



Reinvent Education

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The time has come to use Israel's dizzying success in technological innovation and entrepreneurship to promote the **Israeli education system** as well. Such a move will not only contribute to better preparing Israeli students for the world of tomorrow, but it will also ensure the continued technological success of the State of Israel in the years to come.

As one of the best education faculties in the world – ranked alongside Berkeley and Oxford – we, the **Education Faculty of the University of Haifa**, are best positioned to establish an institute that brings together the boldest and brightest educational researchers, school practitioners, policy-makers, and entrepreneurs to make a real and lasting impact on the educational ecosystem in Israel.

Building on a robust infrastructure that includes the highly-coveted educational technologies graduate program, a partnership with the Haifa Innovation Labs, and as a former Israeli Center for Research Excellence, we have developed and seek to expand eight exciting programs, most of which have already passed the pilot stage and are now ready to be scaled-up to make a wide impact.

These programs include:

- ▶ Future learning spaces
- ▶ Maker Education
- ▶ Taking citizen science to schools
- ▶ Statistical literacy in the era of big data
- ▶ Classrooms as learning communities
- ▶ Living in a post-truth world
- ▶ Augmented reality sandbox
- ▶ Climate change education

See the following pages for more information about each program

Improving and adapting the Israeli education system to the current era is a big, multidimensional and complex challenge that no single entity can provide a comprehensive answer to. **Based on our strengths as one of the leading research and teaching academic institutions of its kind in the world, and considering that Israel is a high-tech powerhouse, we have no doubt that combining forces can produce a dramatic turning point in the Israeli education system that will upgrade the Israeli school system, contribute to a change in the way teachers are valued, and raise interest in the teaching profession. We understand that in the current situation this is our mutual obligation.**



Our Eight Exciting Reinvent Education Programs

1

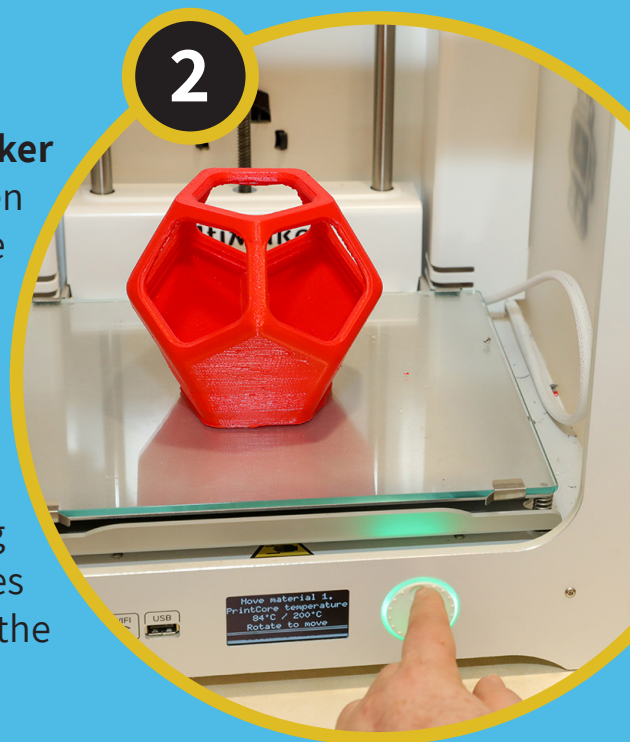
Future Learning Spaces

Creation of innovative edtech pedagogies in future learning spaces: Based on our research of cutting-edge learning spaces from around the world, we have designed and built a 300m², multi-room, research-ready facility equipped with state-of-the-art equipment. Our Future Learning Space can serve as a training ground for schools seeking to create innovative edtech pedagogies as they seek to update their approaches to meet the demands of the 21st century, and allows our graduate students, researchers, and leading educators and technology-coordinators to field-test innovations that can be adopted by schools.



Maker Education

Fostering the Next Generation of Maker Educators in Israel: Maker education has seen a growth spurt in Israel in recent years, with the promise of preparing students for the modern technology-rich workforce, and transforming school learning from instructional to hands-on, project-based, collaborative learning. Still, maker education remains a mostly peripheral activity, with many programs requiring richer pedagogical designs and the structures necessary to integrate maker education into the broader school curriculum.



3

School Participation in Citizen Science

Advancing and democratizing education in natural, social, and human sciences through school participation in citizen science:

To advance and democratize education in the sciences and humanities, we created a network of partnerships that include scientists from different fields together with teachers and students to promote research on real, ongoing scientific projects. We now have proof of concept with evidence from about 100 schools that this direction can foster a revolution among all the participants in the way they engage in their respective fields



Statistical Literacy in an Era of Big Data

Developing the statistical literacy of students in the era of big data:

In an increasingly data-centered world, all citizens need to be able to engage in reasoning processes involved in creating and evaluating data-based claims that are used ubiquitously as means of forming credible arguments and of making decisions under uncertainty. Such basic statistical literacy skills should therefore be a standard ingredient of every learner's education. We created world-class pedagogical designs using innovative software to teach young learners how to be data literate as they engage in data science and statistical reasoning to solve real-world problems.

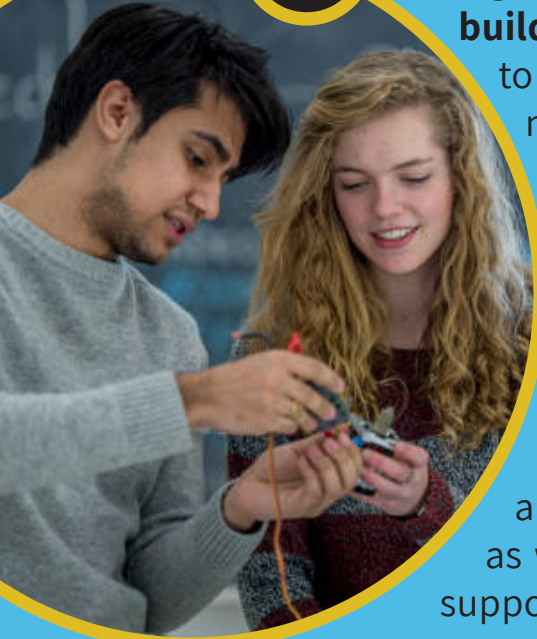
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Classroom learning communities

Reorganizing classrooms into humanistic knowledge building communities:

Today's schools are struggling to adapt to a shifting society where students need to be able to collaboratively solve complex problems and build knowledge together. We have conceived and field-tested an educational model that reconfigures classrooms into human- and technology-enhanced learning communities that prepare students for the challenges of the modern world. We now need to scale-up this innovation by developing curricular materials in various subject areas at different levels, training teachers in schools, as well as expand the technological infrastructure to support its wide implementation.



6

Augmented Reality Sandbox

Fostering spatial thinking and navigational skills using augmented reality:

As exciting technological innovations such as augmented and virtual reality become commonplace, efforts to implement them in schools in ways that lead to real learning gains is still just a promise. We are currently field testing an innovation that helps students develop their spatial thinking and navigation skills using augmented reality, with hopes to expand this program to a number of boarding schools and academies across Israel where this is taught.





7

Navigating a Post-Truth World

Cultivating students' competence to evaluate online (mis)information and to share it responsibly:

The internet and social media are awash with sophisticated misinformation and disinformation, and it has become harder to know what is real and what is fake online. One of the key challenges in today's post-truth world is to help youth develop the skills and dispositions to tell apart reliable and unreliable information and to share information responsibly. We have created pedagogical designs and technologies to support Israeli students in navigating this new reality that have proven impact on students' competence to evaluate online information and to share it responsibly.



Climate Change Education

Empowering students to act responsibly to mitigate global warming and adapt society to its consequences:

Climate change has become the issue of our time; it is dependent on an educated citizenry to foster the political will and know-how to help mitigate the problem and find ways for humanity to adapt. Educating on climate change is critical in all levels of society: formal education, university, and communities. This university-community climate change hub will serve to empower all these stakeholders. The hub is also aligned to the University of Haifa sustainability and academic-community partnership goals.

8

