

# Outduction: Enhancing the Final Year Experience The Direct Entry Students

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## 1 Project Aim and Objectives

**Aim:** To investigate the experience of direct entry students in EDT

**Objectives:**

- To investigate the current practices followed in EDT for induction and tutoring
- To investigate the performance of direct entry students
- To investigate the use of peer mentoring for direct entry students
- To propose future improvements

## 2 Project Background

The School of Engineering, Design and Technology (EDT) at University of Bradford, has several undergraduate i.e. BEng and BSc courses in different engineering disciplines.

Student may reach the final year of these courses in the following ways:

- *Foundation route* – where the student joins a one year foundation course before starting the undergraduate course and then goes through stage 1 and stage 2 before entering the final year.
- *Normal route* - where the student joins the first year of undergraduate course and then goes through stage 2 before entering the final year.
- *Direct Entry Stage 2 route*- where the student joins the stage 2 of the undergraduate course and then goes on to the final year. Such a student would have completed the first year or equivalent in another institution.

- *Direct Entry Stage 3 route*- where the student joins final year directly. Such a student would have completed the first two years or equivalent in another institution.

It has always been perceived by the academic staff in the school and also in some literature that the direct entry students usually do not perform well as compared to the students who have been on the course from the beginning. There are several reasons cited for this:

- The students find it difficult to settle down to the new environment.
- The students need time to become accustomed to the teaching style at the school which is more towards independent learning, developing of reasoning and application of concepts. This may be difficult for student who have come from intuitions where they have been spoon fed, guiding them with every single step.
- The student need time to adapt to the general culture, especially if they are overseas students.
- The students usually do not know what is expected by them in the exams as the exam style/patterns may be different from their previous institutions.
- The students usually do not know what is expected by them for coursework's as they may not have done similar assessments in their previous institutions.

This mini-project aims to look at how true this perception of direct entry students is and how the experience of direct entry students may be further improved.

### **3 Direct Entry Induction**

#### **3.1 Current Practices in EDT**

The university runs several induction sessions during the fresher's weeks for all students starting in September. This introduces the various facilities at the university like the library, health centre, sports centre, etc. This helps the students to know where they can find the different facilities and who to contact in case they need any help. The university hub also provides them with a single point of contact for any type of general queries like finding accommodation, paying their fees, etc.

The School of EDT also runs some induction sessions during the first few weeks of the semesters. This school induction is in addition to the university wide induction sessions. This induction is targeted towards new students joining the school and introduces them to the various facilities provided by the school and gives a brief overview on topics like school health and safety policy, school librarian, computer lab timings, etc. Some programme teams like the Electronics and Telecommunications team also organise ice-breaker sessions which brings together all students and staff members together, where they can interact and get to know each other.

The Directors of Studies of the various programme teams also run their own discipline specific inductions for first year and second year. These discipline specific inductions are formally timetabled into the first semester. All direct entry students are also encouraged to attend these induction sessions. While this special induction may last only a few hours, it introduces the various staff and facilities that are programme specific.

Hence it can be seen that EDT has an intensive induction process which enables the students to settle in and get adjusted to the new surrounding and school facilities.

However it was seen from comments from some academics and students that these induction sessions should be more rigorous and detailed. Some academic staff also said that the induction was very passive and should be redesigned to also get the students involved. One general consensus between the interviewed academic staff was that there should be a more formal structure to the induction process.

One key issue with direct entry students was their late arrival on campus. It was seen that several direct entry students arrived in weeks 2 or even 3 and may then have missed these university and school induction sessions. Such students may feel very distressed as they may not only have missed a few weeks of teaching but also the induction. Hence they may not even know who to contact for particular issues. The school as in previous years sometimes run a second set of induction sessions for such late comers. Also the Director of Studies may also conduct a one-to-one induction of such direct entry students who arrive late.

### **3.2 Discussion on Induction and mentoring**

It was seen that both the university and the school have very intensive general as well as subject specific induction sessions to help the students to settle in easily to the new environment. However it was seen that while this helps in introducing the school and its facilities to the new students it does not really help them to perform well in the actual modules.

While on one hand the direct entry students need some more general induction on issues like plagiarism, ethics and sustainability, etc. On the other hand, these students need special induction on things like assessments. Several students may never have done coursework assignments or have written technical reports in their previous institutions. It was seen that several other institution even if had coursework assignments; they did not stress much on writing styles and only marked the students on the technical achievements. However within EDT, while the technical achievement in a coursework is important, the report writing skills are also assessed. It would be important not only explain these requirements for coursework and project reports but also if possible arrange for some report writing workshops/sessions.

Similarly, the written exam styles and assessment mechanisms in EDT may be different from the student's previous institutions. One of the feedbacks from some of the direct entry students was that they were not sure of how to write the exam and what was expected in typical answers. It is suggested that more tutorials should be arranged by academics for the various modules not only explaining the technical aspects but also the model answers to previous year's exam papers.

One key issue with the induction session is that the induction sessions mainly are present in the first few weeks. During this time the direct entry students usually are trying hard to get accustomed to various things and may not really follow the induction properly. A solution for this is to have a process of constant mentoring. All direct entry students in EDT are assigned a personal tutor who acts a first point of contact on any query. However it was seen that sometimes students may not be able to find their personal tutor or may also be scared or shy to ask some specific questions. One solution for this is to include other peer students as

mentors. It is suggested that the mentoring process be linked to the students Engineering Society. Student members of the Engineering Society who have been with the school for several years may act as student peer mentors for the direct entry students. They could also act as a point of contact for issue that some new direct entry students may face.

#### 4 Performance of direct entry students

The exam results of students in EDT for 2009 and 2010 were analysed to measure the performance of direct entry students as compared to students entering the respective courses at various levels.

Figure 1 shows the composition of the final year. In 2009, 15% of the final year cohort was direct entry to stage 2 and 13% were direct entry to stage final year. In 2010, 13% of the final year cohort was direct entry to stage 2 and 9% were direct entry to stage final year. Hence it can be seen that while majority of the students in the final year enter the normal route through Stage 1, there are a substantial percentage of students who directly enter either in Stage 2 or Stage 3. Hence it is important to make sure that the final year experience of the students is similar compared to the rest of the cohort.

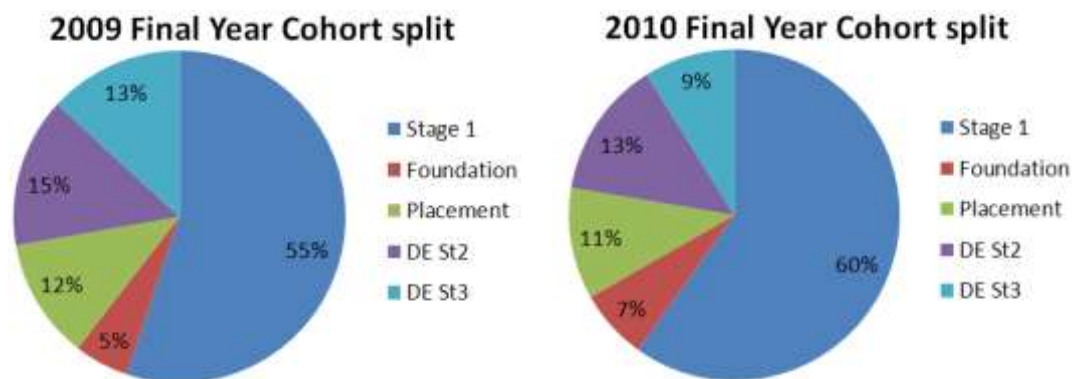
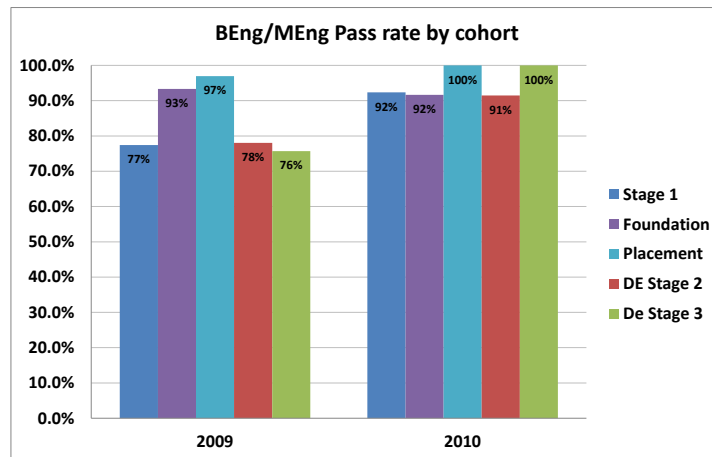


Figure 1: Final Year cohort composition

Figure 2 shows the overall final year i.e. Stage 3, pass rate for the BEng students entering the respective courses at various levels. It can be seen from this figure that in 2009, 78% of the students who entered the 2nd year directly had passed their final year and 76% of the students who entered the final year directly had passed their final year. However 77% of the students who joined the 1<sup>st</sup> year had passed their final year. Hence it can be seen that the percentage of students passing the module was almost the same no matter which year the students had joined the course.



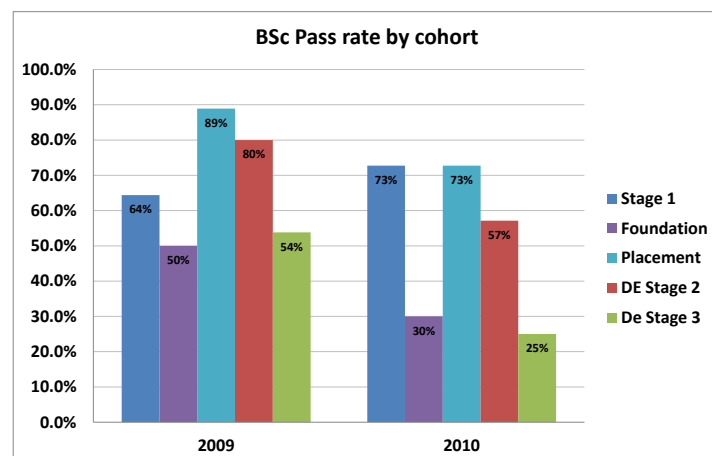
**Figure 2: Pass rate for BEng courses**

It can be seen from

Figure 2 that in 2010, 91% of the students who entered the 2nd year directly had passed their final year and 100% of the students who entered the final year directly had passed their final year. However 92% of the students who joined the 1<sup>st</sup> year had passed their final year. Hence it can be seen that the percentage of students passing the module was almost the same no matter which year the students had joined the course and in this year the students entering the final year directly actually performed better than the students joining the 1<sup>st</sup> or 2<sup>nd</sup> year.

One thing to note here is that it can be clearly seen from

Figure 2 that the placement year has a very positive impact on the performance and in both academic years students who have done a placement have done better compared to the ones who have not taken the placement year.



**Figure 3: Pass rate for BSc courses**

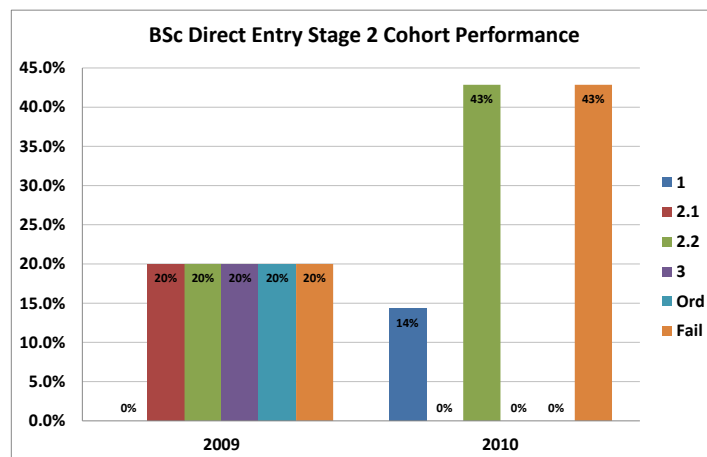
Figure 3 shows the overall final year i.e. Stage 3, pass rate for the BSc students entering the respective courses at various levels. It can be seen from this figure that in 2009, 80% of the students who entered the 2nd year directly had passed their final year and 54% of the students who entered the final year directly had passed their final year. However 64% of the students who joined the 1st year had passed their final year. Hence it can be seen that in

this case, the students directly entering their final year had performed worse than the students who had joined the course in the first two years. Interestingly it was seen the stage 2 direct entry students performed slightly better than students who had joined the course from the beginning.

It can be seen from Figure 3 that in 2010, while 57% of the students who entered the 2nd year directly had passed their final year, only 25% of the students who entered the final year directly had passed their final year. However 73% of the students who joined the 1st year had passed their final year. Hence it can be seen that in this case also, the students directly entering their final year had performed much worse than the students who had joined the course in the first two years. In this case however it was seen the stage 2 direct entry students performed slightly worse than students who had joined the course from the beginning. One reason for this may be that the first year of the BSc courses in EDT are very good in laying the strong foundations that enable students to understand the more advanced materials and perform better in the subsequent years.

Hence it can be seen that for the BSc course, the students entering the final year did much badly that the students joining the 1st or 2nd year. Hence the perception of the academic staff hold true in this case.

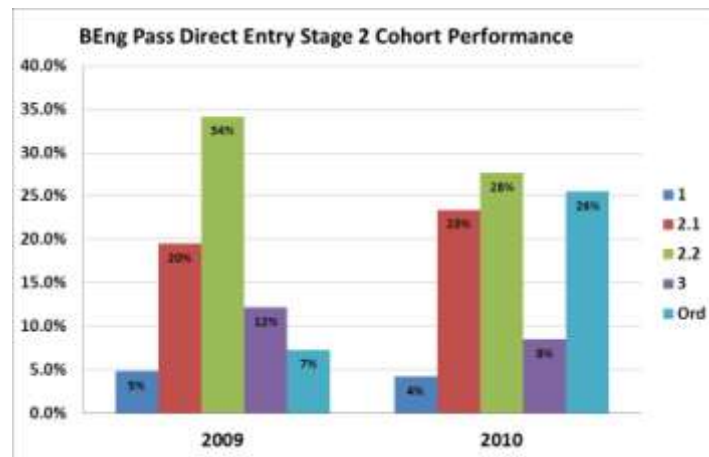
One thing to note here is that it can be clearly seen from Figure 3 that similar to the BEng courses, the placement year has a very positive impact on the performance and in both academic years students who have done a placement have done better compared to the ones who have not taken the placement year.



**Figure 4: Performance of students directly entering Stage 2 of BSc courses**

Figure 4 shows the detailed final year performance for the 2009 and 2010 academic year of the students in the BSc courses that had joined directly the 2nd year. It can be seen from the figure that in 2009 the performance was equally spread with same number of students achieving a first, higher second, lower second and third. Also 20% of the students failed in their final year. On the other hand in 2010, the performance was unevenly spread with 14% achieving a first class and 43% getting a lower second. No one from this cohort got an upper second class or a third class. However, it can be seen that 43% of these students actually failed in their final year. This is surprisingly high and shows that the students entering the 2<sup>nd</sup> year of a BSc course do not really perform well when they come into their final year. One reason for this may be that these students entering the second year directly may not be

undergoing a similar rigorous training in the first year (or equivalent) at their previous institutions compared to the first year of the BSc courses in EDT. Hence this probably does not enable them to comprehend the advanced materials in the final year.

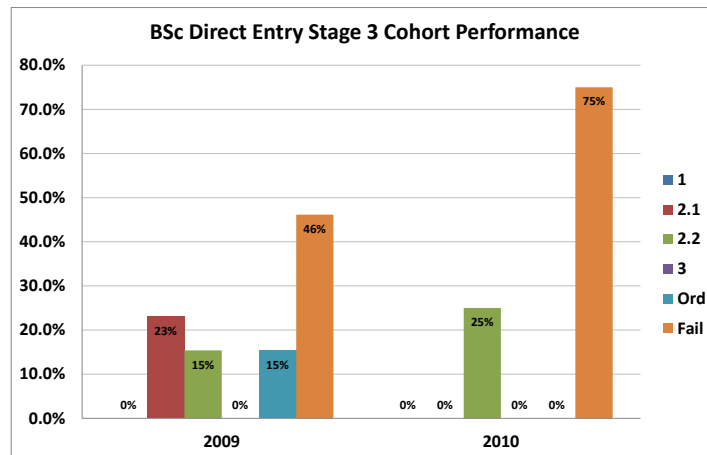


**Figure 5: Performance of students directly entering Stage 2 of BEng courses**

Figure 5 shows the detailed final year performance for the 2009 and 2010 academic year of the students in the BEng courses that had joined directly the 2nd year. It can be seen from the figure that in 2009 the performance followed a Gaussian distribution with majority of the students i.e. 34% getting a lower second class and lower number of students getting other classifications. While 5% got a first class, 20% of the students got an upper second class. Also important to note is that 22% of the students failed in their final year.

On the other hand in 2010, the performance was average; with 23% of the students getting an upper second and 28% of the students got a lower second. The performance in 2010 was somewhat similar to 2009, where the number of the students getting first, upper second and third class was very similar. The major difference being was in the number of students who failed in 2010 was substantially less than in 2009. Only 10% of the students failed in 2010 as compared to 22% in 2009. This has been a significant improvement; however the performance was not of a very high standard as they only managed to get an ordinary degree.

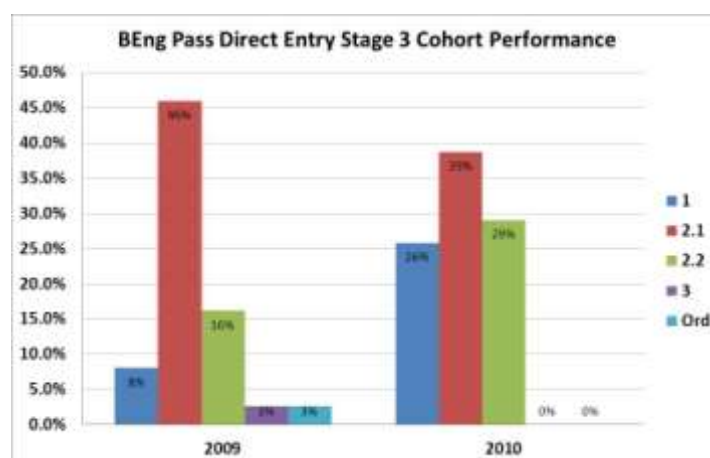
Hence it can be seen that for the BEng courses, the final year performance of students entering the 2<sup>nd</sup> year and being at the university for two years, was relatively good and as expected of someone being on the course. There was no indication that these students did not perform well as compared to the ones who joined in the course from the first year onwards.



**Figure 6: Performance of students directly entering Stage 3 of BSc courses**

Figure 6 shows the detailed final year performance for the 2009 and 2010 academic year of the students in the BSc courses that had joined directly the final year itself. It can be seen from the figure that in 2009, the performance of such students was not very good. It was seen that while no one got a first class from this set of students, 38% of these students got a second class and 15% only passed for an ordinary degree. It was seen the 46% of these students failed their final year.

Similarly in 2010, the performance was extremely poor. No one from this cohort got a first class or an upper second class or a third class. A small number of students, i.e. 25% got a lower second class. However a staggering 75% of this set of students failed their final year. Hence it can be seen clearly from the performance of both years that students who are being taken on directly into the 3<sup>rd</sup> year of the BSc courses do not seem to have the adequate knowledge base required for them to do well in the final year. One reason for this may be that these students entering the final year directly may not be undergoing a similar rigorous training in the first and second year (or equivalent) at their previous institutions compared to these initial years of the BSc courses in EDT. Hence this probably does not enable them to comprehend the advanced materials in the final year. Alternatively, these students are finding it much harder to settle into the new environment and get accustomed to the teaching style in EDT.



**Figure 7: Performance of students directly entering Stage 3 of BEng courses**

Figure 7 shows the detailed final year performance for the 2009 and 2010 academic year of the students in the BEng courses that had joined directly the final year. It can be seen from the figure that in 2009 the performance followed a Gaussian distribution with majority of the students i.e. 46% getting an upper second class and lower number of students getting other classifications. While 8% got a first class, 16% of the students got a lower second class. Also important to note is that 24% of the students failed in their final year.

Similarly in 2010, the performance also followed a Gaussian distribution with majority of the students doing well. 26% of the students got a first class and 68% of the students getting a second. The performance in 2010 was very good as only 6% of the students failed compared to the 24% in 2009.

Hence it can be seen that for the BEng courses, the final year performance of students entering the final year was relatively good and as expected of someone being on the course. There was no indication that these students did not perform well as compared to the ones who joined in the course from the first year onwards. One reason for this good performance is probably the strict qualification requirements on the students entering the final year directly. This means that we may be taking in only good students who have performed very well in their previous institution and hence these students have been able to cope with the advanced materials taught in EDT in the final year. Another key factors is that majority of these direct entry students are from institutions with which the university has close links and tie-ups. For example, a large number of the students come from ITNI University, Malaysia, who run a franchise of some of our undergraduate courses. Hence the students are already trained to the teaching styles and are familiar with tool like blackboard that we use in EDT. Also they follow the same curriculum as our first and 2<sup>nd</sup> year students. Hence the students do not find it very difficult to adjust to the final year. It would be important in the future to evaluate the difference in performance of the students who have come from our franchised programs as compared to students from other institutors.

## 5 Recommendations

After the detailed study on the current induction practices and the evaluation of the performance of direct entry students over the last two academic years, the following recommendations are made:

- Further develop a formal induction process that runs across the whole year.
  - This should include both general and subject specific induction
    - This may even tie up with the Final year project session on report writing, plagiarism etc.
    - Introduce new induction/training on Ethics and sustainability.
  - Video record the induction sessions and place on blackboard. This will help students to see the session if they missed the original session but also at a later time if they have forgotten something mentioned during the sessions.
- Develop a direct entry monitoring process
  - To monitor the progress of these direct entry students.
  - To keep a record of all the induction sessions that the student has attended.
  - Help the direct entry student to assess their skills and find any areas of improvement and direct the students to the LDU run workshops and clinics.

- Develop a school wide peer-mentoring scheme along with the Engineering Society.
  - This would involve having a few student peer mentors
  - Arrange some few talks from these mentors – on their experience.
  - Student mentors to act as point of contact for small issues. Personal Tutors to act as the point for major issues.
- Include more tutorial session for all modules explaining model answers to previous year's exam papers.
- For the BSc course review the entry requirements into the 2<sup>nd</sup> and 3<sup>rd</sup> year directly.
- Provide additional technical support for direct entry students on the BSc courses.
- Advise student to take up the placement year which helps find a useful way to apply the theoretical skills and further helps in the students' performance in the final year.

## **6 Conclusions**

It was seen that the general perception that direct entry students do not perform well as they usually have difficulties in settling down is not always true. It was seen that while this was true for the direct entry students on the BSc courses, this was not applicable to the students on the BEng courses.

It was also seen that the School of EDT has an intensive induction process to help students settle into the new environment faster. However there is still some scope of further improvements.

Recommendations were made on how the performance of the direct entry students in the BSc courses may be improved and how the induction process may be further refined. It was suggested to pilot a peer-mentoring scheme to include student led mentoring for helping the direct entry students.