

Intel Submission to the Review of the White Paper on Irish Aid

Intel welcomes the opportunity to submit a response to the review of the White Paper on Irish Aid.

Intel works in public private partnerships with Governments, multilateral agencies and private sector leaders and has a track record supporting education, technical skills development in schools and community development worldwide for more than a decade. Intel supports education program in 80 countries globally and plays a leading role in:

1. The development and implementation of ICT strategies for education with governments
2. The promotion of Science Technology Engineering and Math (STEM) education primarily through the development and promotion of Science Fairs for students at primary and second level
3. Professional Development for Teachers – Intel has trained over 10 million teachers worldwide on the Intel® Teach program - a professional development program that enables educators to effectively integrate technology into their lessons to promote problem solving, critical thinking and collaboration skills among their students
4. The growth of entrepreneurial talent through innovation workshops, curriculum development and business plan competitions at second and third level

Intel works to build open collaborative working relationships with a large group of major stakeholders in any ecosystem we seek to operate in to develop a strong shared understanding and alignment on what needs to be done. It is in this spirit that we now provide the following input to the review of the White Paper on Irish Aid.

The focus of the existing white paper in the following areas resonate strongly with much that Intel already does and supports and we would exhort the Government to continue with this focus into the future

Education

A continued focus on Africa

Gender equality

Climate Change amelioration

Results orientation

Public Engagement

Education Transformation

We welcome the focus on Education in the previous white paper and encourage the Government to increase its proportionate commitment to education and science, technology and innovation (STI) education into the future

Education has the power to transform societies and economies (1) (2). Our experience has shown that to achieve the full transformational impact of education a multifaceted approach needs to be adopted. We strongly recommend such an approach to ensure that learners are prepared to engage, participate, collaborate, compete and prosper in the 21st century

Intel's model of education transformation is a systemic approach that is based on research and includes the best practices for improved educational outcomes. The model's five critical components include:

- (1) Policy
- (2) Curriculum & Assessment
- (3) Professional Development for Teachers
- (4) Information and Communications Technology
- (5) Research and Evaluation

- (1) Effective policy is critical to establish the conditions for success and to accelerate transformation, and must be aligned with desired behavior and outcomes. Policies—designed to ensure that all students obtain the skills necessary to succeed in a knowledge-based economy and society—are of key importance for governments to remain globally competitive. Effective policy, aligned with desired behaviour and outcomes, is critical to establish the conditions for success and to accelerate transformation.
- (2) New curriculum standards and assessment can help governments transform their education systems to meet the demands of a globally competitive environment. Curriculum standards must be adapted to ensure students learn the critical skills and knowledge to succeed in the global economy. To ensure that strong curriculum standards achieve their stated objectives it is essential that education systems have robust assessments that measure students' skills and knowledge in each content domain, and track improvements to ensure students meet regional, national and international curriculum standards and benchmarks.
- (3) Professional development and teacher skill readiness is a critical factor for achieving successful implementation and quality results. Teacher practice needs to change to support a more student-centered learning environment. Teachers need tools and training to adjust their pedagogic approaches to take advantage of a transformed learning environment and available technology tools.
- (4) Information and Communications Technology (ICT) is an essential foundation of education transformation, providing the tools needed to enhance teaching and learning and support student-centered learning environments and skill development. Effective eLearning environments are created using PCs, relevant education software, broadband internet access, and an infrastructure with robust servers. ICT enables improved learning results by providing access to information and content experts, facilitating collaboration, encouraging creation, improving communication, and supporting assessments. It allows students to gain critical skills using the same modern technology they'll use after graduation in the business and enterprise world. In addition, use of ICT has resulted in improvements in student interest, discipline and achievement and teacher attitude.
- (5) Research is systematic investigation -- including research development, testing and evaluation -- designed to develop or contribute to generalizable knowledge. Evaluation is the systematic investigation of the merit, worth, or significance of any "object. Research can provide important information to governments and other stakeholders as they define their education reform program. Education transformation plans should include well defined metrics of success and program evaluation from the very start to measure impact. Program data can then be used to guide any adjustments that need to occur.

Science Technology and Innovation Education

Basic education is no longer sufficient to create wealth, to address concerns of food, water and energy security or to provide better health services and better infrastructure; for that science is required.(3) Mobilizing policy for science, technology and innovation remains critical to building the human and institutional capacities needed to overcome the skill and knowledge gap and empower developing countries to build appropriate scientific research capacity so as to address national and global challenges. The need for change was acknowledged by the Malawi President Bingu wa Mutharika in 2007 at the African Union summit. He affirmed that building Science & Technology capacity was the only way to break the long standing cycle of extreme poverty that had gripped the African continent for decades.(3). More recently at the first African Forum on Science, Technology and Innovation, African leaders called for a range of measures to harness STI for sustainable development, youth employment, human capital development and inclusive growth. Leaders also sought to harness STI initiatives to solve societal problems in areas such as water, health, information and communications technologies (ICTs), renewable energy and agriculture.(4)

In our increasingly global economy, curiosity, critical thinking and a strong foundation in maths and science are necessary to create and compete for the high tech jobs of the future. In fact, growth in maths-intensive science and engineering jobs outpace overall job growth by three to one (5). African countries are rich in natural resources: from minerals to biodiversity. Large numbers of rural communities rely heavily on natural resources and ecological services provided by biodiversity. Conservation and rational utilization of these resources require policies and strategies based on Science Technology and Innovation (6).

We welcome the support of Irish aid towards the establishment of Young Scientists Tanzania. We believe participation in science fairs encourages a love of science and maths through active, collaborative and inquiry based learning. In addition students develop skills sets that are required to address future global concerns of food, water and energy security and create wealth to sustain growth. Through the innovative use of ICT students can collaborate across different geographies on their scientific investigations, build global citizenship and understanding and allow peer to peer teaching and learning. Intel through its sponsorship of [Scifest](#) has initiated such an [initiative with Young Scientist Tanzania](#). We believe growing the reach of science fairs in Africa can help catalyse a growth in STEM skill development.

We strongly urge the Government to prioritize Science Technology and Innovation education and training in the forthcoming white paper both formally through the schools and education system and informally through the support of science fairs.

A Continued Focus on Africa:

Consistent to the commitment on education, Intel has invested in assisting government across Africa transform their education systems to better respond to the 21st century needs. Over 400,000 teachers have been trained on Intel® Teach and education transformation in Sub Sahara Africa. Over 150,000 learners participate each year in Science Fairs supported by Intel. In 2012 Intel launched a digital literacy and Entrepreneurship program in Sub Sahara Africa, over 70 Community Centres in South Africa, Kenya, and Tanzania are running the program. We would welcome the opportunity to collaborate with Irish Aid and scale these programs to more countries.

Gender Equality

[She Will](#) is a focused campaign created by Intel to empower girls and women around the world by fostering equal economic and educational opportunities. The program encourages millions of girls and women to participate, prosper, and lead in the global economy.

Working together with partners in society and governments, Intel is creating innovative, new solutions to remove gender-based barriers to education and technology and to build a future of flourishing opportunity for girls and women.

Intel is committed to bridge the gender and technology divide by;

1. Developing programs that provide girls with the opportunities for quality education and personal growth through technology access, scholarship and community learning programs
2. Training in digital literacy, entrepreneurship and business skills that elevate women professionally and break through barriers to personal economic growth

Technology cannot be a scarce resource available only to some. Access to education and technology must become a global, fundamental right for girls and women. Intel technology-based programs in education and digital literacy are empowering women around the world and the impact is clear: They gain the skills to become more self-confident and productive. They access and generate new sources of prosperity, and invest it in the health, education, and well-being of their families and communities. They reach out to help others move forward, initiating escalating cycles of empowerment. Employment and entrepreneurship increase significantly. Poverty decreases, GDP increases, and positive global change results. (7)

Intel is happy to work with others to provide women and girls with the opportunities for quality education and personal growth in Africa. Intel is a Strategic Action Partner with [10x10: Educate Girls Change the World](#). Working together, we will expand the awareness and impact of educational programs and put our passion, technology, and relationships toward making a real difference for girls and women around the world.

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References

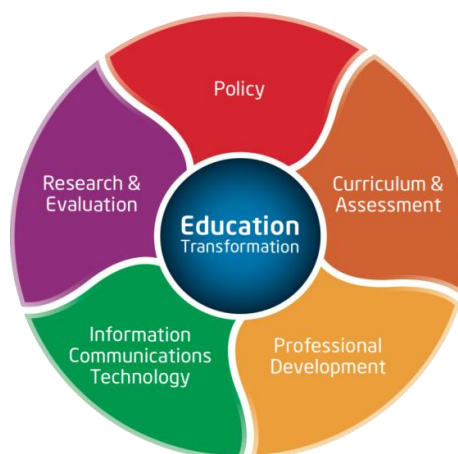
- (1) <http://www.intel.com/about/corporateresponsibility/education/transformation/index.htm>
- (2) The value of education, Global partnership for Education, www.globalpartnership.org
- (3) UNESCO Science Report 2010
- (4) 1st Africa Forum for Science Technology and Innovation, Nairobi, 2012
- (5) National Science Board cited in US Department of Education (2008). The Final Report of the National Mathematics Advisory Panel.
- (6) Global Partnership to promote excellence in scientific research and education for sustainable well-being in Africa. Mohamed H.A. Hassan- Euro science Open Forum Torino, Italy, 2–7 July 2010
- (7) www.intel.com/shewill

Appendix 1

As a result of our engagement and experience working with government and teachers and learners Intel has developed the Education Transformation model to develop 21st century skills to support the development of smart societies globally.

Education Transformation Model;

Intel's education transformation model provides a coherent and integrated framework of activities for governments and other stakeholders to improve the quality of their education systems, leading to economic and social opportunities for all citizens. The model has 5 key focus areas including Policy supported by Research and Evaluation, Curriculum and Assessment for 21st century skills development, Professional Development for teachers and Planning and Deployment of ICT in the classroom.



Appendix 2

Intel Program in Ireland in support of Education Transformation include the following –

Professional Development for Teachers

1. Intel® Teach is an in service 40 hrs. Program for teachers on how, when and where to incorporate technology tools and resources into teaching. Over 7,500 Irish teachers have completed this program in collaboration with the National Center for Technology in Education
2. Intel® Teach Advanced Online is an online professional development program that supports collaboration among teachers helping them take full advantage of 21st century pedagogic practices and technology. The program is offered as part of DCU's pre service program for science teachers

Curriculum & Assessment

1. Intel MiniScientist (www.miniscientist.ie) is a program which promotes a collaborative approach to learning science in primary schools. Over 10,000 students have participated in the event over the last 7 years
2. SciFest (www.scifest.ie) is collaboration between Intel, Discover Science and Engineering and the Institutes of Technology and promotes a love of science and engineering through an investigative approach to learning. Over 3,500 students exhibited at the event in 2011
3. Skool (www.skool.ie) skool.ie is an online education website supported by Intel Ireland and used by 250,000 students and teachers. skool.ie provides highly innovative, interactive and exciting learning activities
4. Log on, Learn (www.logonlearn.ie) is a collaboration with an Post, Microsoft and Intel and is a user-friendly method designed to engage our senior population in computer training, using the principles of 1 to 1 learning with transition year students

Information & Communications Technology

1. Intel eSchools & SmartClass (www.smartclass.ie) are programs which enable primary and secondary schools to embrace the use of ICT in the classroom

Appendix 3

Intel programs in Africa supporting Education Transformation include the following

2. Intel® Teach and Intel® Teach GS are in-service and pre-service programs for teachers on how, when and where to incorporate technology tools and resources into teaching. Over 380,000 African teachers have completed these programs in collaboration with various ministries of education in Sub Sahara Africa.
3. Intel Education Transformation Workshop helps ministries of education plan and implement education reforms necessary to respond to the 21st century needs. Intel has run these workshops in 3 countries (Zambia, Kenya, and Uganda) in Sub Sahara Africa.
4. A Digital Literacy and Entrepreneurship program using Intel® Easy Steps is currently run in 3 countries (South Africa, Kenya, Tanzania) in collaboration with 70 community centres.
5. Intel is currently supporting Science Fairs in South Africa, Nigeria, and Kenya (as of 2012). Intel is also in discussion to support YS Tanzania. In 2011, the Expo for young scientist fairs reached over 100K learners (52% of them girls) in Africa.