

GENERAL INFORMATION

Title	University of Bath Mathematics Resources Centre, MASH
Key words (3 to 5 key words)	Academic support, mathematics, statistics, accessibility
Objectives (2 to 3 objectives)	To provide mathematics and statistics support for everyone at the University of Bath to enable them to fully engage with their studies or working environment To provide bespoke academic support for target groups such as vocational entry qualification students To provide advice and guidance to academic departments about barriers to students' learning mathematics
Phase of studies (Choose all phases it applies)	Access Retain
Type of degree (Choose all degrees it applies)	All students (undergraduate, postgraduate taught, postgraduate research) and staff (professional, academic)
Level (Choose all levels it applies)	National Institutional Departmental Individual
Name of the institution	University of Bath
Location (City and country)	Bath, UK
Target group/s	All members of the university (including distance learning students)
Stakeholders involved	Professional service staff, academic departments, student peer tutors, widening participation office
Description of the organisational process <i>Actors, triggering evidence,</i>	MASH was a natural development from a mathematics support provision developed within the Department of Mathematical Sciences in 2002. The departmental provision arose from a

<p><i>campaigns, graph... (max. 300 words)</i></p>	<p>year-long project with first year undergraduates looking at their transition experience from A level to undergraduate studies. The key finding from this study was that developing support mechanisms to study at university was important but difficult to set up individually.</p> <p>MASH became the first regional hub for a national network of support centres, sigma-network (http://www.sigma-network.ac.uk) which provides a platform from which new centres can be supported and where new initiatives can be disseminated nationally.</p>
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A. FORMAL EVALUATION CRITERIA

<p>A1. ACCESS TO INFORMATION <i>Provide sources of information (URL, websites, literature, materials)</i></p>	<p>http://www.bath.ac.uk/study/mash</p>
<p>A2. TIMEFRAME <i>Since when has it been in use? What is its maturity level (initial, intermediate, advanced)? Describe if there is evidence of its duration in the long run. (max. 70 words)</i></p>	<p>The centre was established in 2007 following a successful bid for start-up funding from HEFCE. It is now fully embedded within the institutional academic support programme, staffed by five permanent part-time positions.</p>
<p>A3. NUMBER OF STUDENTS <i>How many students are involved? Is the number representative considering the target group?</i></p>	<p>In 2015-2016, the number of students accessing the centre was around 2000 and around 25 staff. Students from every academic department engaged in at least one of the activities offered by MASH. The centre also delivers a mathematics support programme to around 25 students annually who are studying vocational courses in local colleges and a series of webinars on statistical techniques that are offered to postgraduate students in the GW4 university group (Bath, Bristol, Exeter, Cardiff).</p>
<p>A4. SCALABILITY (“volume”) <i>Describe how it has been or can potentially be scaled up and practiced in a wider scale. Or, has it been or can it potentially be scaled down (e.g., from larger to smaller institutions)? (max. 70 words)</i></p>	<p>Since 2014, when staffing was increased to current levels, the centre has scaled up its activity to the levels described above. With appropriate staffing, it is entirely possible to scale the practice both up and down.</p>
<p>A5. TRANSFERABILITY (from one context to another) <i>Describe how it has been or can potentially be transferred and applied to different (a) target groups, (b) institutions, and (c) societies. If possible, name also some practices that this initiative was developed from</i></p>	<p>Mathematics support centres have been set up in a significant number of HE institutions, many of whom are involved in the sigma-network: http://www.sigma-network.org</p> <p>In some cases, the centres are based at the faculty level; some focus on particular student cohorts (such as year 1 undergraduates); and some have a wider remit than MASH, undertaking academic research in mathematics learning in HE.</p>

<p>or has inspired to. (max. 70 words)</p>	
<p>A6. ASSESSMENT <i>Describe how it has been evaluated. How has it proved its relevance as the most effective way to achieve the objective? How it was successfully adopted? How it has had a positive impact on people? How the impact has been measured? Shortly describe how various forms of evaluations have been used in the assessment (A6.1 User evaluation, A6.2 Self-evaluation, A6.3 Peer evaluation, A6.4 External expert evaluation). Provide references, if possible. (max. 200 words)</i></p>	<p>MASH has been informally evaluated.</p> <p>A6.1 Participation data and range of activities are presented to the pro-VC Learning & Teaching and academic departments annually. Feedback is sought on the scope of provision based on this data.</p> <p>A6.2 The centre holds an annual review day which is used to evaluate the success of activities based on participation numbers, anecdotal and informal feedback and peer review comments.</p>
<p>A7. CONTACT <i>Who can be contacted so as to seek support and networks for implementing the practice (name, position, e-mail)?</i></p>	<p>mash@bath.ac.uk</p>

B. CONTENT EVALUATION CRITERIA

B1. SOCIAL JUSTICE PRINCIPLES (see Nelson & Creagh, 2013)

<p>B1.1 Self-determination <i>Rate and Justify (max. 70 words)</i></p>	<p><i>Very weakly</i> <input type="checkbox"/></p>	<p><i>Weakly</i> <input type="checkbox"/></p>	<p><i>Well</i> x</p>	<p><i>Very well</i> <input type="checkbox"/></p>
<p><i>(how students have participated to its (a) design, (b) enactment and (c) evaluation and how they can (d) make informed decisions about the participation)</i></p>	<p>a) Staff and student suggestions about the activities are encouraged and are often made informally. All ideas are considered by the centre staff and enacted if they can be accommodated and are relevant to the objectives of the centre.</p> <p>b) Students attend sessions</p> <p>c) We regularly seek student feedback on the scope of our activities to ensure that they are relevant and timely for the student body</p> <p>d) Promotional activity, including the use of social media, highlights the opportunities that the centre can provide to all students.</p>			
<p>B1.2 Rights</p>	<p><i>Very weakly</i> <input type="checkbox"/></p>	<p><i>Weakly</i> <input type="checkbox"/></p>	<p><i>Well</i> x</p>	<p><i>Very well</i></p>

<p><i>Rate and Justify (max. 70 words)</i></p> <p><i>(how it is assured that all participants are treated with dignity and respect. How have their individual cultural, social and knowledge systems been recognised and valued?)</i></p>	<p>All staff receive training on diversity and unconscious bias. We regularly discuss issues of accessibility of mathematics for all members of the university and are pro-active in developing processes and resources that all students can access. We have developed materials for students whose first language is not English and we work closely with Student Services to ensure that we provide the appropriate environment for all students to access our services.</p>			
<p>B1.3 Access</p> <p><i>Rate and Justify (max. 70 words)</i></p> <p><i>(how it is assured that there is an active and impartial access to the resources (e.g., curriculum, learning, academic, social, cultural, support, and financial resources))</i></p>	<p><i>Very weakly</i></p> <input type="checkbox"/>	<p><i>Weakly</i></p> <input type="checkbox"/>	<p><i>Well</i></p> <input type="checkbox"/>	<p><i>Very well</i></p> <p>x</p>
<p>B1.4 Equity</p> <p><i>Rate and Justify (max. 70 words)</i></p> <p><i>(how if it openly demystifies and decodes dominant university cultures, processes, expectations and language for differently prepared cohorts)</i></p>	<p><i>Very weakly</i></p> <input type="checkbox"/>	<p><i>Weakly</i></p> <input type="checkbox"/>	<p><i>Well</i></p> <input type="checkbox"/>	<p><i>Very well</i></p> <p>x</p>
<p>B1.5 Participation</p> <p><i>Rate and Justify (max. 70 words)</i></p> <p><i>(how it has led to socially inclusive practices. How does it increase students' sense of belonging and connectedness?)</i></p>	<p><i>Very weakly</i></p> <input type="checkbox"/>	<p><i>Weakly</i></p> <input type="checkbox"/>	<p><i>Well</i></p> <input type="checkbox"/>	<p><i>Very well</i></p> <p>x</p>
<p>B2. COLLABORATION</p> <p><i>Describe what kind of collaboration there is between various stakeholders. (max. 70 words)</i></p>	<p>All stakeholders contribute to the development of activities within the centre. MASH disseminates information to all staff at the university annually at the learning & teaching day and has previously run an annual user group meeting.</p>			
<p>B3. STUDENT SATISFACTION</p>	<p>Student satisfaction is demonstrated by the numbers attending</p>			

<p><i>Describe the student perception of this initiative. Is there evidence of their satisfaction? (see also A6.1) (max. 200 words)</i></p>	<p>various sessions offered in MASH. In 2015-16, these numbers were around 2000. We do not undertake a formal questionnaire and so only have anecdotal evidence of satisfaction.</p>
<p>B4. STUDENT WELLBEING <i>How does it influence on students' (a) psychological, (b) social, (c) academic, and (d) physical wellbeing? What kind of evidence there is? (max. 200 words)</i></p>	<p>The service impacts positively on the academic wellbeing of students that access the service.</p>
<p>C. FINAL REFLECTIONS (based on the previous description of your good practice)</p>	
<p>Success factors <i>What are the factors required for the successful implementation? (max. 200 words)</i></p>	<ul style="list-style-type: none"> • A clear vision of what a mathematics support centre can offer to the institution • Strong leadership to position the service successfully within an institutional support framework • Good communication with academic departments • Commitment of staff to work collaboratively to deliver and develop activities
<p>Sustainability <i>What is needed for the practice to sustain? What resources are required? How it contributes to environmental, economic or social sustainability? (max. 200 words)</i></p>	<ul style="list-style-type: none"> • Core funding to secure permanent staff positions • Well-qualified staff • Accommodation – bespoke, accessible space within the university • Ring-fenced budget to support development of centre activities.
<p>Challenges <i>What are the constraints identified? How easy it is to learn and implement? (max. 200 words)</i></p>	<p>Success of the centre depends on high-quality staffing and strong leadership. Both of these have funding implications but, in relation to the institutional benefit, these are very modest.</p>

Sources

Kunttu, K. 2005. The study ability model. The Finnish Student Health Service (FSHS). (http://www.yths.fi/filebank/692-ENG_OPISKELUKYKYMALLI.pdf)

Nelson, K & Creagh T. 2013. A Good Practice Guide: Safeguarding Student Learning Engagement. Queensland University of Technology. Brisbane, Australia. (http://safeguardingstudentlearning.net/wp-content/uploads/2012/04/LTU_Good-practice-guide_eBook_20130320.pdf)