NSB and University of Edinburgh Educational Research Collaboration Singled Out by the American Chemical Society.

Earlier in the year an educational research project in collaboration with Dr Michael Seey of the School of Chemistry, University of Edinburgh was conducted here in the Science Department at NSB by Naomi Hennah, working with year 12 A level Chemistry students. The project focus was to develop and assess students’ practical skills and to promote their understanding of the underlying chemical concepts through collaborative learning and oracy. The resultant article was successfully submitted to the Journal of Chemical Education but we have just learnt that this article has been singled out as Editor’s choice by the American Chemical Society (ACS). Under ACS Editors' Choice, the article has been sponsored for immediate, free open access by ACS due to its potential for broad public interest, an honor given to only one article from the entire ACS portfolio each day of the year.

In response to this accolade Naomi Hennah writes “This is a great honor, it is a privilege to work in a school that promotes both curriculum and personal development. I feel that by developing opportunities to explore thinking and understanding through oracy we can help lower some of the barriers to learning and to further support literacy across the curriculum. At the end of the day the purpose of research is to better support our students in realising their potential. I’d like to thank all the student’s who participated in this work and for their honest feedback and Dr Seery for his time and invaluable support”

The article will be available to the public later in the year but the abstract has been included below.

Using digital badges for developing high-school chemistry laboratory skills
ABSTRACT
Digital badges are emerging as an approach to offer micro-accreditation for student achievements obtained in on-going course work. They act to offer a formal recognition and framework for multiple small components which together make a significant contribution to student learning. Badges are promoted as a way of highlighting these particular components. The process of awarding a badge relies on evidence, typically in digital form, such as video. In this article, we report on the implementation of digital badges in high school chemistry for the teaching and accrediting of achievement in laboratory skills. Pupils watched videos prior to the classroom to assist them in preparation for a demonstration activity. In the classroom, students demonstrated the laboratory technique to a peer while the peer videoed the demonstration on a mobile phone. This video was then used to review the demonstration by both peers and teacher, and once the technique was considered satisfactorily demonstrated, a badge was awarded. As well as development of laboratory technique, the badging process facilitated the formal incorporation of oracy into the classroom. Demonstration required narration, and review required discussion between peers as well as discussions arising out of the demonstration with the teachers. We report here how the activities were organized, along with perceptions from students and teachers regarding the value of this approach in the classroom.
Three procedures were used, giving pupils the opportunity to gain three badges: a standard solution badge, a volumetric pipet badge, and a titration badge (Figure 1).