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ICT Education for Women:

Case Study of the Republic of Korea

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ICT Education for Women: Case Study of the Republic of Korea

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1. Introduction

The 21st century information society values creativity over trained knowledge.   The kind of society that demands flexibility in ways of thinking is expected to give greater opportunity for women since they are often characterized as sensitive and pliable. Hence the informatized 21st century is viewed as the golden opportunity for women to rapidly advance into social arena.

However, not all aspects of this social change are favorable to women.   The key challenge is to catch up with or keep abreast of the dramatic development in information and communication technology (ICT).   If women, just as they have been in the past, devote themselves solely to housework and childcare and stay complacent in male-oriented atmosphere, they may fall behind from the breathtaking advance of information technology.   The information gap likely to occur as a result of the traditional division of roles may bring another source of social inequality for women. Thus, prudent policy and social consideration is necessary to prevent the potential digital divide from fixating gender confrontation.

Central as well as local government bodies seem to be in agreement on the issue of digital divide.   Informatization strategy for women are being developed on national as well as local level, the most common of which is the information technology education. However, the quantitative approach in the government-driven initiative limits the content and scope of the education curriculums to a very general level, making little contribution to the improvement of women's IT knowledge.   Consequently, while women have been made to understand the significance of information technology, they are still far from reaching the professional level to meet social demand.

Informatization strategy for women should be comprehensive and multi-dimensional. ICT education must be based on such strategy if women are to advance into the mainstream in the information society.   Comprehensive and multi-dimensional strategy means a strategy that takes into consideration different needs of women.   Women's education programs should reflect differences in age, education and social background and also account for varied level of receptive capacity for technical knowledge.

2. Support Policies for Women's ICT Education

ICT education for women did not have much significance in the early stage of Korea's national informatization strategy or spread of information culture.

One of the biggest concerns that emerge as informatization rapidly takes place is the digital divide.   Varied level of information accessibility and capacity manifested by social stratum, region, age and sex causes this imbalance of information that may

aggravate social and economic inequality.

To address the information gap, it is critical to establish the necessary infrastructure. No less important is the IT education program that will enhance the public's capacity to use information. Information society cannot be 'technologically pushed' but be socially pulled by its constituents with an adequate level of knowledge.

With a vision to emerge as the leader of the information age, Korean government has developed a basic plan to facilitate the process of informatization. It is called *Cyber Korea 21*, an initiative headed by the Ministry of Information and Communication (MIC). Under this initiative, the ministry has launched the "Comprehensive Plan for National ICT Education" based on the understanding that the level of the public's knowledge on information technology directly affects nation's competitiveness and survival. The plan includes education for women, full-time housewives in particular, as part of the program for under-privileged sectors. In addition, the Ministry of Gender Equality (MOGE) has laid out the "Basic Plan for Women's Informatization" proposing the basic framework for a systemized effort in women's ICT education.

Comprehensive Plan for National ICT Education (1999-2002)

The medium and long-term plan for citizen's ICT education calls for various government organizations to conduct informatization programs for 25 million people by 2002. Ministry of Government Administration and Home Affairs (MOGAHA) provides education for government employees and local communities, Ministry of Education for teachers and students, Ministry of Agriculture and Forestry for farmers and fishermen, and Ministry of Defense for military personnel. As far as women are concerned, the plan is to provide ICT education for a total of 2.54 million housewives by 2002. The objective of the program is to provide education on information technology for women who are not given the opportunity and thus have little capability and motivation for information use. The program is expected to enhance women's information literacy and level of informatization at households.

Detailed plans for women included as part of the Comprehensive Plan

· Expansion of ICT education for local communities through improvement of necessary facilities at public and private institutions (e.g. municipal body, elementary and junior-high school, post office, private organization, business)

· Provision of training facilities and trainers for promotion of ICT education

Basic Plan for Women's Informatization(2002-2006)

To satisfy the need for a systemized policy on women's informatization, Ministry of Gender Equality has developed the Basic Plan for Women's Informatization, the main contents of which are as follows:

	Key Challenge	Detail
Generalization	Establish foundation for women's information accessibility	- Create and operate Women-net - Establish volunteer network
Specialization	Enhance women's information capacity	- Educate women workforce for re-employment in promising occupations - Provide professional online IT education for women
Promotion	Promote informatization of private sector	- Support women's organization to promote IT sector

Central Government Organizations' ICT Education Initiative for Women

Women's informatization policy covers various areas including public administration, education and welfare.   Ministry of Information and Communication as the central authority for ICT education has initiated the following programs together with relevant ministries:

• Ministry of Information and Communication

  - Education of professional women workforce in IT sector

    Support affiliated institutions of women's universities and business incubation centers

    Support professional IT education for different social hierarchy or region (elementary/junior-high/high school and university students, unemployed college graduates, full-time housewives, women's organization personnel)

  - Internet education for housewives (2000-2001)

  - Support for women's ICT education

    Supply learning facility and material to organizations such as Girl Scouts and women resources development centers, which provide IT education to women (PC, network facility, SW, etc.)

  - Expansion of post office information education centers

• Ministry of Government Administration and Home Affairs

  - Expansion of ICT education for local community

Increase ICT education facility in municipal office buildings

Expand ICT education for full-time housewives and self-employed people

- Ministry of Education and Human Resources Development

  - ICT education support for parents and local community

    Open school computer labs to the public after school or during vacation

    Provide Internet training for parents

  - Information education for schoolgirls

    Conduct "Computer Skills Competition for Girls" and "Girls' Computer camp" encouraging schoolgirls to develop interests in computer and to further enhance awareness towards women's potentials in computer-related areas

- Ministry of Labor

  - Job training for laid-off women household heads

    Support IT training for women heads of households to acquire certificates of qualification as computer technicians, web designers, etc.

    Women heads of households are eligible to receive training allowances from the Korean Employment Insurance Fund

- Ministry of Gender Equality

  - Education through women resources development center

    Conduct free basic ICT education for women

    Provide vocational training for unemployed women (e.g. Web master, homepage creation, and computer maintenance)

    Run IT sector re-employment program for housewives

  - Professional online IT education for women (2002)

As described, most of ICT education programs for women offered by the ministries are introductory courses aimed at alleviating imbalance of information.   As for the few professional courses, the level of training and specialization is not high enough to lead to actual employment.

3. Major Initiatives for Women's ICT Education

Online Professional IT Education for Women

• Backgrounds and Objectives

  - Low employment rate of highly-educated women (UNDP survey, 31%)

  - Growing need to educate and utilize specialized resources in knowledge-information society

  - Shift in educational paradigm due to IT development

  - Increased economic activity and social participation by women

  - Establishment of an organized system to cultivate female IT resource

• Details

  - ICT education initiative led by MOGE to establish an education system that links training with employment and produces IT professionals (currently being provided targeting a total of 1,080 trainees)

  - Target Group

    · Women currently unemployed, women who wish to be re-employed in IT sector

    · Women with basic understanding in IT and capable to use PC

  - Curriculum

    · The course consists of basic, practical and advanced course that are provided together with humanistic education for women designed to enhance their level of specialization as professionals

      -Basic course: IT basic (8 weeks)

      -Practical course: Java programming (6 weeks), Windows programming (6 weeks), C++ programming (4 weeks), C programming (4 weeks), security (6 weeks), Web design (7 weeks)

      -Advanced course: Java programming (16 weeks), Windows programming (16 weeks), Web design (13 weeks), security (16 weeks), Java professional trainer education (12 weeks)

      -Humanistic education specialized for women: professionalism, gender difference, women's leadership

· Courses are provided by 2 specialized IT training institutions and 3 universities

· MOGE bears 70% of course fee, the rest 30% by trainee

· On-the-Job training or internship opportunities are offered for women who complete the advanced course

Internet Education for Housewives

- Objectives

  - Provide computer education opportunity for full-time housewives who have relatively lower level of IT knowledge compared to working women or female university students to prevent them from being alienated in the informatization process

  - Promote home-based informatization and electronic commerce in households

  - Effectively utilize women resource through increased employment of housewives

- Details

  - Designate private institutions with decent training environment and support part of training fee (e.g. If training fee is 75 US$, trainee pays only 8-16 US$, the rest being paid by the government.)

  - Training period: 20 hours (1 month)

  - Basic computer and Internet training (focused on utilization of the Internet, e.g. online shopping, information search, and e-mail)

  - EBS TV broadcasted "Mother Becomes Netizen" (Jul.3 – Aug.25, 2000)

- Achievement

  - 1,300 designated institutions maintained nationwide

  - 579,947 and 101,040 housewives completed the course in 2000 and 2001 respectively

- Feedback

  - High participation rate of housewives achieved thanks to moderate fee, easy curriculum, good facility, convenient course hours, and geographical proximity

  - Short duration (20 hours), lack of transition program to advanced courses, unspecialized program content not reflecting trainees' different level of understanding, motivation, and areas of interest were cited as shortcomings.

  - Trainee satisfaction survey

· Trainees responded that the hours they spend with PC increased (78.3%), the ability to utilize information improved (87.5%), and they apply what they learned to daily life (81.5%).

· The program greatly contributed to enhancing information literate of women.

Support for Women's ICT Education

• Objectives

  - Provide IT education for women to cultivate potential resource for knowledge-information society

  - Enhance women's ability to use information to increase their chance of social participation, employment and inauguration of their own business

  - Efficiently utilize women workforce to improve national competitiveness

• Details

  - Basic course: Internet use, MS-Excel, MS-PowerPoint, computer basic

  - Intermediate course (for certification): computer utilization, office automation, PC maintenance

  - Advanced course (for employment): computer home tutoring, e-commerce administration, Web design, Web master, multi-media content development, SOHO foundation

  - Establish ICT education center for women (supply equipment and material including H/W, network and S/W, operation cost including trainer fee, telecommunication service charges to be self-appropriated by the institution)

• Achievement

  - Provided aid for 43 women resources development centers, 4 women's development centers, 19 affiliated education institutes in women's universities, 10 Girl Scout-allied facilities, 9 welfare facilities for women and children, and Korea Women's Development Institute

  - 45,666 people in 2000/ 23,383 people in 2001 completed training

  - 512 people in 2000/ 979 people in 2001 certified

  - 1,096 people in 2000/ 1,141 people in 2001 were employed or started their own business

  - Budget allocated: 3.75 million US$ in 1998-99/ 1.25 million US$ in 2000/ 1.66 million US$ in 2001

- Feedback

  - Supplied training facility and material to establish ICT training center that can offer effective IT education and employment training

  - Trainee satisfaction survey

    · Women trainees demand a variety of training programs to satisfy their diversified needs (e.g. basic computer training for daily use, vocational training for certification/ employment/ self-employment, professional IT training)

ICT Education for Parents and Local Community

- Objectives

  - Designate parents in rural areas and low-income metropolitan regions as primary target group to mitigate regional information gap

  - Increase use of ICT education facilities (computer lab, multi-media lab) in schools to enhance utilization of the investment

- Details

  - Ministry of Education and Human Resources Development provide 'Parents Internet Training' in rural areas and low-income metropolitan regions utilizing IT facilities in schools

  - Curriculum: computer basic, how to use education websites or school homepages, e-mail use, Internet search for learning materials, how to benefit from online training sites, information ethics, etc.

- Feedback

  - Opening school facilities to the public gave opportunity for public organizations to serve their communities, and for schools to establish network with parents

  - Practical curriculum that relates to their children's education stimulated parents' interest

Post Office Information Education Center

- Objectives

  - Establish training facility and Internet lab that are easily accessible

  - Provide training opportunity for less-privileged sectors to minimize their information gap

- Improve the public's understanding of information technology and upgrade their capacity to use information and IT equipment

• Details

  - Ministry of Information and Communication operates post offices scattered nationwide as the ICT training hub for local communities

  - Provide aid for training facility and cost

• Achievement

  - 75 post office training centers and Internet plazas established

  - 27,743 residents in 2000/ 34,066 residents in 2001 completed training

Lifelong ICT Education for Women

  - Women's lifelong education facilities nationwide provide ICT training for women

  - Women's lifelong education facilities include women-only education center [91 women's hall nationwide, 4 women's development centers in Seoul, 51 women resources development centers, women's organization, and the college for housewives run by NACF(National Agricultural Cooperative Federation)] and general lifelong education center (university-attached lifelong education center, lifelong learning center, social welfare center, municipal facilities that include town hall, local community center, women's class, Seoul Women's Plaza, etc.)

  - ICT education programs in these institutions are mostly limited to introductory courses in computer and the Internet.   However, some organizations offer professional courses that include homepage creation and computer graphics.

A Special Program for Women as IT Professionals

• Backgrounds

  - Kyonggi Women's Development Center initiated a special program to supply IT experts, which was established in 1997 by Kyonggi Province as a training and lifelong education center for women.

  - The main activities of the center are operating long-term IT training courses and running a business incubator to promote SOHO start-ups in IT area.

• Details

  - Target groups are unemployed women, women heads of households and handicapped women who are seeking jobs.

- Pre-search IT areas of high demand for workforce and hold a public forum to survey the needs of women.

- Provide professional IT training courses such as IT specialist (web specialist, e-biz master, CAD master, Java programming, etc.), Business incubation (CEO leadership, digital contents copyrights, e-biz strategies, etc.), and Capacity building (career design, gender training, career development for IT specialist, etc.)

- Provide long-term courses running 3 hours a day, 5 days a week for 10 months or one year.

- Consider high burdens to women in daily life, such as domestic labor and day care for children, and arrange the following initiatives:

    · For women without transportation, the center operates a commuter bus 4 times a day.

    · The first class starts at 10:00 in the morning to give enough time to take care of the household chores.

    · The day care is also provided for women with children. The children are cared and taught by licensed childcare teachers.

- Operate job-consciousness raising class and face to face counseling to boost self-confidence and a sense of profession and to plan a career based on aptitude test for job.

- Survey local IT firms likely to hire the graduating trainees and send them official letters introducing the training program or visit the companies. The center holds the list of 5,000 companies.

• Achievement

- Approximately 600 women completed the IT education program, out of which 64.5% of graduates have either been employed or started their own business.

• Feedback

- The gender sensitive approach in project planning and operation: evaluating and readjusting the existing man-oriented programs; selecting subjects for training; choosing training duration and time; selecting trainers; parallel training to boost self-esteem and a sense of profession; getting feedback, etc.

- The women graduates were both computer-illiterate and had low self-confidence when they started training.   A graduate confessed:

    "my life is now totally changed and I would like to learn more and more. Amazingly enough, my husband and mother-in-law care now two children and domestic chores that used to be my work."

5. Issues with Current IT Education

IT education has been driven as the key initiative in women's informatization plan, and thanks to the government's aggressive support, it contributed to a quantitative growth in women's understanding of information technology.   However, failing to reflect the actual demand from the field, the effectiveness of the initiative remains doubtful.   The training programs provided by different authorities or institutions often overlap while shortage of experienced trainers increases.   Poorly designed curriculum focusing only on Web technology rather than digital content and ineffective post-training management are also cited as problems in the ICT education program.

Common issues in IT training courses offered by public and private institutions can be categorized as follows:

• *Training courses overlap and lack quality.*

   IT education programs provided by most institutions are quite identical, not taking into consideration different organizational or regional peculiarities.   As a result, the number of trainees per class decreases, which affects efficiency of program operation.

• *Shortage of experts and poor operation lowers quality.*

   Most of temporary training institutions suffer from insufficient government aid that causes operational difficulties.   Mushrooming similar institutions and lack of professional trainers raise concern for deterioration of program quality.

• *Solution should be proposed after a thorough review to address the limitations of cyber training.*

   Recently, many institutions offer cyber or online education.   While this form of training may be efficient in terms of time or cost, its effectiveness is yet questionable.

   While cyber classes conducted through the Internet offers the merit of individual interaction and convenience, it can never succeed without trainee's active participation and motivation.

• *Scarce on-site training opportunity undermines effectiveness of program.*

   IT education, by its nature, requires on-the-job training together with theory learning, and businesses should provide such opportunity at their own cost.   However, citing cost reduction as the reason, they simply hire experienced applicants rather than novices.   Establishing a cooperative mechanism between business and training organizations is imperative in making ICT education more practical.

6. Challenges in Women's ICT Education

In order to achieve a qualitative growth in women's ICT education, necessary

institutional framework should be put in place and the following challenges must be addressed:

• *Systemization and diversification of women's ICT education*

Specially designed training program is required for women to motivate their computer use and enhance their understanding of information technology. Programs differentiated by the level and interest of trainees should be systematically developed to improve their effectiveness. Courses for general computer users and job seekers need to be separated. There should be online as well as offline training for short, medium and long-term. In the end, the objective of ICT education should be to facilitate its trainees in their transition from simple functions to highly specialized professions.

• *Expansion of Internet training opportunity*

Basic Internet training course for full-time housewives is designed to enable them to use the Internet in their daily lives such as searching useful information for children's education. It focuses on basic theory and in-class practice that can be completed in relatively short term. This type of training for information use is in high demand nationwide and the curriculum is more or less standardized, which makes them suitable for online training.

To increase ICT education opportunity for women, it would be a good idea to activate local information centers where small scale ICT training can be offered on community level.

• *Improved course development and assessment*

Soaring demand for IT training institutions impede the establishment of a standardized assessment system for various public and private organizations, and this naturally undermines the quality of training they provide. If we are to achieve better quality in women's IT education, its evaluation system should be comprehensively developed and the training organizations consistently evaluated.

Furthermore, development of training courses and test methodologies need to be standardized. Improved evaluation system and program quality achieved by means of thorough appraisal and quality management of training facilities will enhance trainee satisfaction and course effectiveness.

• *Career development support*

To facilitate women's employment for the long-term, their education must be linked with career development. Rather than focusing on simple functions, training for women should teach them professional skills that can help them to advance their career. Indeed, while employment for the IT sector remains high, many people fail to build a career and have difficulty in finding a new job mostly because they lack expertise. With more specialized IT training and better supporting facilities, women can acquire professional skills, develop their IT career and stay competitive through constant self-improvement.

- ***Increased pool of highly qualified IT trainers***

Effectiveness of IT training relies on trainer's skill and experience.   Unfortunately, well-qualified trainers are limited, and many lack real life experience or professional knowledge.   Education centers for women including Women Resources Development Center should be equipped with sufficient IT experts to strengthen the quality of the programs they offer.

- ***Consideration of gender sensitive approach***

Gender factor concerning women's environment, experience and consciousness has strongly been considered in every phase of the project: selecting subjects for training; choosing training duration and time; training to enhance self-confidence, etc.

- ***Business incubation support for women entrepreneurs***

Increasing number of women are starting their own business.   IT training needs to be linked with an appropriate business incubation program to support female venture business owners.

- ***Establishment of social support mechanism***

Women's informatization initiatives implemented by different government organizations (e.g. Ministry of Gender Equality, Ministry of Information and Communication, Ministry of Education and Human Resource Development, Ministry of Health and Welfare, and Ministry of Government Administration and Home Affairs) overlap and lack integrated management.   Relevant budget assigned to each organization should be consolidated to maximize utilization of resources.   The initiative for women's informatization should be pursued with focus and clear sense of direction.

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