

This guide is an introduction to service design and improvement methodology and its application in Higher and Further Education. It introduces a key technique service blueprinting - which has been used successfully at the University of Derby in the Development and Review of Business Interfaces (DERBI) project to improve the transition stage from applicant to registered student, with a specific focus on the university enrolment process. Together with a theoretical introduction to service design, the guide provides illustrative examples (coloured boxes) of how service blueprinting can be applied.

# Service Design in Higher and Further Education

## A Briefing Paper

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## Key Points

- Service blueprinting is a comprehensive technique, which places the student at the heart of the service and focuses on the service delivery process.
- Each student's service encounters are mapped and examined to see if they contribute to the strengthening of the relationship between university and student. This enables complex service processes to be broken down into stages for detailed analysis and further improvements.
- Individuals responsible for components of service delivery can understand how students experience what they offer and how it fits into higher-level business processes.
- Identification of fail points and areas of excessive wait focuses improvement effort where it will lead to the greatest impact to enhance the service provision with the focus on the student experience.
- Service blueprinting improves understanding of student expectations and how these are met in terms of minimum service standards.
- Continuous updating of the blueprint is required to adjust for service enhancements and changing customer preferences, and capture dynamic processes.
- Co-operation and effective working arrangements between academic, administration and support staff are required for service design and improvement initiatives to be successful and service design projects need to be mindful of change management requirements.

## Service design principles and the service blueprinting technique

Service design is an approach where the end-users, the students, are the main focus and the student experience is viewed holistically rather than concentrating on the individual processes which support service delivery. Service blueprinting is a graphical representation of the service process and shares similarities with other process modelling approaches - it is a visual representation of the key activities in the service process and the detailed sub-processes and sub-systems, which reflect the service delivery.

The blueprint is a living document and should be used to continue to refine the systems and processes it describes. The identification of the key fail and wait points, drawn from the end-user feedback, enables the project team to drill down into these aspects of the service delivery and make recommendations to managers to focus resources to best effect.

## Stages of service design and improvement initiatives

The five key stages of service design/redesign and improvement are described below.

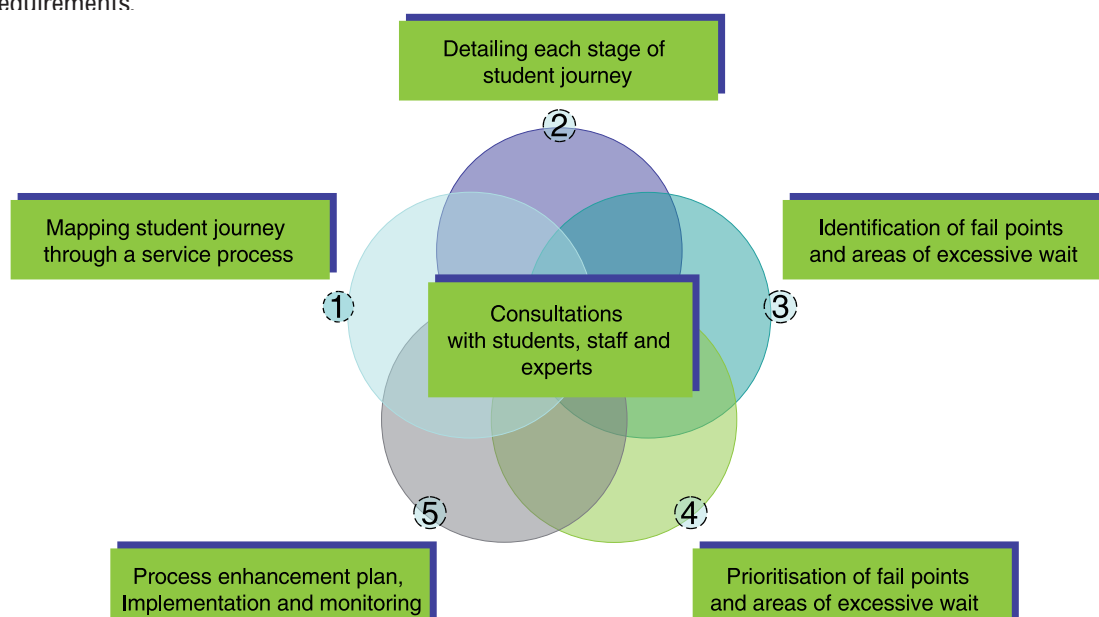


Figure 1: Service Design Initiatives: project stages, Baranova, P., 2010.

## STAGE 1 MAPPING A STUDENT JOURNEY THROUGH A SERVICE PROCESS

The student journey needs to include all the steps that students encounter as part of the service delivery process. These 'touchpoints' are plotted in a sequential order from left to right at the top of the blueprint. When developing a blueprint it is advisable to start at the 'big picture level' and then drill down to obtain a greater level of detail. The blueprint is further divided into two zones: frontstage and backstage, separated by the line of visibility. Everything that appears above the line of visibility is what the student is exposed to and comes in direct contact with. Below the line of visibility, so-called backstage elements of the blueprint are drafted. These include participants (actors) and the actions which need to be performed in order to support the frontstage activities. Conventional understanding of the backstage operations as being secondary to the frontstage activities is challenged by the service blueprinting approach. Both are shown to be equally important for the success of the service process, both need to be properly resourced and managed, both need to be made aware of the importance of the other for the delivery of quality services<sup>1</sup>.

### The Derby Experience

As the project progressed it became clear that the original scope of the project was too generic and ambitious in seeking to map out the experience of a range of student types. We have calculated that there are potentially more than 15 different student profiles with differentiated experience through the enrolment, including International, mature, part-time, collaborative, e-learning, etc. When we came to draw up the blueprint it was clear that the level of detail required made it necessary to refine the cohort to one particular type of student. We quickly realised that in order to reach the necessary level of detail we would have to decide on a particular 'persona' – the one we chose was a first year undergraduate student on our Joint Honours programme. Even so, the map turned out to be very complicated and clearly demonstrated the interoperability of the service processes. The Derby blueprint can be viewed at the project website: <http://www.derby.ac.uk/experience/JISC-enrolment-project>

## STAGE 2 DETAILING EACH STAGE OF THE STUDENT JOURNEY

There are five components of a typical blueprint<sup>2</sup>:

■ **Student touchpoints (stages of the service process):** timing and relationships between the stages are depicted graphically.

After identification of the key touchpoints (Stage 1), each stage of the process is analysed in depth providing details for frontstage and backstage operations. These include target and actual timing for each stage. The comparison between the actual and target time could form a useful dialogue with regards to minimum service standards and whether or not they are achieved.

- **Frontstage participants and actions:** these need to be carefully depicted in the blueprint to allow for transparency and accountability of all the parties involved in service delivery.
- **Evidence (tangible and intangible):** these include tangible elements of the servicescape, such as physical environment of the service delivery (room layout, signage, equipment, decor, etc.) and intangible elements (lighting, temperature, noise level, etc.).
- **Backstage participants and actions:** similar information as for the frontstage participants but in a backstage situation.
- **Technology:** crucial for the delivery of several, but not all, stages of the service.

### The Derby Experience

In the Derby blueprint the following elements were illustrated:

**Touchpoints:** the stages of transition from applicant to student were plotted from an open day to the point where a student receives an enrolment completion e-mail. Actual and target times were identified for each of the stages.

**Frontstage participants:** front-line staff from various departments with whom students come into direct contact either through face-to-face, telephone or virtual means of communication were listed.

**Evidence (tangible, intangible):** we looked closely at our two locations for enrolment on our main campus - one was the library, a modern air-conditioned building, and the other was in a corridor with no natural light which could get very stuffy, especially when queues built up.

**Backstage participants and principal actions:** included participants and their actions that need to be performed in order to support the frontstage activities. For example faculty administration and programme staff, central records and fees staff and disability support, etc.

**Support systems:** various IT systems supporting admissions and the student database were displayed at the bottom of the blueprint and in some instances connected by the vertical lines with other areas of the blueprint to show interoperability links.

## STAGE 3 IDENTIFICATION OF FAIL POINTS AND AREAS OF EXCESSIVE WAIT

The next stage is to identify points where students may perceive failure in the service delivery process. The 'fail points' are the critical incidents on which students base their perception of quality<sup>3</sup>. Identification of fail points can start from a number of areas: direct student feedback, secondary data available from surveys, operational data with regards to process failures, underperformance, bottlenecks and others.

The blueprint also displays the areas of excessive wait (AEW). These could either contribute to the fail points or stand on their own, signifying the areas where students commonly have to wait. The task of the service redesign team then lies in either designing areas of wait out of the process, if feasible, or minimising the negative impact of the wait on student perception of service quality. The latter could include redesign of the servicescape where waiting occurs, for example: setting standards including times for completion of a task and maximum wait times between tasks in order to manage student expectations; training staff to manage queuing and performing service recovery, etc.

### The Derby Experience

Since the focus of the Derby project was on the students' experience, the fail points were those identified by the students, as end-users of the service, captured by mystery shoppers, flip-cam diaries, focus groups and surveys, or by operations posing the highest risk to the service as identified from a functional perspective.

## STAGE 4 PRIORITISATION OF FAIL POINTS AND AREAS OF EXCESSIVE WAIT

The fail points and AEW should be prioritised to focus improvement where the greatest impact on the student experience will be made, thus providing a greater focus for service improvement efforts. Prioritisation could be done based on risk, for example. It is important to note that inevitably there could be links between the fail points and AEW. These links and dependencies need to be thoroughly explored and analysed before initiating the service improvements as they could potentially create further problems when putting the service enhancement plan into operation.

### The Derby Experience

One of the key fail points identified was non-completion of the online enrolment process, which forms a vital part of the success of the central enrolment process. The number of suggestions to minimise the risk of online non-completion included: redesign of the web-layout for the online enrolment, rephrasing the instructions on the screen to avoid misunderstanding, and use of a progress bar as a tracking tool.

## STAGE 5 PROCESS ENHANCEMENT PLAN, IMPLEMENTATION AND MONITORING

The main objective of blueprinting is to create a solid foundation for service improvement: enhancement, redesign or re-engineering. The least radical approach is enhancement. Initiatives could include poka-yoke techniques. These are fail-safe methods from the manufacturing sector that have been successfully introduced to the service industry<sup>4</sup>. Poka-yokes could apply to the deliverer of the service (the '3Ts of task, treatment and tangibles) or the customer and focus on stages of service delivery (preparation, encounter and resolution).

### The Derby Experience

Poka-yokes used to deal with possible tangible errors included: improved signage, development of a Guide to Enrolment for new students, better layout of rooms for induction and enrolment, and review of queuing flow arrangements. Bespoke T-shirts for all helpers during the enrolment process have been introduced to enhance the visibility of support staff available to help students.

Should the majority of errors occur around the *Task* itself then the service is incorrectly performed due to poor design. Perhaps, tasks are being performed too slowly, incorrectly or in the wrong order. In the Derby project, the issue of passwords was identified as a fail point. Although all new students were sent their password by email prior to arrival, a significant number did not bring it with them for on-campus enrolment, thus necessitating a repeat of the process.

*Treatment* errors describe ineffective human-to-human or human-to-technology interfaces. For human-to-human this could be misunderstanding and/or misinterpretation of a customer request, use of jargon or unprofessional behaviour. Human-to-technology errors in on-line enrolment could be due to poor web-navigation, unclear instructions, or inability and/or fear of using technology.

**Tangible** errors occur in the physical elements of the service, such as poor room design, unclear written documents, unreliable equipment, etc. Service poka-yokes could include activities, features, or systems to minimise the risk of the occurrence of such errors in the delivery of the service.

## Consultation with service design and improvement participants (students, staff and experts)

Service design requires a wide range of research methods to inform the development of the blueprint and enhancement approaches. Analysis of primary and secondary sources, and of qualitative and quantitative data can provide valuable insights into student perceptions and expectations of service quality. Research undertaken with service personnel, both backstage and frontstage, allows for deeper probing into high-risk areas. It also heightens employee awareness of the service delivery process, capabilities for service recovery and perceptions of student needs, wants and satisfaction levels.

Wide-ranging consultations are necessary, input from staff who manage and carry out the various processes is key to capturing the frontstage and backstage operations that lie beneath the identified student touchpoints. In the Derby project, over 100 participants were involved in drawing up the student transition blueprint.

### The Derby Experience

Blueprinting as a technique has proved a powerful tool in engaging not only staff involved in the processes but also management, who can see clearly, in diagrammatic form, both the complexity of the system and how it holds together. The identification of fail and wait points has proved a very powerful approach to focusing effort on enhancements where the biggest impact will be made to the felt student experience. The blueprint has also fostered empathy, and has helped staff to understand the role others have to play in delivering the service. In developing a new, holistic, service enhancement plan we have been able to say that we have planned and mapped out improvements and interventions with the key stakeholders. However, the fundamental change has been that rather than assuming what we knew, or thought we knew, would be best for the students, we have actively sought their input as end-user designers and co-producers of their own student experience.

It is important that, throughout the development of the blueprint, the end-user remains in focus. Blueprinting participants should not be too engrossed with the steps in the process, operational issues and 'blame' talk. They need to be constantly reminded of the student being at the centre of service improvements, experience design and quality.



Figure 2: Research Methods used in the DERBI project

## Broad application issues across the HE and FE sectors

Universities and colleges offer self-service options to students, for example online enrolment, self-help tools or virtual learning environments. In order to offer a quality student experience, universities and colleges need to ensure that it does not feel like a burden, but as an experience that adds value, or one that is so simple and straightforward that it appears effortless.

The experiences and expectations of students need to be clearly understood and managed. Application of service design techniques, particularly blueprinting, challenges the extent to which institutions truly place the student at the heart of what they do.

Successful application of service design and improvement techniques requires effective collaboration between academics, support and administrative staff. Such collaboration is not only required during the consultation stage to explore and plot the 'As Is' service blueprint, but also in the identification of improvement strategies and development of any 'To Be' processes. Quality services, designed with students, can offer an experience that distinguishes the institution, exceeds expectations and fosters long-term relationships.

### The Derby Experience

*"I attended one of the Service Design workshops, and worked on the initial Blueprint for our enrolment process. It was really enlightening to place myself as the student and imagine the experience from their standpoint, rather than putting process first, which we do too often. After seeing the outcomes broken down into a service design plan with such tangible elements I can really see where I can apply this to other processes that my team work on" (Beverley Matthews, Programme Advisory Service Co-ordinator, University of Derby).*



The Derby Campus

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3. Palmer A., (2008). *Principles of Services Marketing, Fifth edition*, McGraw-Hill Education.
4. Chase R.B., Steward D.M., (1990). *Make Your Service Fail-Safe*, Sloan Management Review, Spring 1994, pp 35-44.

### FURTHER INFORMATION:

JISC CETIS Relationship Management website: <http://jisc.cetis.ac.uk/support/relationship-management>