability for subject choice or destination. Whilst education does not necessarily have to be with the sole reason of future employment, a large number of students are opting for degree subject that do not offer employment possibilities in this area.

Conclusions: This study showed that whilst the number of young people who progress to university from the FEC is increasing, the choice of degree subject is not always associated with future employment.

There is absolutely no problem with this, as all subjects are important and develop transferable skills that can be applied to a range of careers. As the majority of students at the FEC are working class, I would have expected a greater proportion of students to have chosen degree courses in science, engineering and technology, which could possibly lead to potential employment. The majority of our students choose to live at home for their degree course, for a variety of reasons, and this has a particular impact upon choice of university course.

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Dissemination of this study: After completing this study, the report was given to the Senior Connexions Adviser who was assigned by the regional Head of Connexions to provide information on careers in science. She has subsequently shared information with her colleagues, as essentially my findings support greater professional careers advice for our students. The information was also shared with colleagues in the science and mathematics team at the FEC, with an evaluation from the team leader for mathematics at the college who is also concerned with appropriate progression routes for our students. The report was also sent to the Head of Academic Registry, although this team has now been disbanded as a consequence of the ever-changing nature of Further Education. The report was also sent to the Director of Teaching and Learning at the FEC.

ANALYSIS OF UCAS DESTINATIONS (Based upon findings at a large FE College)

Marianne Hill

Introduction

Throughout my employment at a large college of Further Education, (which shall be referred to as the FEC in order to retain anonymity), I have held responsibilities for both tutorial and my curriculum area (science). I have thereby acquired extensive experience of helping students thorough the UCAS application process. As a widening participation college, many of our students are from working class backgrounds and are the first generation of their families to proceed to higher education.

The college provides excellent support and encouragement for students to apply to university, with three full time Aim Higher officers who organise university visits and offer guidance for our students so that they make the right choice of course. A well structured tutorial system ensures that all students have individual tutorials to discuss their applications and students are provided with all of the information regarding student finance.

As a tutor, I find that some students are very focussed and know exactly what they want to study and how a particular degree will lead to their ideal career. There are, however, many students who seem to think that going to university will delay any decision making for a further three years.

As a physics teacher, I am increasingly concerned by the lack of interest shown in the study of physics at university, or science in general, and find this rather strange when there is a need to fill a potential skills shortage within this country. SEMTA (the Sector Skills Council for Science, Engineering and Manufacturing Technologies) released research in September 2010, which explained that despite the current economic recession, there are still considerable employment vacancies within skills shortage areas. It stated that 18% of London-based

businesses had problems recruiting staff, and that 12,000 jobs, of which 5,000 would be at a higher level, would be required between 2010 and 2016. (SEMTA, 2010)

Earlier this year, the CBI claimed in a press release that pupils in state education are not engaging in subjects that will lead to careers in science and technology. It claimed that: 'Insufficient numbers are studying science, technology, engineering and mathematics', despite the fact that they will lead to better job prospects for the future. The CBI also claims that research shows that children in the state education system are far less likely to study science or mathematics than those in the private sector, which is of particular concern as there is an emerging class difference in career opportunities emerging. (CBI, 2010)

Despite a team of enthusiastic teachers and tutors, we often find it difficult to encourage students to study science at university, particularly if the students have chosen a broad based A level programme. Many science students incorporate psychology A level into their studies and this has proved to be a more attractive degree course than any of the sciences. Perplexed as to the apparent lack of interest, and with a strong desire to determine quantitative information, I asked if I could have access to the UCAS data in order to analyse and evaluate the subject choices made by students from the college.

I was provided with information from 2004 and told that information prior to this date did not exist. Data protection regulations prevent the long term storage of student information, which means that no long term evaluation could be conducted. It would have been interesting to see how current applications compared with ten years ago, if the information had been available.

In order to access the data and evaluate the information, the names of the students and any other personal information had to be removed in order to further satisfy data protection requirements. Table 1 shows the number of UCAS applicants from 2004 to 2009 and shows how the number of applicants has increased each year, with the 2009 number being over 100% more than the number who applied in 2004.

TABLE 1: The number of UCAS applications from the FEC

YEAR	TOTAL APPLICANTS	A LEVEL APPLICANTS
2004	324	not known
2005	449	241 (53.7%)
2006	478	264 (55.2%)
2007	611	246 (40.3%)
2008	672	264 (39.3%)
2009	666	231 (34.7%)

The number of students who have applied to UCAS from the College has increased each year (apart from 2009, where there was a slight decrease), yet the proportion of these students who have studied A levels has decreased. This is due to the fact that the proportion of students from vocational courses has increased significantly since 2004 and indicates the 'widening participation' aspect of the college.

The information can be analysed to show the trends in popularity of different university subjects over this time period and in particular, evaluate the numbers of students who have studied science at university. The UCAS system classifies subjects into 'subject groups', where F represents the physical sciences (physics and chemistry). The subject group classification system is outlined in the table below (Table 2). Each specific subject has a number, for example, physics is represented by the code F3.

TABLE 2: UCAS Classification system for subject groups

Group	Subjects
A	Medicine and Dentistry
B	Medically related courses (nursing, physiotherapy, pharmacy etc)
C	Biologically related courses (including sport)
D	Vet, agriculture and related
F	Physical Sciences (including geology and forensic science)
G	Mathematics and Computer Science
H	Engineering
J	Technology
K	Architecture, building and planning
L	Social Studies (including Health and Social Care)
M	Law
N	Business and Administration
P	Mass Communication and Documentation
Q	Linguistics and Classics
R	European Languages and Literature
T	Non European Languages
V	History and Philosophy
W	Creative Arts
X	Education
Y	Combined Studies

One of the first tasks that I investigated was the number of students from the FEC who had applied to study each subject group. A problem emerged, however, in that some of the subject groups were dominated by particularly strong subjects that could mask the number of students in the less popular courses. For example, subject group G contains both computing and mathematics but due to the significant difference in popularity between these two subjects, with the former having far more applicants than the latter, I decided to sub-classify (for this particular analysis) into GC and GM to reflect the considerable discrepancy in popularity between these two disciplines.

The second problem I encountered was that a number of students had chosen inter-disciplinary courses that were difficult to classify. For example, multimedia courses could be within three subject groups: multimedia graphics or design is in group W, multimedia computing is in G and multimedia (on its own) is in group P. When there was ambiguity about a course and it was not clear which subject group it belonged to, the UCAS course code could specifically identify the nature of a particular course.

Thirdly, if students selected joint degree courses, then the courses have been counted for each group. This then presents a slight disparity between the total number of applicants and the courses chosen, but it seemed more appropriate than counting joint degrees as half units.

2004 Applications

The graph for 2004 (Appendix 1) clearly shows that the most popular subject groups were:

Subject Group N	- Business and Administration	(64 applicants)
Subject Group GC	- Computing	(63 applicants)

Clearly, these courses are strongly linked to potential employment in the region and degrees in these subjects should provide an excellent foundation for a wide range of graduate careers.

Unfortunately, the data for 2004 did not provide a breakdown of whether the students were studying vocational courses. As the college has strong level 3 vocational courses in these subjects, it would appear that the number of students from vocational courses have a significant influence upon the UCAS data. There were no records of the gender of the applicants, preventing a further analysis of subject choice.

From a science perspective, there were 10 students who chose to study courses from subject group F (physical sciences), but this was only 10/324 (3.1%)

2005 Applications

The data from 2005 shows a similar pattern (see Appendix 2), although the popularity of the business and administration group (N) has decreased. Computing and Creative Arts were the two most popular subject groups.

Subject Group GC - Computing (83 applicants: 19 female, 64 male)
Subject Group W - Creative Arts (75 applicants: 53 female, 22 male)

For 2005, the data provides information on whether students pursued an A level or vocational course at the college. Appendix 3 shows the subject groups chosen by A level students within the college, which has a markedly different trend, as group L (Social Sciences) emerged as the most popular choice of degree subject for A level students. In 2005, 14/449 (3.1%) of students chose to study subjects from subject group F (physical sciences).

2006 Applications

The data for 2006 is represented in Appendix 4. This graph shows that for all applicants, Social Science has now become the most prominent subject group across the whole spectrum of applications.

Subject Group L - Social Sciences (77 applicants: 62 female, 15 male)
Subject Group GC - Computing (75 applicants: 10 female, 65 male)

The data for A level applicants is shown in Appendix 5, with Social Sciences clearly being the most popular trend for university degree subjects amongst A level students at the college. There were 17/478 (3.5%) of students who chose to study physical sciences at university.

2007 Applications

The UCAS data for 2007 again shows that the most popular subject group (for all students) is the Social Studies sector, followed by business and computing. (Appendix 6)

Subject Group L Social Sciences
(101 applicants -84 female, 17 male)
Subject group N Business and Administration
(87 applicants -49 female, 38 male)
Subject Group GC Computing
(84 applicants -11 female, 73 male)

A trend is clearly emerging in that Social Sciences holds more appeal for girls, whereas Computing has a greater number of male applicants. The study of sociology or psychology does not lead directly into employment, as further post-graduate training is essential to enter into professional careers within social science. Therefore, it could be inferred that girls are perhaps choosing to study degree courses that they find to interesting, leaving career decisions until after their degree course. Conversely, a degree in computing may lead directly to graduate employment and meet the needs of graduate recruitment within the region.

By analysing the A level students only, the graph in appendix 7 was obtained, showing that the subject groups of L (Social Studies) and N (Business) are also the most popular choice for A level students. There were 16/611 (2.6%) of students who chose to study physical sciences at university.

2008 Applications

For 2008, there were 672 applicants (Appendix 8), and the most popular subjects for all students were:

Subject Group L	-	Social Sciences	(102 applicants)
			75 female, 27 male
Subject group W	-	Creative Arts	(99 applicants)
			66 female, 33 male
Subject Group X	-	Education	(97 applicants)
			88 female, 9 male

There was a marked increase in popularity of the education courses, with 37 students opting for Primary Education and 25 for childhood

Studies. It is also very clear that teaching is more appealing to girls rather than boys. Perhaps the significant increase in education in 2008 was due to the economic recession, with a greater number of girls concerned about future employment opportunities.

Out of the 672 applicants, only 80 moved away from home (11.9%), with 88.1% of our students selecting local universities. 329 students decided to study at the local university which is situated within the city (48.9%). It is interesting to note that from the students who chose universities away from home, only 9 were from the Sixth Form College that is based on the outskirts of the city, whereas 44 were from the Sixth Form College based in the centre of the city. This raises interesting issues such as whether the students who are based in the centre of the city have a more open approach to geographical movement than those from the outskirt villages. It also opens further debate as to the influence of social class, as it could be argued that the Sixth Form which in the city has a greater proportion of middle class students.

The number of students who applied to university after following a BTEC route has increased significantly. In 2008, 264 of the College applications to UCAS were from A level students (39.3%). There were 200 applications from BTEC students, 133 from Access courses, with the remainder being from former students.

When we analyse A level students only (Appendix 9), Social Sciences (L) is again the most popular subject group, followed by Business (N). If we analyse deeper than subject group to identify specific subjects, then psychology is the most popular subject with 26 applicants. There were only 13/672 (1.9%) of students who chose to study physical sciences at university.

Of the 264 A level students who applied to UCAS, 218 students opted to remain in the region (82.6%), with 46 students (17.4%) moving away from home. It can be seen (from Table 3 below) that 138/264 of the A level students decided to study at the most local university (52.3%) in 2008.

TABLE 3: Destinations of A level students from the FEC to local universities (2008)

University	Number of A level Applicants
Russell Group University 1 (10 miles)	1
Russell Group University 2 (10 miles)	10
University N (former polytechnic,10 miles)	52
University S (former polytechnic, within city)	138
University T (former polytechnic 30 mile	6
FEC (Franchised to local University)	11

Note that Russell Group University 1 has higher entry requirements than the second. The university within the city (S) has the lowest entry requirements.

2009 Applications

The data for 2009 suggests that again, social sciences are the most popular degree choice for students at the college (Appendix 10).

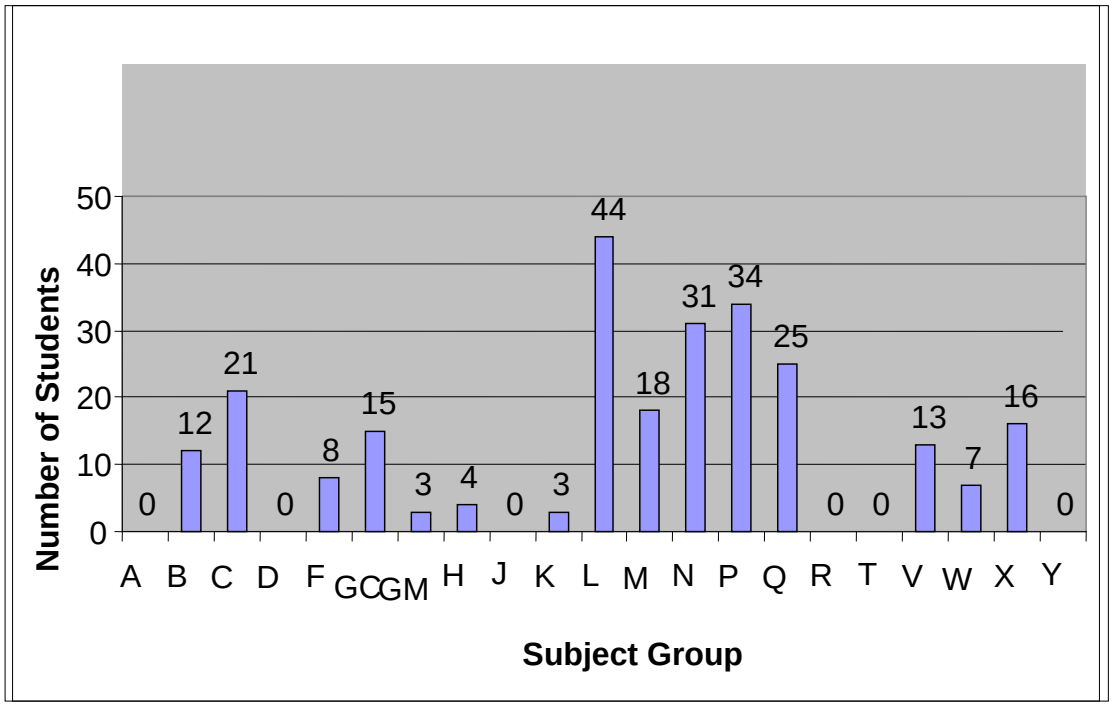
Subject Group L	- Social Sciences	(102 applicants)
		80 female, 22 male
Subject Group W	- Creative Arts	(96 applicants)
		71 female, 25 male
Subject group GC	- Computing	(92 applicants)
		31 female, 61 male

It is pleasing to note that the proportion of girls who have chosen to study computing has increased to a third of the applicants who wish to pursue this subject at university.

From the whole cohort 88/666 students 13.2% moved away from home in order to pursue their university education. Of these 88 students, 40 were from the Sixth Form based within the city, and 13 from the Sixth Form on the outskirts of the city, which is consistent with the previous year's data which suggested that students from the centre of the city

appear to be more geographically mobile than those from the outlying areas. Of the whole cohort of applicants from the college, 314 out of 666 students chose to study at the university within the city (47.1%). The analysis of A level students provides the following graph:

CHART 1: The number of applicants to university from A level students at the FEC for each subject group in 2009

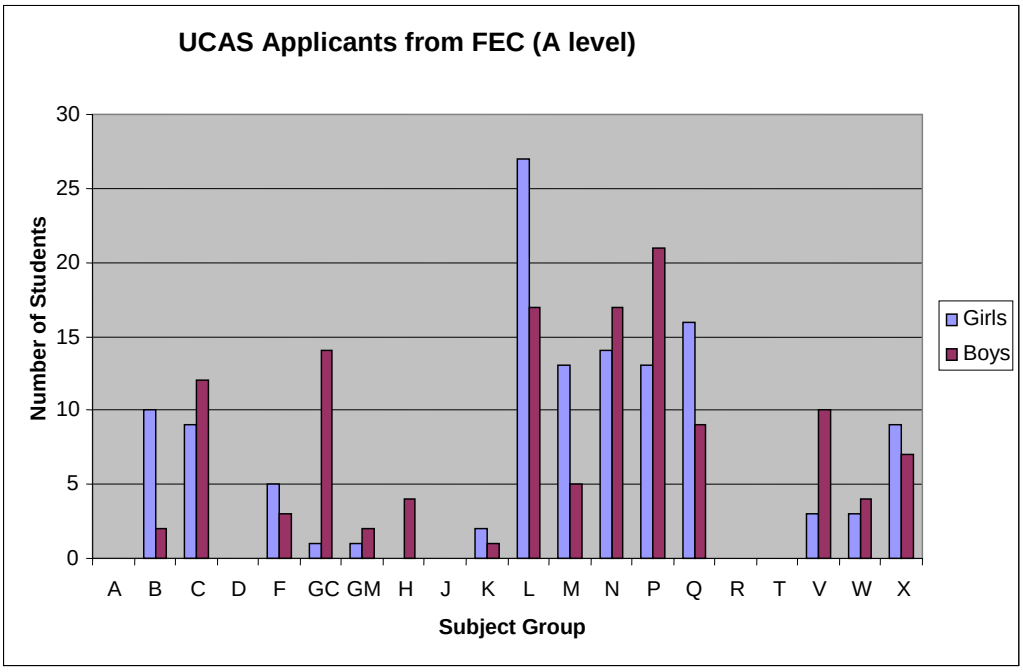


If a further analysis is conducted into the subdivisions of each UCAS group, it can be shown that whilst it may appear that the biological sciences (group C) are popular, however this number contains only one biology student and 20 sports science students, who are classified within the same group.

Group F	Chemistry	7 students
	Physics	0
	Natural Science	1
Group G	(GM) Mathematics	3
	(GC) Computing	15

If we analyse the UCAS applications according to gender, from the 231 applications from the A level applicants, 128 were from girls (55.4%) and 103 were from boys (44.6%). Therefore the proportion of female students applying to university is particularly large. If we then analyse the subject choices made according to gender, the following profile is produced.

CHART 2: The gender profile of the A level applicants to university (from the FEC)



The gender discrepancy is particularly pronounced for groups GC (computing), V (History) and P (Mass Communication), where there is a male dominance. The female dominance is with groups L (Social Science), M (Law) and B (medically related, predominantly nursing) fields.

The number of A level applicants who selected universities away from home was 46 (19.9%), which is an increase upon the previous year. Of these 46 students, 28 were female. This information can be seen in Table $ below:

TABLE 4: Destinations of A level students from the FEC to local universities (2009)

University	Number of A level Applicants	Gender
Another FEC	1	1 male
FEC (Franchised to local university)	5	5 male
Russell Group University 1	8	5 female 3 male
Russell Group University 2	11	5 female 6 male
University N (10 miles)	45	28 female 17 male
University S (local university)	100	52 female 48 male
University T (30 miles)	15	9 female 6 male

This shows that the percentage of A level students who chose to study at the local university is 43.2%. This data also shows that of the students who chose to remain in the region for their degree courses, 55% were female which is not a significant gender imbalance.

Evans (2009) claimed that for many working class girls, choice of university was restricted: 'for many working class girls, entry into Higher Education is structured by family ties and loyalties' (Evans, 2008, p.341). Evans suggested that many working class girls specifically selected post-1992 universities so that they could live at home and fulfil their family commitments and that students from middle classes did not show the same need to care for their family (Evans, 2009, p.351)

The data from the FEC does not show any particular gender differences for the progression to local universities, although the wider principles of wanting to remain nearer home could apply to either male or female students. The significant number of students who choose to

stay local could be directly related to the fact that many of our students are first generation to apply to higher education within their families.

Reay et al; (2001) claimed that despite the fact that there are more working class students entering university than ever before, they are entering different universities to their middle class counterparts (Reay, 2001 p.858). Reay found that many working class students have geographical constraints. When interviewing students, they found that working class students 'were saturated with a localism that was absent from the narratives of more economically privileged students' (p.861). They also found that students from working class backgrounds were more likely to be engaged in part time employment in order to supplement their income (p.861).

An interesting point from the research was that while students readily discussed the material constraints upon choice, there were hints of emotional constraints as well. They found that some working class students were afraid of applying to some of the more prestigious universities for fear of 'not fitting in' with other students (p.863).

These findings could also be applied to the particular study of why students are not choosing physics as a degree subject. The fact that students may have to move away from home in order to study for a physics degree is a major factor in subject choice.

The research by Evans (2009, p.351) suggests that moving away from home is of particular concern for girls, this could account for the reason why there has only been one girl who has chosen to study physics in the past few years. The majority of the initiatives that have been developed to encourage more students to study physics, with girls as an important subset of this group, have focussed upon pedagogical practice, yet there are wider factors outside of the control of the classroom that influence the decisions made by young people.

Conclusion

From an analysis of the trends since 2004, it is clear that the proportion of applications from vocational students has increased considerably, and that in 2009, A level applicants constituted only 34.7% of the university

applicants from the college. When analysing the choice of university courses, it is important to note that options largely depend on what students selected when starting their post-compulsory education and that the decisions made at the age of sixteen have shaped the options available for university study.

Two of the most popular degree choices that have emerged from this analysis are those that could lead to careers within the region e.g. computing and business/administration. The former tends to attract more male applicants from the college, whereas business in more gender-balanced.

The popularity of creative arts or social sciences does not, perhaps, particularly reflect career opportunities within the area. Whilst there are some limited opportunities for graduate opportunities in these disciplines, they would require geographical mobility in order to enhance career prospects. With Social Sciences in particular, post-graduate training may be required for specialist careers, such as counselling or social work. These degrees could lead to generic graduate employment where the subject is not as important as the transferable skills that have been developed within the degree programme.

It can be seen from all of the graphs that science, as well as other disciplines that are more directly linked to employment such as engineering (H), technology (J) and architecture (K) are not very popular subjects. Whilst education is primarily a learning experience for the individual and need not necessarily be associated with employment, within a widening participation college. Questions must be asked as to what are the main factors that are influencing the choice of degree subject. There are a very high proportion of students who are receiving Educational Maintenance Allowance, indicating that the majority of our students come from backgrounds where parents earn less than £30,000. One might assume that for these students, it is important that education leads to employment in order to repay the student debt accrued over the period of undergraduate study.

Whilst this report is particularly concerned with the low number of students who choose to pursue careers with physics, it is particularly

alarming to find the lack of interest in the study of Modern Foreign Languages, whether European (group R) or non-European (Group T). As with Science, questions must be asked as to why students in the city are not interested in languages, whether this is due to perceived difficulty, teaching and learning strategies within our schools or broader cultural reasons.

Whilst it is pleasing to see that students are progressing to university in strong numbers, are students provided with adequate careers advice in order to make sensible decisions about degree courses? There are no mandatory interviews with careers guidance officers, although students may visit any of the local Connexions offices and make an appointment for themselves. In practice, this is not common and students generally rely upon discussions with tutors, teachers, friends and parents in order to choose their university subject.

Clearly many of our students do not want to move away from the area, and if they do not make the move at the age of eighteen, they will be less likely to move from the area at the age of twenty one. It could be argued that there is a need to work more closely with the Connexions Agency in order to improve the flow of information about employment in this area. One particular problem that I had not appreciated is that Connexions are not connected in any way with graduate careers services. Connexions are the responsibility of the LA, whereas each university has its own graduate careers service and these organisations do not have any connection whatsoever. Whilst the Connexion Service are more than willing to help our students, the careers service at the local university does not seem interested in taking on board any responsibilities for visiting schools or sixth form colleges. Whilst this is clearly not their responsibility, information about graduate careers and local employers would significantly benefit our students.

The Prospects website provides a wealth of information relating to graduate employment, but there is a case to be made that all of these agencies should be less fractured and there should be more guidance for students on employment opportunities for graduates.

With the current economic climate and the proposals to increase tuition fees further, this may seriously affect the number of our students progressing to university in the future. It would be prudent of industry to anticipate the political changes and to offer sponsorships, bursaries or grants in order to encourage students to study shortage subjects in the future.

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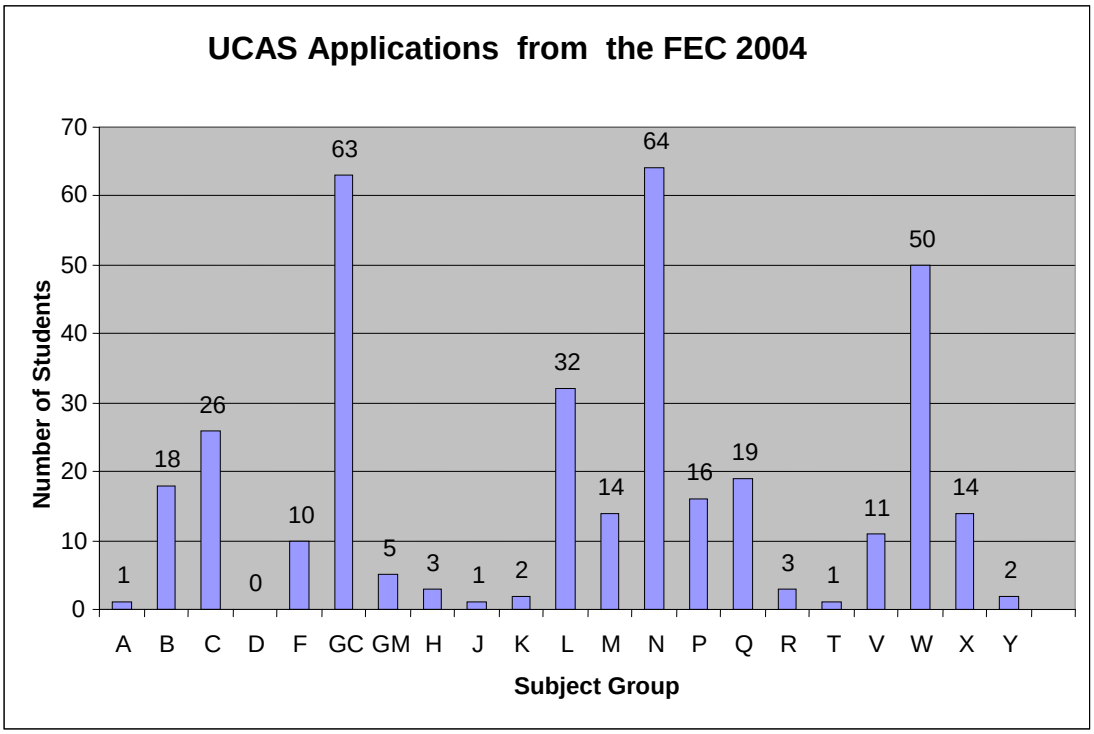
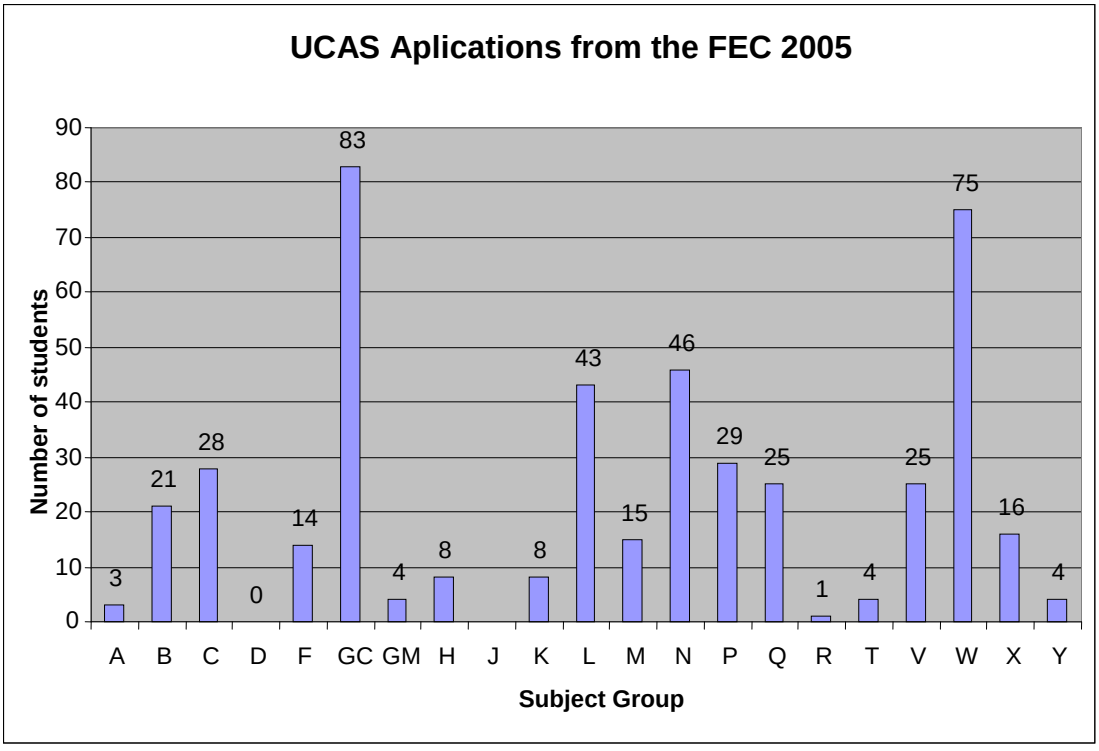
Appendix

Appendix 1: UCAS applications from the FEC 2004



Appendix 2: UCAS applications from the FEC 2005



Report Evaluation Form

REPORT:

Report into UCAS destinations from the FEC

Name of Reviewer:

Team Leader for Mathematics, FEC

Comments on the report:

An interesting analysis, although it is very disturbing to see such low numbers of students progressing towards degree courses in STEM subjects. Within the college, tutors encourage students to apply to university in order to increase employment prospects for the future, with many young people believing that a degree can lead to a wide range of careers. Students ought to think more carefully about their long term prospects before embarking upon a degree course at university.

Are there things that could be added or removed to improve it?

It would have been interesting, if the data had been available, to see how recent trends compared to the subject choice before tuition fees were introduced to see what differences this made to subject choice.

In what way could the contents of this report influence the wider profession?

Clearly there is a need for local industry, universities and the college to work together in order to identify employment trends for the future. Students should be encouraged to think about their long term prospects of particular degree courses.

Science and mathematics are difficult A level subjects, but this leads to many young people with potential walking away from these subjects at A level as they believe they can achieve higher A level grades in less demanding subjects.

There should be more incentives for young people to study science and mathematics at university, such as a reduced tuition fees, bursaries or lower entry requirements for some of the courses.

Signature:

Supplied

Report Evaluation Form

REPORT:
Report into UCAS destinations from the FEC

Name of Reviewer:

Senior Careers Adviser, Connexions

Comments on the report:

The report shows a greater need for professional careers advice, although at present, it would be difficult due to the financial constraints of the organisation. Students need more information about the careers in this area since it is clear that many wish to remain in this area.

Are there things that could be added or removed to improve it?

It would be interesting to see the progression data for the other sixth forms in the city (three faith schools and one independent school) to compare further.

As there is one girls' catholic school in the city, would single sex education make a difference to subject choice at university?

In what way could the contents of this report influence the wider profession?

We have used this report at meetings to discuss how we can improve our services for this age range.

Signature:

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