



Davies, Madeleine and Mayhew, Emma (2019) The magic number: evaluating online provision of detailed assessment data to support tutoring. *Practitioner Research in Higher Education*, 12 (1). pp. 75-81.

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**The Magic Number: Evaluating online provision of detailed assessment data to support tutoring**

Practitioner Research  
In Higher Education  
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Vol 12(1) pages 75-81

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**Abstract**

This discussion outlines the work undertaken by the Electronic Management of Assessment (EMA) Programme at the University of Reading between 2016 and 2018 to provide granular assessment information to support the work of personal tutors and the academic attainment of their students. This work was timely as it coincided with the introduction of a new tutoring structure at the University, the Academic Tutoring System (ATS), which replaced the existing Personal Tutor System, in September 2018.

Before this project began, personal tutors at Reading did not have timely access to their tutees' detailed assessment data. In consultation with student focus groups, new screens within the online 'Tutor Card' were developed by the EMA Programme Team and rolled out in November 2017. This discussion assesses the reported impact on Tutors of assessment data availability and demonstrates the potential value of technology in improving the efficacy of the tutorial system.

**Key Words**

Assessment data; student support; Academic Tutoring; inclusion; engagement.

**Introduction: EMA and Personal Tutoring at the University of Reading**

In January 2017 the University of Reading began an internally funded, three-year Electronic Management of Assessment (EMA) Programme designed to deliver the University's long-term vision for online assessment, whilst also improving its underlying business processes and systems. A significant piece of work within this Programme has been to record individual summative assessment marks for each piece of assessment (or 'sub modular marks') on our student records system (provided by Tribal).

The need to show each sub modular mark was, in part, driven by the need to provide timely and more detailed assessment data throughout the year to personal tutors - academic colleagues responsible for the pastoral and academic care of allocated groups of undergraduate students. Research shows that the role of the personal tutor in supporting student engagement is critical (Stephen, O'Connell and Hall, 2008; Groves and Burden, 2017) and the University of Reading was keen to enhance student engagement and experience by reframing provision in this area.

A particular area for potential improvement surrounded inconsistent student uptake and student experience of personal tutor meetings. A University of Reading 'Personal Tutor Engagement Survey', undertaken in 2015/16 and reported internally in the University's 'Summary Analysis of Personal Tutoring System Working Groups and Personal Tutor Surveys (2012-2017)', found that the majority of UG and PGT students were seen by a personal tutor. Given that the PTS was not mandatory, this uptake was strong but the PTS project wanted to explore reasons for non-engagement and to

**Citation**

Davies, M., Mayhew, E.(2019) 'The magic number: evaluating online provision of detailed assessment data to support tutoring', *Practitioner Research in Higher Education Journal*, 12(1), pp. 75-81.

address inconsistencies in experience for students. The most common reason given for student non-attendance at tutorial meetings was that the student failed to respond to the tutor's invitation.

Inconsistent engagement with the tutorial system, from students and occasionally from staff, generated a wholesale review of the University's tutoring provision in 2017. A project group was convened to explore alternative tutoring models and, following extensive research and student and staff consultation, recommendations for a new 'Academic Tutoring System' (ATS) were approved in March 2018 and scheduled for university-wide roll-out in September 2018. The ATS repurposes the tutorial as an opportunity for Academic Tutors to work in partnership with their tutees to support their academic, personal and professional development through structured academic conversations informed by student data. This approach allows Academic Tutors to focus on helping students to improve their academic attainment and to develop the essential graduate attributes for employment or further study. Academic Tutors assist students in reflecting on their academic progress to date, including working with students to identify their strengths and weaknesses in relation to academic study skills and encouraging students to make plans and/or to take up opportunities to develop these (e.g. by accessing Study Advice, Liaison Librarians, Maths Support, English Language Support, etc.). Academic Tutors support students to review and reflect holistically on feedback they have received on assessed work, identifying steps they can take to improve their future performance.

Opportunities for pastoral care are not forfeit in this system: ATS offers recalibration of the balance between pastoral and academic care, and it identifies a clear function for tutorial meetings. It is manifestly in all students' interests to engage with the system and to attend regular tutorial meetings in order to maximise the opportunities for help and to enhance their experience of university.

### **The Relationship between ATS and Student Data**

This proactive developmental approach to tutoring adopted at Reading in 2018 reflects a broader trend within the sector towards significantly increasing the use of data to recognise students at risk of underperforming or failing to progress and using that data to intervene with additional support at an early stage (Sclater, Peasgood and Mullan, 2016; McCluckie, 2012; Colvin et al., 2015). Crucially, however, student data can be used to improve student attainment at all performance levels and should not simply be seen as a way to support those identified as 'at risk' (Ellis, 2013). The emphasis on the best use of data sits alongside a body of work which outlines the positive impact of academic or personal tutor systems as a way to encourage a sense of belonging (Yale 2017), as a preferred source of support for students who have successfully progressed to the next level of study (Walsh, Larsen and Parry, 2009), to improve retention (Evans, 2013), and to support the transition to higher education (Stevenson, 2009).

Research has found that the tutorial system is particularly effective in enabling students to understand their academic performance, explore assignment feedback, develop academic confidence and, more broadly, support a sense of an inclusive academic community within a department, supporting student performance as part of a broad approach to improving attainment (Thomas, 2012). This underscores the importance of the tutorial system and the efforts made by institutions to ensure that sufficient and timely data is available.

### **Implementation**

Prior to 2018 at the University of Reading, each essay, report, in-class test, presentation or exam mark was largely managed using excel spreadsheets, at a local school or departmental level, to calculate an overall module mark. It was only this overall mark that was entered into the central student records system. A complex and labour intensive project approach was required to move the recording of individual marks away from spreadsheets to the student records system. It was achieved using a carefully designed, phased approach focused first on establishing what individual assessment occurs

on each of the approximately 1,600 undergraduate modules, establishing the right functionality so that administrators can enter marks into the student records system and allowing those marks to be delivered into a Tutor Card screen (containing a range of student information) for access by Academic Tutors. This process was underpinned by a communications, training and support plan. For programme administrators undertaking mark entry this included the creation of extensive training and quick reference guides, a helpdesk system to support queries by students and staff, familiarisation sessions, the creation and delivery of new training courses, mandatory training sessions, regular breakfast meetings and project team floor walking to address *ad hoc* issues. For academic staff and students, the core users of the Tutor Card screens, communications and support included debriefs within individual schools, departments and communities of practice accompanied by recorded webinars, newsletters, new webpages on the core student central information sites, a suite of case studies and explanatory screencasts which together show the location, contents and impact of the Tutor Card screens. The team was cognisant of the need to offer a wide range of communications using various channels and different types of support to suit colleagues with different roles, availability and learning styles, and to meet student needs (Sidhu, 2014).

The design, means of delivery and content of student related communication was led by two graduate partners, employed by the programme on a full-time basis during 2017-2018. These graduates liaised between the EMA Programme team and the student community, working with the Reading University Student Union and student focus groups to ensure that the Programme was meeting student needs as well as supporting the University's vision surrounding online assessment. The graduate partners fed back into the design of new assessment data screens drawing on their own current or recent experiences of the system and availability of data.

The new Tutor screen became live in November 2017 although very few individual assessment marks were available at this early point in the academic year. These were added gradually by programme administrators who aimed to update the student records systems within 10 working days of a mark being made available to students. By February 2018, 21% of non-exam marks had been recorded on the system, and this figure rose to 53.14% in April 2018, 70.95% in May, and 98.70% in July 2018.

A mock version of the new submodular marks section of the Tutor screen is represented in figure one below. It shows the sub modular assessment patterns for one 'Branding Project' module in the drop down white section including title, mode of submission, submission deadline dates, assessment type, the percentage weighting of the piece of assessment within the module, any administrator notes, an indication of any active processes relevant to the mark, such as extenuating circumstances and, when all marks have been entered, the overall module mark.

## DAVIES & MAYHEW: THE MAGIC NUMBER: EVALUATING ONLINE PROVISION OF DETAILED ASSESSMENT DATA TO SUPPORT TUTORING

Student details for Jane Doe							
Student No:		Programme:	BA Arts, Humanities and Soc Sci				
Date of Birth:	29/Dec/1996	Year of Study:	3				
Personal Tutor:	Emma Mayhew	Candidate No:					

  

Most recent academic year 2017/8							
<input type="checkbox"/> Show all		<input type="checkbox"/> Hide all					
Module	Title	Year	Credits	Mark	Grade	Result	Notes
ETY3BP	Branding Project	2017/8	10	✔ 78	✔ A	P	
Assessment		Due date	Weight	Mark	Grade	Status	
ORAL	Oral Group Pitch	24/11/2017	25%	✔ 98	✔ A	🔍	
CW	Group written pitch document and group practical work	24/11/2017	50%	✔ 72	✔ A	🔍	
CW	Individual Pitch Document	15/02/2018	25%	✔ 68	✔ B	🔍	
ETY3DP3	Design Practice 3	2017/8	30			🔍	
ETY3DS	Dissertation	2017/8	40			🔍	
ETY3PD	Packaging Design	2017/8	10			🔍	
ETY3PRO2	Professional Practice 2	2017/8	20			🔍	

**Figure 1.** Mock version showing the Sub Modular Marks sector of the Tutor Card available to Academic Tutors with individual marks showing for one particular module.

### Impact

Prior to full roll-out of ATS in September 2018, the dominant users of the data have been Departmental and School Senior Tutors. Colleagues in this role oversee tutoring in their departments or schools and manage the ‘Extenuating Circumstances’ process; they also direct the ‘Fitness to Study’ and ‘Failure to Engage’ processes. These often involve the provision of additional support and positive intervention from the Counselling and Wellbeing Service, the Disability Advisory Service, Study Support, the Student’s Union, and other sources of advice), or a judicious reminder of their engagement obligations.

Once the majority of submodular marks relating to 2017-2018 assessment had been entered into the student records system and had become visible to tutors, the Programme distributed an anonymous online questionnaire in order to understand the staff experience with new assessment data. The survey asked the University’s thirty-six Senior Tutors to respond to a series of statements, using a simple 3-point Likert Scale: colleagues were asked to choose at least one response to each question. An additional multiple choice question and a final open text question allowed space for more detailed qualitative feedback on the staff experience. The survey focused on three different aspects of the new sub modular marks section of the tutor card – awareness, overall usage and impact.

Distribution of the survey occurred throughout March and April 2018 and was accessed via a link to the online survey platform, SurveyMonkey. This link was e-mailed to all colleagues within the Senior Tutor Community of Practice via their group e-mail address. Eighteen out of a total of thirty-six colleagues completed the survey representing a response rate of 50%.

Although only launched in January 2018, by the time of the March/April survey, 14 out of 18 responders reported using the new sub modular data screens within the Tutor Card at least once a week. Of these, 6 colleagues reported using the new data very regularly, defined as ‘several’ times a week. 13 out of 16 survey responders (81%) confirmed that the new data helped them to save time by bypassing the need to gather information from Programme Administrators or move between several screens to collate the data. Two did not answer. In response to the question, ‘What are you using the new screens for? Please select all that apply’, respondents delivered a range of responses that demonstrated the flexibility and multi-usages of the screens: 10 colleagues (56%) reported that they use the screens to write references for students; 13 colleagues (72%) reported that the data underpinned their tutorial meetings (for example see Smith, 2018); 11 Senior Tutors (61%) reported

that they used the screens to prepare for 'failure to engage' escalation meetings and 12 (67%) reported that they used the data to build a profile about a student causing some concern (attendance registers and communication records, both held within the Tutor Card, complete the information set). Together with the 10 colleagues (56%) who report using the screens to monitor a student's progress/performance, it becomes clear that Senior Tutors, who carry the responsibility for directing the support of more vulnerable students, use the screens to deliver effective intervention in more problematic cases. 5 colleagues in Reading's Senior Tutor community reported that they have found 'other' uses for the screens but these 'other' uses were not detailed in their responses.

Senior Tutors were given the opportunity to provide further feedback on the screens in a 'summary' area of the questionnaire: here, Senior Tutors requested more information to be displayed on the screens, particularly formative marks information as well as summative marks detail. Senior Tutors also note the use of the screens in considering applications for 'Extenuating Circumstances' extensions, since the screens enabled access to the 'broader context' of a student's position. A few improvements to the system were also suggested in this section; one colleague highlighted that it can be difficult to interpret a missing mark and to decide whether it registers non-submission or late data entry. This indicates that some further training within the Administrative Centres may be required because the screens use a coding system to indicate distinctions between non-submissions and penalised submissions. There is some variation in the use of the codes across the university and work needs to be carried out to ensure that the codes are consistently applied and fully understood by Tutors.

A regularly noted comment throughout the survey is the extent to which the screens are being used to support escalations for 'fitness to study' and 'failure to engage', and to build context around 'extenuating circumstances' applications. It should be noted, however, that Senior Tutors have to focus on problematic cases and this can create the misleading impression that the screens have a dominantly surveillant function, or that they are mainly used to identify and address students who are struggling. It is envisaged, however, that the enhanced screens will support Academic Tutors to address the study needs and academic performance of a broader range of students in order to support enhancement, to identify outstanding students, and to advise students on strategies capable of lifting them to the next level.

### **Reflection and Further Development**

The project to start recording sub module marks on the student record system was launched shortly after a period of restructuring across Professional Services. This meant that programme administration operational services were establishing and understanding complex processes as they were still operating in the first academic year following restructure. Although not originally a direct objective of the project, anecdotal evidence suggests that it did bring colleagues together across programme administration to work on processes that had not always been understood across new teams.

The ongoing, 'real time' visibility of sub modular marks took some months to be registered by academic staff, despite the regular dissemination of information about their availability and use. When staff did access the screens, a small number of colleagues in one School raised concerns about the challenge to marking anonymity that they seemed to represent. This nervousness was particularly strongly expressed in relation to finalists and it gathered around the possibility that staff were able to view student marks after the marking process but prior to the Finals Exam Boards. It was explained, however, that the principle of marking anonymity only normally relates to the marking process itself and online marking does not threaten this. More, however, can be done to explain to particularly anxious schools why this is the case.

This issue of marking anonymity is certainly in conversation with more broad-based concerns expressed by a minority of colleagues about the availability of sub modular marks representing the approach of a data-driven, 'Big Brother' environment where the 'ethics of data collection in regard to quality of data, privacy, security and ownership' trigger anxieties (Daniel, 2015). Particularly in relation to Learning Analytics, some are sensitive to a perceived monitoring of students and worry about the impact of data sharing on vulnerable students, including those with a disability registration. At the University of Reading, the majority of colleagues do not view the availability of sub modular marks as being 'the thin end of the wedge' in terms of data mining, and instead welcome gaining access to their students' submission information which was previously unavailable to them (personal tutors have been requesting this type of data for the past five years, as the 'Summary Analysis of Personal Tutoring Working Groups and Personal Tutor Surveys, 2012-2017 reveals). Prior to EMA there was no systematic way of providing this. Attention is being given, however, to responding to concerns about what some colleagues feel to be an increasingly surveillant educational economy, and staff are being briefed on the advantages of being able to view submission information as the academic year proceeds, and on a constructive and accurate interpretation of data. In our new Academic Tutorial System, Directors of Academic Tutoring roles and responsibilities are subsumed into newly created roles of School Directors of Academic Tutoring (SDATs), who have briefed their Academic Tutor teams throughout the 2018-19 session to demonstrate the positive uses of the new functionality.

The work of the ATS and the reshaped remit of Academic Tutors is being supported by the new sub modular marks screens. Without them, Academic Tutors would lack data on which to model academic development conversations, one of the five ATS pillars, and would need to rely on accurate student reportage. The students most in need of assistance tend to be those who prefer to avoid confronting difficult issues but the availability of new data within the Tutor Card, alongside our ATS makes this impossible for them to do.

As with any data-set, interpretation is key and staff are being shown how to identify potentially worrying patterns; equally, Academic Tutors will be able to identify students whose performance suggests that early conversations about further study may be appropriate. The work of EMA and that of ATS therefore connect and the chief beneficiaries of the conversation between technology and support structures are the students themselves.

### **Acknowledgements**

With thanks to Jess Johnson Project Manager, Academic Tutoring System Project and Professor Orla Kennedy, Chair of Academic Tutoring System Project.

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