# City Research Online

## City, University of London Institutional Repository

# TeenTech: engaging young people with information literacy

**Rebecca Jones, Maggie Philbin** and **Jane Secker** talk about TeenTech's Research and Information Literacy Award, sponsored by ILG, which aims to show how information literacy underpins the acquisition of digital skills.

**Rebecca Jones (@thepanster) is Learning Enrichment & Support Co-ordinator, Malvern St James School. She is School Representative, Information Literacy Group, leading the TeenTech group, and a committee member of the CILIP School Libraries Group.**

**Maggie Philbin (@maggiephilbin) is CEO of TeenTech, President of the Institute of Engineering Designers and Patron of the Council of Professors and Heads of Computing.**

**Jane Secker (@jsecker) is Senior Lecturer in Educational Development at City, University of London where she teaches on the MA in Academic Practice. She is Chair of the CILIP Information Literacy Group, a member of the Universities UK Copyright Working Group and the Libraries and Archives Copyright Alliance.**

> Launched in 2015, the award celebrates how young people can be truly information literate researchers.

ALEX, Millie and Zsolti from Oakham school were announced as the third winners of TeenTech's Research and Information Literacy Award on 26 June at The Royal Society, London. The category is sponsored by CILIP's Information Literacy Group (ILG). Their winning project is 'Brainwave', an edutainment Virtual Reality system with biofeedback-adaptive features.

Teen Tech is a recognised industry-led initiative, founded in 2008 by Maggie Philbin and Chris Dodson to help the 'X Factor' generation understand their potential and the opportunities available in the STEM workplace. The initiative has some high profile supporters, including patron HRH Duke of York. This year's science and tech celebrity supporters included Professor Brian Cox, Kate Russell, Evan Davis, Dr Christian Jessen and Andrew Cohen (BBC Head of Science), with the event masterminded and hosted by Maggie Philbin. Impressively, this year over 2,000 students participated in the awards. The Research and Information Literacy Award requires teams to demonstrate aptitudes and processes such as an effective research strategy.

## How did ILG become involved in TeenTech?
In July 2014, ILG and InformAll (www. informall.org.uk) submitted a joint response[1] to the UK Digital Skills Task Force's interim report, Digital Skills for Tomorrow's World, authored by Maggie Philbin.[2] The response, co-written by Jane Secker and Stephane Goldstein argued that Information Literacy underpins the acquisition of digital skills, and a discussion with Maggie about research, IL and the clear links between the investigative process and innovation and project development provided the opportunity for partnership and the creation of the ILG-sponsored Research & Information Literacy Award.

Launched in 2015, the award celebrates how young people can be truly information literate researchers as they explore their

ideas to make life better, simpler or easier. It is designed to reward teams who have demonstrated their ability to search intelligently across a range of resources, make excellent judgements about the information they have found and put it to ethical use in their project. It is one of the cross category awards, meaning that any team can enter. This is an important consideration as one of the aims is to encourage all entrants to use IL and research skills and in so doing, improve the focus and scope of their idea or innovation.

## Developing the ILG Award
A working group of school librarians and HE professionals led by Rebecca Jones was formed in 2015 to develop the award. One of the tasks was to create a set of judging criteria. The group created a statement outlining the focus of the award and the skills that teams would need to show in relation to their gathering and use of information.

The initial set of criteria was adapted from the rubrics used at Dixons Allerton Academy created by Darren Flynn, who was then the Information Literacy Lead. Over the past two years, this has been refined and now incorporates the Research Smarter sheets created by ILG specifically to guide entrants to the award. Teams are judged on these sections:

**1** aim of the project

**2** research, planning and development

**3** asking an expert and evaluation of information

**4** primary research

**5** referencing to evidence your research

The judging process revealed that some teams lacked evidence in their submission or not researching the existing marketplace before launching into the design and construction phases or they were discovering a similar product existed too late in the process. In response, one of the key outputs of the group has been the development of the Research Smarter sheets and a checklist. Ten resource sheets[3] have been developed to

**Members of the ILG Teen Tech Working Group, l to r: Chris Morrison, Jane Secker, Sarah Pavey and Stephane Goldstein with Maggie Philbin.**



**Jane meets contenders for ILG's Teen Tech award.**



**Oakham School pupils won the 2017 Teen Tech Research & Literacy award.**



**Research Smarter guide.**

guide pupils through the research process, gathering the information (opinion, academic research and business perspectives) that they need to develop their own innovations and to respect copyright and protect their ideas.

Licensed under Creative Commons, they are available to all schools to download and use or adapt to support the development of information literacy skills.

The success of the sheets has been demonstrated by Oakham which has won the ILG award twice, integrating research and using it to guide projects. However, experience from 2017 showed that the checklist and links to supporting resources need to be incorporated into the core Teacher Information Pack for the TeenTech Awards, as sending the information sheets to time-poor teachers as a standalone resource meant that some teachers did not use them.

In 2016, award winners K-Charge from Oakham school developed a shoe that charged a battery from the kinetic energy generated by walking. They sought out justi-

fications for the development of their project and provided references to the pictures and maps that they had used, along with a bibliography. At this school, all the teams are led by the school librarian, and this is reflected in the emphasis on the research process.

As additional support, we made a short animation[4] to provide a context for the sheets. The video gives an overview of the steps and how they build into a successful project.

**IL Innovation Day**
This year we ran an IL innovation day for schools in Manchester, led by Sarah Pavey and Lisa Jeskins from ILG. The aim was to help pupils understand how and why to do research and provide examples of the skills in action. This event was in response to our experience in 2016, where we had delivered referencing and primary research sessions within an existing TeenTech Innovation day run by the National Grid. Although good feedback was provided by the schools, the challenge is still how to encourage pupils

to incorporate these skills into action while developing their own ideas.

**Access to resources in schools: lobbying publishers**
In 2015, the winning students from an independent school in Sheffield impressed the judges with their use of scholarly articles. Birkdale School developed a wearable technology project based on clothing that could change colour. This project displayed a high level of research skills and synthesis of complex scientific information.

The judges asked them how they had discovered the journal articles and the students explained that when undertaking a Google Scholar search they had come up against a pay wall, but one of the students' parents worked at a university and offered to download the article. This not only highlighted the inequality of access to scholarly information, but also a desire by some students to read scholarly publications. Subscription costs for academic journals are too high for most

school libraries, and most of the content isn't suitable for teenagers. Consequently, ILG wondered if students could use the database Access to Research, which is a database of scientific literature available in public libraries. It was launched following the Finch report into open access and developed by the Publishers Licensing Society (PLS).

However, visiting a public library is difficult for many students and public library staff may not have the time to guide students to find appropriate resources. For this reason ILG is exploring the idea of pilot access to Access to Research in school libraries that participate in TeenTech. It may be this is not the right resource for schools but ILG believes that giving schools a scientific database would help to level the playing field. It's a case of watch this space, as discussions with PLS continue.

Finally, the group has invited universities to support pupils by enabling them to access research on campus. This has generated a mixed response; some of the most positive replies have been from institutions who view it as a method of outreach to schools but any agreement will need to be negotiated on an institutional level. In practice, encouraging pupils to visit their university or for their teachers to take them has been hard to achieve.

### The impact of getting involved in TeenTech

Darryl Toerien is Librarian at Oakham School in Rutland and after joining the TeenTech working group in 2015 he encouraged his school to participate in TeenTech. Darryl told us:

'Oakham School is developing a reputation for its pioneering work on planning and teaching for independence of learning, and the library has been at the forefront of this. Our work is embodied in Fosil (Framework for Oakham School Inquiry Learning), which is both a model of the inquiry process as well as the progression of skills enabling that process. I entered us into the TeenTech Awards to test the robustness of Fosil, and the fact that we have done as well as we have, especially in the all-important Research and Information Literacy Award, suggests that our reputation is not without some merit. The main benefit to us of participating in TeenTech is the reminder that the best that our students can do for themselves is better for the library being integral to teaching and learning. TeenTech challenges STEM stereotypes, and coordinating TeenTech through the library allows for rich collaboration with other academic departments, and makes TeenTech accessible to a range of students who would not identify themselves with the STEM stereotype.'

### Difficulties and challenges

TeenTech has not been without challenges for ILG and the working group. These include:

● promoting the importance of research skills within TeenTech and accessing the right audience to influence the teams in schools

● helping teachers understand what the Research and Information Literacy award is actually judging – the evidence of the process of research, not the research itself

● helping students to understand the rewards

of widening their approach to research and why using sources and methods in addition to Google is worth the effort and that company information is not always going to be balanced and unbiased

● helping students who want to look more widely, but become frustrated because they are faced with pay-walls or if they are unable to navigate the searching interface of a database.

### Evaluation of TeenTech Research Sheets

Although anecdotal feedback has generally been positive, ILG is evaluating the impact of Research Smarter sheets. It is a light-touch review, consisting of interviews with librarians and teachers and a short survey of school students. The review is aimed at schools that have entered TeenTech, although any establishment that has used the flyers can take part. Some of the evidence-gathering is happening this summer, with the remainder scheduled for the beginning of the 2017-18 school year.

### Find out more and get involved

We would really like to encourage more librarians to support the work of ILG with TeenTech. The resources, all licensed under Creative Commons, are available from the ILG website[4] and could be adapted for other audiences. We would also like to encourage librarians to become involved with TeenTech in their own school to highlight the importance of research within STEM development. We'd love to hear if you have feedback on the resources, if you have used them in your teaching or have suggestions for new guides (email us at cilipilg@gmail.com).

To find out more about TeenTech and the competition, launched every autumn, visit www.teentech.com [U]

**References**
**1** Joint response at: http://bit.ly/2vlOFJD
**2** http://policy.bcs.org/sites/policy.bcs.org/files/Interim%20report.pdf
**3** Resource Sheets available at www.informationliteracy.org.uk/teentech/resource-sheets/
**4** Animation giving context for the resource sheets: https://youtu.be/U9IaqUltlOY

## Research and Information Literacy award checklist

This **Teentech Award** is judged across **all** categories and is open to **all** projects. The Information Literacy Group of CILIP have written a series of resource sheets that will help you through this process http://www.teentech.com/teentech-awards/supporting-materials/

Use **this checklist** to ensure that you include the evidence you need to demonstrate your research and information skills.

☐ **Have you** written down all the ways you explored your idea, including those that did not work? (*Resource Sheet:* **Your Aim**)

☐ **Have you** outlined a plan for your research and shown how it was changed as you continued your investigations? (*Resource Sheet:* **Research is a Messy Process**)

☐ **Have you** included a list of the keywords that you used to search books and the Internet? (*Resource Sheet:* **Search Strategy**)

☐ **Have you** listed a range of different search engines that you used and commented on which gave the best results? (**Resource Sheet: What Search Engines are Out There?**)

☐ **Have you** shown that you used both printed resources e.g. books, newspapers and magazines as well as the internet, e.g. online encyclopedias, news websites, online journals and relevant websites?

☐ **Have you** gathered information from an expert including how you made contact and the questions you asked? (**Resource Sheet: Evaluating the Information**)