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Project Partners

Abu Dhabi Technology Development Committee
Abu Dhabi Education Council

Session Concept

Engaging university students as Science Communicators has proven to be an effective way to help these students find personal relevance and make meaningful connections to science content. This poster explains the rationale for the development of this program and illustrates the tactical approach to developing and delivering it.

Project Focus

Abu Dhabi Science Festival 2011 - 2016

Review of the Literature

Reaching students who are not pre-disposed to STEM by employing facilitators they can relate to.

If students can identify with **role models** they may be more likely to see the relevance in the subject matter. This holds for both genders, but has a stronger impact with female students who are more likely to cite a positive influence with a teacher or mentor as a factor for becoming interested in science.

Wiens et al (2003)

Students can learn by watching a **peer** succeed at a task. In this context, a peer means **someone who the student identifies with**, not necessarily any other student. "Peers" may be drawn from groups as defined by gender, ethnicity, social circles, interests, achievement level, clothing, or age.

Margolis and McCabe (2006)

People have a fundamental need to feel connected or related to other people. In learning environment, research shows that **students who feel they 'belong'** have a higher degree of intrinsic motivation and confidence. According to students, their sense of belonging is fostered by an instructor that demonstrates warmth and openness, encourages student participation, is enthusiastic, friendly and helpful, and familiar in a cultural sense.

Freeman, Anderman and Jensen (2007); Anderman and Leake (2005)

Learning activities that are based on topics that are relevant to students' lives – connecting the subject with students' culture, outside interests or social lives – helps to increase student motivation in STEM subjects.

Brozo (2005)

Operational Approach

Developing a Science Communicators Program

13 Partner Universities/900 Students recruited in 2016 (3,600+ since 2011)
STI students as well as education students and other liberal arts students

Science Communication Training

- 12 hours (2 days) on their university campus
- Foundations in science communication
- Introduction to basic science education pedagogy
- Led by professional science communicators
- Assessment of all students at end of 2 days and assignment to ADSF activity - quality control and best fit

Science Content Training


- 16 hours on site at ADSF prior to event
- Basic science concepts behind the workshop or demonstration they are assigned to
- Operational aspects of the workshop or demonstration
- Alumni can return as "Team Leaders" in subsequent years

Outcomes for Science Communicators

1. Communications & leadership training
2. Exposure to hands-on science
3. University "credit"
4. Inclusion in a government-sponsored event that is viewed as important to the vision for their country's future – contributing to the national agenda
5. Access to visiting delegates and importantly to HHs
6. Social opportunity to mix with peers
7. Awarded certificates at the culmination
8. (We hope) future science communicators for future initiatives in Abu Dhabi and the UAE



Science Communicator Testimonials




Ibtisam Ali Al Tenigi
United Arab Emirates University

ADSF is an innovative initiative which plays a significant role in setting the platform for the UAE as a highly competitive and productive knowledge based society. It serves as a space which brings future science leaders of the country together in one place where they can share diverse scientific ideas and explore new ones. It actually opened their eyes to a new world of possibilities. ADSF is here to inspire the youth and motivate them to pursue new scientific fields in the hopes of creating future inventors and leaders for the UAE.

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Ibtisam Ali Al Tenigi, Science Communicator 2011

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Ahmed Al Bloushi
UAE University

The Abu Dhabi Science Festival (ADSF) is aimed at creating an interactive platform in science and technology for the younger generation. Held under the patronage of H.H. General Sheikh Mohamed Bin Zayed Al Nahyan Crown Prince of Abu Dhabi Deputy Supreme Commander of the UAE Armed Forces and organized and hosted by the Abu Dhabi Technology Development Committee (TDC).

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ADSF is aimed at creating a talent base in the UAE focused on the sciences and technology, and this is especially impactful amongst those students trained to become Science Communicators during the festival. Trained under leading global experts, the Science Communicators are able to explore uncharted waters in the fields of science as well as add to their competitive edge amongst their peers.

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Sara Alnaqbi
BSC, Aviation Science, Abu Dhabi University

ADSF was a fun filled festival, especially for children. They were able to learn, play and apply the knowledge they acquire in their lives (be it in physics, chemistry and biology). It's the best way to teach children.


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I was working in Music Tables, where the children could listen to different sounds and create their own music. They were even able to listen to their own heartbeat and see that even our bodies generate sound.

I learnt a lot at the Science Festival, how to communicate with children and how to simplify scientific concepts and make them accessible to children. I was able to improve my leadership skills as well as learn how important it is to work within a team.

I was extremely thrilled to participate in making the Science Festival a successful event. In my opinion, ADSF is the perfect way to allow children to discover and explore their hidden interests as well as develop them in a creative and fun filled environment.

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Ibrahim Mohammed Abudagga
UAEU

I participated in the first and second edition of the Abu Dhabi Science Festival and will also be participating in its third edition.

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Each time I participate in the festival I gain both soft & hard skills, knowledge and information which will be useful to my future endeavors.

The ADSF has not just influenced me as a participant but I can see the affect it has on the children involved, by raising their awareness to the wonderful world of science and technology. It has opened up their horizons toward a brighter and more inventive future, one which will benefit their nation directly.

The ADSF has achieved its goals and this will become more evident as time passes. With each year that passes, the festival's status as a leader in creating a talent base in the UAE will also develop.

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Outcomes for Visitors

Surveys 2011-2015

Visitors expressed a preference for human facilitation by Science Communicators over self-facilitation of activities or labels on exhibits

- Findings reflected a regional/cultural preference for dialogue over reading
- A general unfamiliarity with the concept of ISE led parents and teachers to ask for more support in workshops and at exhibits
- Parents and teachers strongly endorsed the use of bilingual science communicators (especially those w/ "local" Arabic)

"My preference is to have explainers who can explain in English and Arabic both"; Emirati mother

"[The learning] should be supported by voice", Emirati father

Implications for Future Program Development

Current 3,600+ Science Communicator "Alumni"

- Deployment for future editions of ADSF and new ISE programs in Abu Dhabi
 - Reduced cost of recruitment and training
 - More experienced volunteers
- Creation of "career ladder" from Science Communicator to Asst. Team Leader to Team Leader, etc.
- Built a bit of civic pride and recognition into the profession of "Science Communicator"

Those who do chose to go into STEM careers will have had some basic practice and training in communicating science to the public

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