Knowing our students
– different approaches to student retention
Experiences of the ATTRACT project


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ATTRACTION – Enhance the Attractiveness of Studies in Science and Technology

- A Studies and Comparative Research project under the Lifelong Learning Programme aiming to increase knowledge and inform practice about student recruitment and retention in engineering education
- Brings together 8 CLUSTER universities and 2 Swedish universities
- Runs from January 2010 to October 2012
Background and activities

• Comparative studies in higher education tend to focus on macro-level contrasts between the structures of one system and another
• We wanted to explore the different practices carried out by the participating universities
• Several trials took place and provided different approaches to information and actions:
  – Footprint (trial 1)
  – Working with questionnaires (trial 2)
  – Interaction, academic integration and tutoring (trial 3)
  – Economy of retention and related activities
Factors contributing to student progression and completion and ATTRACT activities against this framework

**COMPARATIVE FRAMEWORK**

SOCIETY (e.g. employment situation)

UNIVERSITY
Creating effective teaching and learning environments
- Student recruitment
- Organization of studies
- Quality of teaching and counseling

WORKING WITH QUESTIONNAIRES

STUDENT
Personal background
- Motivation, orientation to studies
- Study skills, time management
- Situation in life

CASE STUDIES

Academic and social integration

WHAT WORKS IN STUDENT RETENTION?

ECONOMY OF ACTIVITIES

PROGRESS OF STUDIES

FOOTPRINT

Adapted from Ruutu

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Retention Footprint: Visualising and monitoring student retention in study programs across Europe
Define indicators, show patterns

- Universities seldom produce data for retention, graduation rate etc. in the same way.
- Agreeing upon strict definitions takes time and may block the progress, however concepts need to be defined and made visible.
- Focusing on figures may fade the patterns
  - “A picture can say more than thousand words (numbers)”
## Indicators for retention ATTRACT

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Usability</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Number of active students, student cohort</td>
<td>• Definitions differ but footprints can be compared</td>
</tr>
<tr>
<td>• Credit after year one, year three and nominal program length, median in the cohort</td>
<td>• Can be produced at all universities except in one</td>
</tr>
<tr>
<td>• Graduation from the program; graduation rate, mean value in the cohort</td>
<td>• Can be produced but comparability depends on the definition of the cohort</td>
</tr>
<tr>
<td>• Graduating at the university; graduation rate, mean value in the cohort</td>
<td>• Measured in Sweden, estimated for the rest of the countries</td>
</tr>
</tbody>
</table>
Retention Footprint Civil Engineering

ects credits year 1 median

ects credits year 3 (bach level) median

ects credits year 5 (master level) median

graduation rate any program year 5+1

graduation rate year 5+1

standard loader
Univ 3
Univ 2
Univ 4
Univ 1

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Footprint: Conclusions

• It is difficult to find directly comparable indicators due to differences in educational systems etc.
• Data not directly available, improved data warehouse systems help in future
• Comparing patterns and trends, as graphical visualization, instead of figures, fosters discussion
• Studying similarities and differences in the pattern
• To draw actual conclusions, deeper analysis at the university level is crucial
Working with questionnaires: Feedback loop

Transparent: if stakeholders are aware of how their answers are used, they are likely to provide the institution with the information they need.

1) Feedback
2) Feedforward = developing practice by identifying critical changes in student populations BEFORE the situation reaches a critical point.
Good practices in tutoring, mentoring and academic integration

- Universities’ activities to increase students retention can be divided into three major strands:
  - Changes in the structure of studies
  - Changes in progression rules
  - Changes in human support – both academic and well-being

- The case studies are a collection of actual practices implemented in the partner institutions in order to decrease non-completion rates among higher education students.
  - Focus on 1st and 2nd year activities
  - Examples others can learn from
Examples of good practices 1

• Study Psychologists – Aalto
  – Services for the students include individual counseling, workshops for groups, lessons and material on learning skills (preventive healthcare).
  – Typical reasons for the students to seek counseling are improvement in study skills (e.g. reading, writing, note taking), time management skills, motivation, goal setting and coping with stress.
Examples of good practices 1

• Low Academic Outcome System (LAOS) – IST
  – IST follows the Portuguese law related to the exclusion of students with low academic outcomes; if a student has not completed enough credits after a certain number of enrollments, (s)he may be excluded from the university for one academic year.
  – LAOS allows the identification of students with persistently low academic outcomes who may be at risk of being excluded from the university and is complemented by an intervention plan aiming to reverse these outcomes.
Case studies: Conclusions

- There seems to be plenty of similar activities (in terms of e.g. tutoring) across universities but dissimilar execution.
- Measuring (as much as possible) the impact of these activities has proved to be a significant challenge.
- The generalizability of different activities is limited due to the context dependency. Universities need to understand their own contexts.
- One case study – Scholarly attitude to the retention practice – pointed out that all initiatives aimed at reducing student retention need to be systematically evaluated.
Economic actors in university education
Receiver Operating Characteristic

Detection Rate vs. False Alarm Rate

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Receiver Operating Characteristic

Detection Rate vs. False Alarm Rate

- More detection
- Larger Sample
- More False Alarms
### Metric | Value | Notes
--- | --- | ---
Dropout/Failure rate | 20% | Percentage of students dropping out or failing (depending on analysis required)
Number of Students | 180 | Total number of students under consideration
Cost Per Student dropout/failure | € 11,000.00 | Total cost of a student dropout (e.g. lost revenue over the remainder of their studies) or failure
Cost per incorrectly tagged student | € - | Cost (excluding cost of initiative) of incorrectly tagging student as likely to fail
Est. Cost of initiative | € 50,000.00 | Budget available
Approx Number targeted | 20 | Number of students who will partake/be affected by initiative

| Metric | Value | Notes |
--- | --- | ---
Total failing students | 36 | Number of students failing
Breakeven | 5 | How many students need to be 'saved' to break even, neglecting cost of incorrectly tagging
Gross Success Rate required | 13.89% | What percentage of total dropouts need to be 'saved'
Net Success Rate required | 25.00% | Percentage of targeted cohort who must be saved

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**Economic Benefit of Targeted Retention Initiative**

**Percentage of Total Students Targeted By Initiative**

- €3 00,000 - €4 00,000
- €2 00,000 - €3 00,000
- €1 00,000 - €2 00,000
- € - €1 00,000
- -€1 00,000 - €-

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Summing up: retention and quality culture in HE

- **Expectations**: clearly communicated
- **Feedback**: foresights, early warning systems
- **Support – academic and wellbeing**: teaching is a support system for learning
- **Involvement**: foster collaboration
- **Fostering quality culture by quality structure**: common language shared, active leadership
- **Structure of studies and progression rules**: point of interest in future studies
- **Measuring retention and economic benefit of initiatives**: quantitative and qualitative studies, multiple indicators, reasons behind
- **Getting to know your context**: do not oversimplify, patterns of motivation and performance vary
- **Benchmarking and learning from other universities’ actions**
In practice …

Improved first year experience
+
Monitoring of student results at key points in their academic life
+
Early identification of individual and institutional challenges
+
Human support (especially for those experiencing difficulties)
+
Changes in the structure of studies and in progression rules

= most promising path to follow from here onwards
Actions taken by partners

- First year experience, integration
- Cross-disciplinary courses, programmes
- Study skills
- Research
- Service
- Indicators, tools for analysis (footprint), data ware
- Curriculum structure reform
- Collaboration projects
- ……
ATTRACT Retention reports will be available at

http://attractproject.org

ATTRACT final report
Sub-reports:
  – Selected country reports
  – Student Retention Literature review
  – What works in student retention?
  – Footprint report
  – Knowing our students – workshop report