

The Intel® Learn Program Through a Gender Lens

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Executive Summary

ICRW conducted an assessment of the Intel® Learn program, an education initiative that provides technology education to youth around the world, in order to understand its impact on female learners. ICRW found that Intel Learn has been able to reach large numbers of girls and women and enhance their technology skills, critical thinking, and self-confidence, improving their effectiveness as students, community members, and businesswomen.

The program equips learners with skills in digital literacy, collaboration, creativity, and critical problem solving. Intel Learn increases students' access to technology and also teaches them how to use the technology through hands-on projects to address real-life problems. The program has been implemented in sixteen countries and has reached more than 1.75 million youth. It does not focus on any particular population of students, but rather has a goal of reaching all groups equally poor and rich, males and females, urban and rural, and ethnic minority and majority groups. Approximately half of Intel Learn's program participants are female.

Growing evidence demonstrates that educating girls enhances the health, productivity, and development of communities and nations. ICRW's assessment found that the strategies and components of the Intel Learn program have successfully targeted girls' needs and interests, provided girls and women with necessary skills and resources, empowered them to have control over their resources and make decisions, and set them on a path for economic empowerment. Thus, the program offers important lessons on how to enrich the lives of girls and women through technology education.

- **MAKE IT RELEVANT.** Intel Learn gives girls and women the opportunity to use technology to think about and work on real issues. When women and girls are able to apply technology to address needs or problems in their own lives and communities, it keeps them interested and enhances learning.
- **CULTIVATE ENTREPRENEURIALISM.** Since the majority of women in developing countries work in entrepreneurial endeavors, vocational skills need to be tailored to the informal economy. Women and girls have greatly benefitted from Intel's approach of using technology to foster entrepreneurship and financial management skills.
- **GIVE GIRLS A VOICE.** Intel Learn gives girls and women the important opportunity to think critically about what is going on around them, communicate with others, use digital tools, and devise solutions to local problems. When they present these solutions to their communities, both they and their communities realize that they have something to contribute and can be powerful agents of change.
- **ENSURE GIRLS' PARTICIPATION.** Knowing that attracting girls and women to technology programs can be challenging, Intel has used specific techniques, such as partnering with government schools that serve at-risk girls or holding girl-only sessions, to recruit girls and women, as well as to ensure that they are comfortable participating in the program.



Introduction

With a growing number of corporations investing in educating girls worldwide, business leaders are increasingly seeking approaches that have a proven impact on girls' lives and their communities. It makes sense. After all, the return on investment is profound: for each additional year of schooling a girl receives, her wages will increase by 10 to 20 percent.¹ Educated girls are apt to make better choices about their reproductive health, be politically active, have improved livelihoods and be less likely to experience domestic violence.²⁻⁵ Investing in educating girls and women—who make up half the world's workforce—yields healthier, more economically productive societies.

While the payoff of enrolling girls in school has been established, recent studies stress that the content and quality of their education, particularly in our globalized economy, are especially critical.⁶ Still largely missing from the formal schooling mix is technology education that goes beyond teaching basic computer skills, and rather, equips girls with the necessary tools, both “hard” (technical/digital literacy) and “soft” (self-confidence, critical thinking, and social networks), to compete in a 21st century economy. These are the kind of skills that prepare girls, particularly those in developing nations, to navigate the social and economic barriers—from lack of access to capital to limited decision-making abilities—that can often impede their success.

The Intel® Learn Program, one of Intel's educational initiatives, is an example of a program that equips youth with skills they need to succeed in the global, knowledge economy. Launched in late 2003, the informal education program helps underserved youth ages 8 to 25 develop their digital literacy, critical thinking and collaboration skills. It has trained more than 1.75 million youth, approximately 875,000 of whom are girls and young women, in Argentina, Brazil, Chile, China, Colombia, Egypt, India, Israel, Jordan, Malaysia, Mexico, Palestine, Peru, Russia, Turkey and Ukraine.

During a recent assessment of the Intel Learn Program, the International Center for Research on Women (ICRW) found that the technology education it provides is improving the skills and future potential of girls' and young women. Specifically, Intel Learn empowers them in ways that provide new skills and open up new economic opportunities. It helps boost their self-confidence and enhances their ability to make sound economic decisions—and act on them. Vital to Intel Learn's approach is a focus on making technology relevant to the girls' everyday lives and on creating a culturally-appropriate curriculum for each country in which the program operates. The program also gives girls an equal voice in the learning environment and utilizes technology to cultivate an entrepreneurial spirit.

These key lessons that ICRW gleaned from its assessment of the program, which will be elaborated upon later in this report, are at the foundation of Intel's growing focus on girls and women. They can inform the efforts of other corporations, organizations and programs investing in education for the world's girls and women. While these lessons are particularly pertinent to technology education programs, they are also relevant to broader educational efforts for girls and women.

Intel® Learn: Overview & Assessment

The health, economic, and societal benefits of education—particularly of girls' education—have long been established. In developing countries, where girls face limited opportunities and poor access to resources, education can often provide the critical link that catalyzes successful transitions to adulthood. Digital literacy is especially critical for girls in remote parts of the world as it can give them access to information, markets and skills. It allows them to become more engaged in the economy than they would otherwise be because of their physical distance. Gaining technical skills also helps underserved girls overcome the limited access to education, resources and social networks they often face due to poverty. Equipped with these skills, girls are better able to understand and make the best of their opportunities and increase their potential for economic success in the future.

Fundamental to Intel Learn's approach is to create an environment that increases students' access to technology and to make technology relevant to their lives. Intel also designed the program with a goal to help close the “digital gap” that persists between different socioeconomic groups, women and men, urban and rural dwellers and ethnic minority and majority populations. Although the Intel Learn Program was not designed to specifically focus on girls, Intel made sure that they comprised half of the program's population in each country. Today, from Argentina to Ukraine, approximately 48 to 61 percent of Intel Learn's students are girls.

All Intel Learn students can participate in three different 30-hour courses, each of which teaches technical literacy, critical thinking, problem-solving and collaboration skills. Technology and Community introduces learners to digital skills while engaging them in identifying solutions for community problems. Technology at Work provides learners with experience using computers as they might be used in a variety of jobs and careers. Technology and Entrepreneurship introduces

learners to basic concepts of entrepreneurship and demonstrates how technology can be used to advance a business idea. Intel® Learn sessions usually take place outside of the formal school setting, but some countries offer them in schools as a way to expand reach. Regardless of the environment, the program has consistently shown a high completion rate of more than 90 percent.

Students learn how to use technology to communicate, tackle problems and design original products. Instead of memorizing materials, students take a hands-on approach, applying technologies to trouble-shoot real-life problems while also collaborating with their peers. In the end, Intel Learn graduates walk away from the program with a range of skills that will benefit themselves and their communities, from conducting research on the Internet and developing spreadsheets, to creating multimedia presentations and designing catchy business cards. These skills give them the know-how to help their communities, improve their work practices and succeed in today's challenging marketplace. Carol Qin, the lead for Intel Learn's China program notes, "Intel Learn can change students' learning behavior in ways that can change their entire lives. Although 30 hours of training is a short period, it can have a significant impact on the lives of students, particularly for those from low-income families. It can change their daily work lives and open a door for them to see another exciting world, empowering them for future work and study."

ICRW's assessment determined that the steps the corporation has taken to foster equitable access to opportunities through technology have paid off – especially for girls and young women. In order to understand Intel Learn's implementation approach, degree of focus on girls, reach, and effect on the lives of girls and women, we reviewed program documents and evaluations and interviewed country managers from ten of the sixteen Intel Learn country programs. For our analysis, we applied our framework for measuring women's empowerment to Intel Learn's approach to teaching technology education.

Essentially, we assessed whether the program enabled girls to attain the resources and skills – the necessary foundation for "economic advancement"—to eventually succeed economically, as well as enabling them to have control over their resources and make and act on their decisions—the definition of "power and agency." As identified in ICRW's framework, economic advance-

ment and power and agency are the interrelated characteristics of an economically empowered woman.⁷ While many of the girls and young women who take part in Intel Learn have not yet entered the economic marketplace, these skills and characteristics can aid their educational pursuits and their future livelihoods, ultimately affecting their economic wellbeing. Reports from country programs showed the following effects from participation in Intel Learn:

- In every country, girls' self-confidence increased;
- In most countries, girls' sense of power—their ability to control and share in resource use—increased while taking part in the program, as well as their ability to define and make choices;
- Girls improved their ability to use technologies to communicate, collect, share and organize information in almost all of the Intel Learn countries;
- Girls improved their collaboration and problem solving skills in all countries, and their creativity in most countries; and
- Girls used technology to design and develop new products in most countries.

Our assessment made it clear that Intel Learn not only achieved high rates of girls' enrollment and completion in the program—itsself a significant accomplishment among technology education programs—but it also taught girls essential 21st century skills, such as digital literacy and critical thinking, priming them for a path towards economic empowerment. As Hagit Yaffe, the manager of Intel Learn, Israel, explains, "Women have a new sense of empowerment after the program. Instead of just staying at home, getting married and having children, they now have dreams to get an education, do other things. It is now about what they want, not what society expects of them."

In addition to understanding Intel Learn's impact on girls, we wanted to understand how the program achieved these results. What is it about this program that makes it resonate with girls? How does it manage to get such high percentages of girls to enroll in and complete the program, as well as achieve such results? What are the program components and/or strategies that have lasting effects on girls' lives?

The following lessons lay out the key aspects of the program we identified as vital to this success. While these lessons were aimed to reflect what has worked well in Intel Learn, so as to inform Intel's future programs, they also provide relevant recommendations for others aiming to reach and affect the lives of girls and women through technology education programs.



Photo provided by 10x10act.org Educate Girls, Change the World.

Lessons Learned & Recommendations

MAKE IT RELEVANT

Interactive, hands-on lessons tied to a larger social purpose are what resonate most with girls. Providing such opportunities is essential to recruiting and retaining girls in the educational setting.

In particular, studies show that girls are more interested in learning about technology when it's relevant to their lives.⁸ They thrive when they can apply technology to solve real-world problems and make an impact in their communities.⁹⁻¹² Intel® Learn understands this, and therefore lets them follow their own interests and choose the problems they want to solve with the technology skills they learn. Intel Learn does not simply teach them how to use word processing software, but rather it teaches them how to develop their own résumés and business cards or design an event flyer, for example. The curriculum is also designed to be culturally pertinent to students by translating lessons into each country's local language and using culturally appropriate examples to illustrate key points. All of these efforts help girls better understand and connect to technology.

The Intel Learn Technology and Community course requires students to identify a community problem they think is significant, develop a solution and propose it to community members. Students in many countries have secured support and funding to implement their ideas. This kind of process can be transformative for girls, especially those in low-income countries and households, who tend to be limited by social expectations that

relegate them solely to the domestic sphere. Giving girls the responsibility of choosing a community issue and expecting them to provide demonstrable results from their work is an empowering experience. They learn that they are important members of their community who can make change happen. What's more, they develop leadership skills they can carry into adulthood as they enter the labor market and contribute to the global economy.¹³

In Egypt, for example, a group of girls who participated in Intel Learn were able to demonstrate how their new skills could impact those in their community through the creation of literacy classes for women and girls. Building on the community solution they identified in Intel Learn, they initiated reading and writing lessons for illiterate women and girls not enrolled in school. The girls launched the initiative in 2011 and have already trained almost 150 females, some of whom have now learned to read and write. By learning through solving community problems, girls are able to better master technology skills and gain a sense of self-efficacy and accomplishment.

CULTIVATE ENTREPRENEURIALISM

Education programs must develop girls' and young women's entrepreneurial skills, particularly because 85 percent of new jobs in developing countries are in the informal labor sector, where women may sell produce at a local market or operate a small shop.¹⁴ In such environments it's important that women know how to create and run a business, save and earn money, manage their finances and defend their legal rights.

Intel® Learn provides girls with this knowledge through a curriculum that equips them and young women with the know-how to launch their own business. The curriculum teaches digital skills, business related concepts and the process of entrepreneurship. It engages students in using technology to advance a business idea, for example, by creating a business plan or expense reports, or by researching new sewing patterns for a clothing design business. Using Internet tools and software applications, Intel Learn's 14- to 25-year-old Technology and Entrepreneurship students formulate a business idea, and create and present a business plan for their idea. This approach enables girls and young women to enhance the skills they need to enter the informal labor market and increase their productivity.

The impact on the lives of girls and their families is illustrated by the story of Regina, a participant of Intel Learn in Russia, whose family business involves growing and selling cucumbers. After participating in Intel Learn, Regina was able to apply the skills she learned to create expense reports and cost estimates – skills with the potential to help her business succeed.

Regina remarked, "Thanks to gained knowledge from Intel Learn I can execute cost estimates such as income and expenses, salary and cultivable area. Originally our family business was not very successful. But we've managed to develop it; we looked for the new approaches to the matter and corrected mistakes." As more people learned about the entrepreneurship skills taught in the Intel Learn program, adults—including parents of Intel Learn participants—also began to request such training. As a result, the Intel® Easy Steps program was designed to provide technology education to adults from underserved communities. Easy Steps is currently underway in India, several countries in South-east Asia, and a number of countries in Africa, and will debut soon in China, Egypt and Palestine, expanding the reach of digital skills and entrepreneurship training to women as well as girls. In fact, a partnership between Intel Easy Steps and Telecenter.org, an initiative that equips women with technology skills, plans to reach one million women.

GIVE GIRLS A VOICE

Education is most impactful for girls when it takes place in a learning environment in which their contributions and opinions are valued.^{15,16}

In many cultures around the globe, women are less vo-

cal in the presence of men and do not take lead roles in community affairs. These cultural practices begin early in life when girls are discouraged from communicating their ideas and opinions. Such restrictions ultimately hamper girls' and women's ability to interact in social and educational settings, to influence family and community decisions, and to improve their economic prospects in the marketplace. Intel® Learn addresses these obstacles by strengthening girls' ability to think critically about what is going on around them, communicate with others, use digital tools and devise solutions to local problems. This translates into greater self-confidence and a sense of self-efficacy critical to girls' empowerment—the type of traits that will allow them to successfully navigate the economic marketplace.

As Vera Michalchik of SRI, who conducted two evaluations of Intel Learn, explains, "Posters, flyers, stamps, business cards, and postcards—these are things that get designed and made, but girls usually don't get to design them. When girls create them, they really start to understand what communicative things need to be included; why that information needs to be there; what they are trying to communicate; how to have persuasive power; etc. There is tremendous power in making girls feel that they belong to this world of technology, social action, creativity, and production."

The transformative power of strengthening girls' voices is illustrated by Elena, a fourth-grader from Russia who took part in Intel Learn. Although she suffered from extreme shyness at the beginning of the Intel Learn program, the collaborative, interactive process of learning brought out the best of Elena's creativity and organizing skills, enabling her to become a team leader. She has since been active in a number of community projects, such as a clean river bank program and a program for seniors. Upon her return to school, her new-found skills and increased confidence enabled her to be a better student and successful in a regional level public speaking contest.

ENSURE GIRLS' PARTICIPATION

Education programs that aim to reach girls in developing countries must be deliberate in how they go about recruiting girls. This is especially true for programs that teach digital literacy.

Technology education programs do not typically attract many women, even in high-income countries. A survey

conducted among universities in the United States and Canada from 2009-2010 found that only 14 percent of computer science bachelor degrees were earned by women.¹⁷ This pattern is often more extreme in developing countries, where girls are much less likely than boys to enroll in science, technology and math classes from secondary school on.^{18,19} Since technology education programs often consider lower participation rates among girls as normal or acceptable, the gender divide in technology grows larger.

Intel® Learn addresses this reality by setting a clear goal to have girls comprise half of its students in every country where the program operates. It achieves this by taking creative steps to recruit and retain girls.

For instance, in regions where it is more difficult to reach girls and young women, Intel partners with local women's organizations or initiatives. In Israel, Intel Learn collaborates with some government schools that solely serve at-risk girls. In Egypt, the organization partners with a few non-governmental organizations that work primarily with girls and women. And in Kenya and the Philippines, Intel® Easy Steps partners with Telecenter.org. Such partners know where and how to best reach girls and women.

The program also offers co-ed and girls-only sessions, depending on the local cultural context of what works best for girls. In some areas, such as Ukraine, girls-only sessions attract more girls and enable them to speak more freely and take initiative. In other areas, such as China, co-ed sessions are more popular and help break down traditional stereotypes by allowing boys to see girls initiating their own successful technology projects.

By working with a range of local partners and creating comfortable learning environments, Intel Learn has increased the number of girls and young women it reaches.

Conclusion & The Power of Curriculum Design

In order for education to be truly catalytic, it must have high quality and relevant content, as well as be implemented in a way that appeals to learners. A well-designed curriculum holds the key to both effective content and a thoughtful implementation process. The lessons and recommendations outlined in this paper provide key elements of what is needed for the

design and effective implementation of a meaningful curriculum for girls.

Intel Learn set out to be gender neutral. But its aim of ensuring equal access to technology for all populations means that girls and young women, who otherwise might not have access to technology in their cultural contexts, receive the support needed to successfully participate in the program. Its recruitment strategies and the localization of its curriculum to each country context enable it to enroll a large proportion of girls in the program. Its curriculum design then ensures it retains these girls and gives them the skills and resources to become economically empowered women; it makes technology relevant to their lives and teaches digital literacy in conjunction with collaboration, creativity and problem-solving—skills that specifically appeal to girls.

Intel Learn's student-centered curriculum allows learners to follow their own interests and select their own final projects. Thus girls get to choose projects meaningful to them. The curriculum also cultivates team work and collaboration, enabling girls to participate more fully, benefit from a nurturing and supportive team, and see their direct contributions to the team.

Group exercises equip them with technical skills, critical thinking abilities, and the ability to collaborate with others, so these girls are prepared not only to increase their access to resources, but also to negotiate and make decisions about how to best utilize and have control over these resources. Girls graduate from Intel Learn with the confidence and first hand knowledge that they can make a difference in their communities and with the digital, business and social skills they can use to build their future livelihoods.

Such success did not come easily. Intel Learn's curriculum design took a great deal of time and careful attention to create. But now other programs can benefit from Intel's experience. With stronger technology education curricula, girls and young women throughout the world, regardless of their circumstances, can be better prepared for financial independence and economic success in today's challenging marketplace.

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