



An Overview of the Inaugural Kerry Science Festival

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This paper will describe the inaugural Kerry Science Festival [1], a week-long festival of science that took place across County Kerry, Ireland in November 2016. The festival involved a programme of free public engagement events, talks, exhibitions, shows and workshops. The Kerry Science Festival provided an opportunity to engage with science at multiple levels, with free and fun Science, Technology, Engineering and Mathematics (STEM) activities aimed at primary, post-primary school students and the general public. The festival included a series of industry and community group led events demonstrating the importance of STEM. The Kerry Science Festival, an Institute of Technology, Tralee (ITT) initiative, was developed by a team representing education and industry sectors from the Kerry region and was supported by Science Foundation Ireland (SFI). The Festival Week culminated in a STEM in Kerry Showcase hosted by the ITT's School of STEM. The Showcase included a Careers in STEM Exhibition and Panel Discussion, company representatives also spoke on the varied STEM careers available to graduates in Kerry and beyond. Families with children of all ages were treated with workshops and shows like Mathsworld, Lego WeDo, Cell Explorers, Designer Minds and Spec in a Suitcase. These interactive workshops engaged and intrigued both children and adults alike and brought to life the world of STEM. Enterprises operating in the STEM sector hosted their own events as part of the festival, showcasing where STEM can be found in what they do. The combination of a week-long programme of dispersed locally hosted festival events building up to a high profile one-day festival/exhibition at a central location represents a different approach to promoting STEM that has significant public reach and fostered enduring engagement. This paper will present an overview and observations of the Kerry Science Festival approach and will also outline the benefits and lessons learned.

1. Introduction

The importance of STEM education and STEM public engagement is a mission of SFI. Their objective is that over the next 5 years Ireland will have a high level of engagement and a scientifically informed public. As a result of this mission each year SFI supports a number of regional Science Week festivals and events [2].

A recent study entitled "Science in Ireland Barometer" analysed the awareness of STEM in society in Ireland and its perceptions. The study found that while 58% have an interest in STEM, half of population feels completely uninformed about it [3].

"However, this positive feeling is tempered by an element of fear and a lack of confidence of the role of science in people's lives as 71% of Irish adults feel developments in Science and Technology are too specialised to understand. The vastness and sometimes intangible nature of science can act as deterrent to some who lack a direct connection to it. They perceive it as too intellectual or specialised; they don't feel they have a part to play in the direction of STEM's role in society. As a result of this, SFI's 2016 Science Festivals were aimed not only at engaging and informing the public, but at creating a long-lasting appetite for science capital or science culture. Science Capital refers to the environment we live in as individuals and the ease with which science is accessible within that environment. It is the norm to feel science is part of our lives as opposed to a laboratory based practice for high performers. STEM pervades every aspect of our daily lives, from the clothes we wear, to the mobile phone we are rarely without. We know that the Irish public are willing and want to find out more about science related topics; but many merely feel ill-equipped to do so. Initiatives like Science Week can stimulate this awareness and excitement, while breaking down perceived stereotypes of what a scientist is and what 'STEM' means to our lives."[2]



Ireland has a strong history and great pride in their creativity, being innovative and imaginative and in making outstanding contributions in artistic areas such as literature, music and film-making. Now more so than ever, Irish scientists and engineers have a responsibility to instill an equal sense of excellence and achievement in our ability to make contributions to the world of STEM.

In Section 2 we will discuss the main objectives and overview of the festival. This is followed in section 3 by an overview of the observations and challenges. Section 4 will discuss a how we have evaluated the success of the festival and what lessons were learned. The paper is concluded in section 5.

2. Overview of the Kerry Science Festival

The 2016 Kerry Science Festival was the first of what it is planned to be an annual celebration of STEM in Kerry. At the outset, considerable effort was put into getting buy-in from enterprises and other groups leading to a large number and wide range of Festival Event Hosts and Exhibition Participants coming on board. The aim is to spread the word about STEM.

A programme of 'Local Festival Events', was run across dispersed venues over the course of Science Week. The other two festival elements, the 'STEM Careers' and 'STEM in Kerry Exhibition' were combined into a one-day 'STEM Showcase' see figure 1, held at ITT.

Figure 1: Kerry Science Festival Poster

The Local Festival Events programme included events hosted by enterprises showing how STEM impacts on their business. In addition, many schools were stimulated to hosted their own events as part of the festival. A number of enterprises/agencies collaborated with education providers to create a rich programme of Local Festival Events. A total of 45 Local Festival Events were hosted and it is conservatively estimated is that a total of c. 3,300 attend these.

The response of those attending the STEM Showcase Day was very positive. The feedback was that the showcase exceeded expectations and the prevalence of STEM in Kerry was a revelation to many.



The day's events attracted a capacity audience of c. 2,500 and the Kerry Science Festival performed better than others held elsewhere, coming 4th out of the 26 counties.

Following the festival, increased interest is being shown by potential hosts, participants and audiences in the upcoming 2017 festival.

Collectively a total c. 5,800 attended events linked to the Kerry Science Festival.

3. Observations and Challenges

Observations

The main observations can be outlined as follows:

- All age groups attended the STEM Showcase. Fun activities were organised for the very young, with age-appropriate interactive elements for teenagers and a range of general workshop activities providing stimulation for all;
- The focus of each Showcase Workshop/Event was around providing a plain language interpretation of sometimes complex STEM concepts such as the extraction of DNA from a banana to the properties of light and fibre optics technologies;
- Major organisational effort was put into the STEM Showcase where the festival project team worked to ensure that the needs of those participating/hosting activities and those attending were fully addressed;
- The venue for the STEM Showcase was the familiar Institute's facilities. This meant that there were no surprises or unforeseen issues around the venue;
- All Local Festival Events were organised and delivered by host organisations that took full responsibility for all facets of their own events and in most cases this involved working in familiar surroundings with familiar processes. All activities which were part of the STEM Showcase and the Local Festival Events were interactive and engaging. In the case of the STEM Showcase there was a range of STEM disciplines and technologies on display side-by-side with enterprises that are using STEM in their enterprises. The connection between the STEM disciplines and STEM Careers was emphasised.

Challenges

The following elements were decided on in an effort to maximise impact:

- STEM Festival Exhibition;
- STEM Careers Event;
- Local Festival Events Programme.

This complexity combined with the fact that 2016 was the inaugural running of the Kerry Science Festival represented the greatest challenge. There were no exemplars to point to in order to convince participants and hosts of that what was planned would work. Significant effort was made through one-to-one contacts to get the message across and to get STEM Showcase participants and Local Festival Events hosts on board.

The Festival Exhibition and the Careers Event were originally planned for separate days and venues. Combining these as one STEM Showcase proved to have been important to the success of both elements in terms of the synergy of impact.

The Local Festival Events Programme allowed for the spreading of the word on STEM to reach outside Kerry's large urban centre and to extend the festival across the week and across the county.

Social media (Facebook, Twitter etc) and the festival website provided portals that allowed participants, hosts and the general public to find the information they required. These combined with a large scale media campaign was instrumental in getting the message across that the Institute was hosting a flagship STEM Showcase. The level of satisfaction expressed, particularly by the parents of children attending the STEM Showcase, clearly proved that there is an appetite for this type of engagement.



It is clear that the Local Festival Events programme has significant potential in that it mobilised any enterprise or other group to sell the story about STEM and about its place in their businesses and activities. Feedback in regard to the Local Festival Events programme confirms that all those hosting such events see the benefits and will want to use this platform in future.

4. Festival Evaluation and Lessons Learned

The evaluation process is continuous. The main evaluation metric is based on actual versus expected attendance. As this was the inaugural event it was difficult to estimate what audiences might be. Attendance at the STEM Showcase was double that expected and compares very favourably with the levels achieved across the country at similar Science Festivals. Feedback was received from many who had not attended suggesting that the 2017 festival is being anticipated with even greater interest.

The attendance at the Local Festival Events ranged from as few as 20 to the hundreds and in almost all cases the level had to be managed/limited by the host. Having planned for c. 50 Local Festival Events of which 45 ran is a measure of success that once again exceeded expectations. The hosting of multiple events by some Local Event Hosts was also evidence of the interest and belief on the part of hosts in the idea of Local Festival Events.

Much was learned including the following:

- Organise and plan well in advance and persist up to the 11th hour when many of the participants/hosts get around to confirming their involvement; it's an 'Irish Thing';
- Factor in redundancy as some participants/hosts will find that they may have to pull out at the last minute;
- Cater for all especially young children so that the rest of the family including parents can get time to enjoy the events.

The Organising Committee is very pleased with SFI's aims and approach to Science Week as it aligns with the Institute's focus. It is suggested that while there is benefit in a concentration of effort around Science Week, it might be worth considering having a Science Fortnight/Month during which Science Festivals can be hosted building up to a focal Science Week?

A debriefing report is being prepared for internal use and will be employed to inform the approach to running future events and will also inform the operations of the Institute in matters relating to external engagement.

5. Conclusions

This paper has described the Inaugural Kerry Science Festival. The festival was based around a programme of public engagement events including talks, exhibitions, shows and workshops and provided an opportunity to engage a general audience on science topics at multiple levels. This paper also presented an overview and observations of the festival and the benefits and lessons learned were outlined.

References

- [1] Kerry Science Festival, <http://kerryscience.com/>
- [2] Science Foundation Ireland, Science Week Festivals Call 2016, <http://www.sfi.ie>
- [3] Science in Ireland Barometer, <http://www.sfi.ie>