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Training Programs for Statistical Competency Development in STI of Korea

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Summary

Statistical Training Institute (STI), an affiliate of Statistics Korea (KOSTAT), is the only government organization that performs the statistical education in Korea. The mission of the STI is to cultivate statistical professionals and to promote recognition of statistics among the general public. Although the STI offers statistical trainings for public officials and the general public, this paper highlights programs for public officials, especially the new courses for nurturing statistical specialists of KOSTAT and e-learning courses for local offices of KOSTAT. For this purpose, this paper introduces human resources management policy of KOSTAT and various efforts of the STI to identify needs and plans of training programs.

1. Introduction

Statistical Training Institute (STI), an affiliate of Statistics Korea (KOSTAT), is the only government organization that performs the statistical education in Korea. Statistical Training Center (former STI) was established in 1991 and developed continuously resulting in the birth of the STI in 2005. The STI moved to the new modern Statistical Center Building with various modern facilities in 2009 and continues to grow with ambitious plans.

The mission of KOSTAT is leading advancement of national statistics and producing reliable statistics. The core strategies to achieve this mission are implementing high quality statistical administration through reinforcing bases of national statistics, and realizing customer satisfaction with user-friendly statistics services.

The Korean statistical system is decentralized: KOSTAT produces 52 major statistics and several ministries, Bank of Korea, local government, and other agencies produce official statistics. In order to prevent a decentralized system from producing redundancy, inconsistency, omission and duplication of statistics, KOSTAT plays a leading role in integrating and coordinating the statistical activities of governmental and non-governmental statistical agencies authorized by the Statistics Act. As of August 2010, KOSTAT approves 850 various kinds of official statistics produced by 375 governmental and non-governmental agencies.

The mission of the STI is to cultivate statistical professionals and to promote the recognition of statistics. In order to achieve these objectives, our primary strategies are as follows: (1) to cultivate statistical professionals who can produce high-quality national statistics by encouraging statistical training not only for government officials who work for KOSTAT and other governmental organizations but also for employees who work with other statistical entities; (2) to strengthen statistical training for statistical users such as students and the general public to realize the understanding and utilization of national statistics; (3) to promote the internationalization of statistical training by collaborating with international statistical organizations and the Korea International Cooperation Agency(KOICA); and (4) to expand the statistical training infrastructure to correspond to increasing demands and future preparations.

In order to fulfill the mission described above, the STI training must be extremely effective to accommodate the myriad of trainees and the multitude of needs arising rapid social, economic, and administrative changes occurring in Korea. Under these circumstances, statistical training for public officials is very important, because public officials should produce and utilize high-quality statistics to formulate and evaluate all kinds of policies. As KOSTAT maintains an "evidence-based policy" for all central governmental agencies, more ministries are realizing the needs for statistical competency and trainings, secondment of statisticians to other ministries and exchange of staff with KOSTAT.

Despite the overall favorable benefits for statistical trainings, the Statistical Training Institute is one of many training centers for public officials in Korea. Each of the central and local government bodies maintains their own training centers that are generally responsible for the internal training of public officials. In addition, KOSTAT officials are allowed to take courses offered by other training centers or private educational institutes. Therefore, the STI must compete to attract public officials to subject matter that is generally accepted as tedious. Under these circumstances, the Statistical Training Institute has found its unique identity by emphasizing statistical competency development courses for the public officials of KOSTAT and other statistics-producing organizations.

2. Identification of the training needs

2.1. Recruitment and Development of KOSTAT Staff

There is a nationally increasing recognition that Statistics Korea carries the professional function of producing reliable official statistics and coordinating statistical agencies. For meeting this expectation, KOSTAT hires new employees on a two-tiered system: regular and special recruitment. For regular hiring, KOSTAT hires employees following the successful passing of a public examination which tests statistically related subjects and general knowledge and professional capability is considered when newly hired staff is allocated to each division. For special hiring, KOSTAT seeks those who have highly specialized capabilities in areas concerned, for example, statistics, economics, sociology, classification, international cooperation, etc. KOSTAT also encourages special recruitment to hire highly professional staff (Ph.D.) for ensuring the professionalism of KOSTAT.

Both new and existing employees receive additional training throughout their career, which is designed to help them achieve their greatest potential. Regularly hired staff who possess the basic statistical skills are required to be trained before they are assigned to carry out statistical production and analysis related work. Regardless of whether or not one has studied statistics in college, newly hired staff needs to have on-the-job training (OJT) following their initial employment concerning specific statistical methodology. The STI is a government agency responsible for providing the post-hiring statistics-related training which is customized for the background of the new employee and the level of understanding.

The conventional personnel policy of KOSTAT rotates staff members on a regular basis to broaden their knowledge and enrich their on-the-job experience. However, KOSTAT plans to adopt career development programs for staff specializing in survey methodology, economic statistics and social statistics, and will consider expanding such tracks. Competencies for various positions will be spelt out and incentives will be given for staff to obtain new competencies. For example, professionals working in the area of statistical methodology need well-defined competencies for each level, in terms of the required education level, training courses, and years of experience. For staff working in specific areas, opportunities for training abroad, including short or long term training will be provided. For those who acquire the necessary competency and desire to transfer to other positions, they will be given chances with appropriate positions when available.

It is necessary that statistical experts of KOSTAT enhance their professionalism to strongly support the developmental strategy of KOSTAT. In order to achieve our mission, "leading advancement of national statistics and producing reliable statistics" KOSTAT's personnel system has been partially coordinated by adding the KOSTAT self managed personnel system to the existing administrative system so as to train the statistical experts.

In addition, Statistics Korea has a staff development plan which is fully developed and implemented in terms of a training program this year which serves to strengthen statistical capacity. As presented in <Table 1>, some posts of KOSTAT at the 5th (Deputy director) and 6th (Senior Assistant Director) grade of public officials are designated as statistical specialists on professional fields such as in areas of sampling, data processing (imputation and masking), analysis and modeling (population projections and seasonal adjustment). This new policy is expected to encourage employees to pursue self-development to become statistical experts, and this will have beneficial effects for strengthening the organization as a whole.

2.2. Obligatory Courses and Performance Management

Public officials as a profession are highly regarded among the younger generation in Korea. They are employed after taking very competitive government examinations. Statistics-related officials have to take exams on public administration, administrative law, English and introductory statistics. In fact, few statistics-related officials have majored in statistics in college. Statistical training is generally regarded as more difficult than other subjects, and very few are eager to take the statistics courses on their own volition. Thus, we maintain an obligatory course system, designating required and optional courses depending on the ranks and positions of public officials of the Statistics Korea. Newly hired staff is required to finish the-STI designed courses prior to their placement within the organization.

Furthermore, the STI designed new training programs this summer for existing employees who wish to transfer from local offices to the headquarters of KOSTAT. New transfers take obligatory courses for their appointment to new posts at headquarters. Among transfer applicants, younger generation possesses various certificates in IT skills and statistics, while the older generation does not. In order to help for transfers to adjust to new posts easily, we designed courses by their demographic background and IT skills, focusing on overall statistical work of KOSTAT. Also, existing members have to take required courses as well as obligatory elective courses to be considered for promotion to a higher level. Obligatory courses to official rank are presented in <Table 1>.

<Table 1> Obligatory Courses for Promotion of Existing KOSTAT Staff

Promotion	Obligatory Courses
5th→4th	Problem Solving Customized to Issue-at-hand
	Leadership (Coaching or Global Leadership) Development
6th→5th	Intermediate level Statistics I and Intermediate level Statistics II
7th→6th	Basic-level Statistical Theory and Statistics Administration Management

In Korea, performance measures are used to assess the effectiveness of statistical capacity building efforts in KOSTAT. The performance evaluation list of staff members by their division heads includes an item, "How many hours of training has the employee spent during the evaluation period and what kind of training did they receive?" Currently, all government employees are required to receive at least 100 hours of training per year. This requirement has been instrumental in compelling employees to dedicate a substantial number of their working hours to take courses in the STI.

Some of the indicators for performance measurement are "the employee's training record", "number of specially developed courses", "number of statistics courses taken during the period". These indicators of performance measurement also encourage all public officials to take training courses, especially enumerators of local offices to participate in e-learning programs for survey guidelines. This program increases the quality of official statistics. As the STI is also evaluated by satisfaction surveys filled by all trainees along with other indicators, personnel of the STI staff are more apt to increase the quality of courses as well as satisfaction of trainees.

2.3. Surveys and Professional Networks

In order to identify needs for professional capability building of each individual employee, the STI conducts regular surveys on training needs of our staff as well as an evaluation of all courses. Everyone is encouraged to express their candid views on the types of training they want to receive, satisfaction on curriculum, teaching methods, facilities, suggestions, comments etc. Various samples of survey questionnaires are attached in Appendix I: (1) Training Course Completion Survey; (2) Survey on E-learning Course; and (3) Survey on Curriculum Design of the STI for 2011. Results of these diverse surveys are reflected immediately in designing curriculum and courses. In addition, the STI uses open discussion methods to identify training needs such as monthly evaluation meetings of the STI staff, opinions expressed on websites from KOSTAT staff and the general public, frequent consultations with division directors of KOSTAT, outside experts from universities and research institutes, governmental and non-governmental training agencies and statistics-producing agencies.

Statistics Korea utilizes several means for developing the professional skills of its staff: formal courses, OJT, self help courses, seminars, informal study groups. Among these diverse methods, the most effective technique of cultivating professional skills at KOSTAT is formal courses provided by the STI. The STI designs and implements numerous courses on statistics and other topics, which are highly beneficial to employees and contribute to the development of their professional skills. In addition, we have a program which focuses on supporting employees who want to pursue further educational degrees, both at home and overseas. OJT program has also achieved positive results by utilizing the know-how of senior staff members and is highly useful approach for newly hired staff to expand their professional statistical capability. Through the OJT program, self help courses, activities of informal study groups and seminars, knowledge and skills are cumulated, thereby identifying the needs for formal new courses and training materials.

New methodologies which can improve and guarantee the accuracy and effectiveness of statistics need to be further developed in accordance with the current future statistical information requirements. More significantly, it is essential that the staff of KOSTAT increases the capability to recognize and meet newly emerging needs that users of statistics require through a close network with primary users and other statistical agencies. For this, KOSTAT encourages its staff to actively participate in various professional associations to strengthen and improve their individual capacity.

KOSTAT has been formally involved with various statistical research related expert groups such as the Korean Statistical Society, the Korean Association of Population, and the Korean Association for Survey Research. In addition, KOSTAT has a close formal relationship (MOU) with other professional organizations such as universities, research institutes, governmental and non-governmental agencies for mutual cooperation in statistical capacity development. Such formal as well as informal networks with professional groups help to identify and prioritize statistical training needs and to implement high-quality training. In fact, we have found that the quality of training courses is determined by the quality of the instructors. Therefore, securing relationship with professional groups is very important in statistical training.

3. Statistical Training Programs

3.1. All Training Courses

The most important mission of the STI is to provide opportunities to learn the knowledge necessary for performing and improving statistical tasks. With the growth of the STI, the number of courses has increased continuously recording 76 regular courses in 2009. The number of regular training courses in 2010 is summarized by primary classification in <Table 2>. In 2010, there are 96 pre-designed regular courses and many more courses will be arranged according to the demands of customers. Ninety-six percent of pre-designed courses, that is, ninety-two courses are designed for KOSTAT staff. Forty-four courses are open to public officials of other organization including KOSTAT staff.

All courses can be classified into three categories: Professional, General, and Special. Professional courses can be further classified into five categories: Common, Statistics (Methodology), Packages, Information Technology (IT), and Cyber (E-learning). Eighty-eight courses out of 96 regular courses are pre-designed for professional training, most of which is statistical training for the improvement of statistical competency of trainees. Among ninety-two courses pre-designed for KOSTAT staff in 2010, six courses are obligatory; fifty two courses are elective; and the others are voluntary courses. Weekend courses, night courses, and long-term courses, foreign language courses are open for the first time this year in order to accommodate the busy schedule of KOSTAT staff and demands of other organizations.

<Table 2> Number of Regular Courses by Course Classification in 2009 and 2010

Classification of Courses	Number of Courses		Example Course and Remarks
	2010	2009	
Total	96	76	Regular courses only
Professional	88	70	Sub-total
- Common	2	-	Leadership, Speech communication
-Statistics(Methodology)	42	35	Statistics, Sampling, Time-series
- Packages	9	8	SAS programming, SPSS, SAS Macro
- IT	10	6	Excel, Access
- Cyber(E-learning)	25	21	Sub-total
General	2	2	KOSTAT new comers and transfers
Special	6	4	Sub-total
- Special	4	4	Korean students; Other nations
- Foreign Language	2	0	English 2; Chinese 1

In the classification of <Table 2>, half of professional courses are open to KOSTAT officials only. Among the courses open to KOSTAT officials only, six courses are required and strict assessment is applied for determining promotions of the staff. General training is designed for KOSTAT directors, new employees, and transfers from local offices to the headquarters of KOSTAT. Special courses are designed for primary, secondary, college, and graduate school students of Korea and unique programs are planned for public officials, statistician and researchers from other nations. E-learning training is open to all but survey guidelines are mostly for the staff of KOSTAT local offices.

As seen in <Table 2> and Appendix 2 for the programs in 2010, the main target of the STI training programs is public officials, especially KOSTAT staff. As all of the programs for 2010 are not yet finalized, the training results for 2009 are presented in <Table 3>. In 2009, 14,741 trainees took courses with public officials comprising 73% of the total. Among public officials, KOSTAT officials accounted for 77%. Among KOSTAT officials, 83% of officials were workers at local offices.

Courses completed in 2009 were quite varied according to the background of trainees: Public officials of KOSTAT headquarters took statistics (methodology) courses most but others including officials of KOSTAT local offices took cyber (E-learning) courses. Although the number of trainees from KOSTAT headquarters was small, their role in increasing professionalism is very important. Cyber training (E-learning) was very popular among the staff of KOSTAT local offices, other public officials, and the general public, primarily because of their conveniences of easy access.

<Table 3> Results of Training by Courses and Background of Trainees in 2009

| Classification of Courses | Total | Public Officials | | Others | General Public | Other Nations |
| | | KOSTAT | | | | |
		Headquarter	Local Offices			
Total	14741	1430	6902	2434	3992	53
Professional	14516	1416	6897	2434	3769	-
- Statistics	3019	959	1218	303	539	-
- Packages	805	121	212	273	199	-
- Cyber(E-learning)	9719	190	5216	1505	2808	-
- IT	973	146	251	353	223	-
General*	19	14	5	-	-	-
Special**	206	-	-	-	153	53

* General includes leadership development for KOSTAT directors only.
** Special includes courses for Korean students and foreign trainees.

The types and forms of training should vary for each of the classes to maximize the effect of the training. However, budget and manpower are always limited, creating a difficult training environment for working adults. It is not easy to organize a class comprised of both those who have studied statistics in college and those who have not, because of the tremendous gap in the level of requirement and understanding. Also, the study of statistics that focus solely on the theory imposes a heavy burden on the accurate knowledge of statistical concepts, making it almost a necessity to run repetitive practice-oriented trainings and repetitions. But, it is unfeasible to require trainees with other duties to attend several classes in a row. In short, our teaching experience has taught us that it is more efficient to design individual classes depending on the background of trainees, and to focus on necessary practices and cases. In terms of the effectiveness of the training, it is better to operate courses designed to fit the characteristics of the relevant organizations and background of trainees, in addition to offering regular courses. An example of customizing a regular STI training course can be observed in a class in which public officials become skilled at writing statistical reports.

3.2. Training Courses for KOSTAT Specialists

Many skills other than what are taught in college are needed at Statistics Korea, because KOSTAT produces and disseminates official statistics and coordinates various official statistics produced by other organizations. Practical skills are required in order to work competently in various topics like sample design, economic time-series analysis, index development, statistical planning, masking and research methodology. In addition to the mathematical understanding of statistics, a general understanding of the economy and society as a whole and application of statistical principles to them are needed. Therefore, the STI trains our own specialists and develops our own methodologies in addition to collaborating with outside specialists.

The STI has been engaged in offering and managing the specialist programs since the summer of this year. The effort adopts two new approaches. First, compared to other programs that are usually comprised of 7 hours a day, lasting 3 - 5 days, the specialist courses are run 3 hours per week over 16 weeks program. This structure gives trainee the benefit of granting sufficient time to read and write reports. Also, trainees can take the program while engaged in their daily official duties. Furthermore, the program covers high-level theories and practical applications needed for their job competency. All of these advantages are heightened by a small class size (generally, 8 - 10 trainees). In other programs accommodating 30 - 50 trainees, it is difficult to maintain a certain level of quality. But, if a program is comprised of a small number of qualified trainees selected after examination, quality control of the course can be achieved more easily.

The course aims at training statistical specialists with theoretical and practical expertise for the purpose of enhancing the performance of the organization and developing personal job performance. The program selects trainees for required fields through competition and examinations. The STI trains specialists through management of trainee's work functions considering their respective work position and rank. The course offers in-depth graduate level education, introducing the WLP (Workplace Learning & Performance) to combine theoretical and practical training. Courses in five areas are available as of September 2010 as summarized in <Table 4>: Sample Design Ⅰ, Sample Design Ⅱ, Non-responsive Data Processing and Analysis, Population Projections, Economic Time-series Analysis (Seasonal Adjustment). The STI plans to further develop various specialist courses as needed according to KOSTAT policy.

A small number of trainees (8 - 10) are selected from the pool of employees of Statistics Korea after a preliminary diagnosis and evaluation. The program is composed of one session per week, 3 hours per session, 16 weeks or longer. To determine the achievement of particular training purposes, evaluation will be performed for each of study achievements (70%) and application capability (30% including on-site practices). Usually, the evaluation is done through a mid-term examination, final examination, reports and project performances. A grade is given applying the target-oriented evaluation, on an absolute rating basis with the standardized score.

The operation of specialist courses will result in the enhancement of the professionalism and capability of people in charge of statistics, and ultimately, the increased credibility of national statistics and quality of statistics. Also, the pool of competent professionals in terms of both theory and practice will ensure the continuity of work performance and development potential. To encourage course participation, we plan to pursue a policy of preferential treatment of trainees who have successfully completed a course with high grades and, if the trainee wishes, grant them long-term employment in an area relevant to their acquirement, and possibly special allowance.

<Table 4> Courses for KOSTAT Specialist Programs in 2010

Area	Basic and Intermediate level Courses	Specialist Courses
Statistics	Intermediate level I (Sample Design) Intermediate-level II (Statistical Development Planning) Packages (SAS, SPSS, STATA, EXCEL) Statistical Data Analysis Regression Analysis Time-series Analysis	Sample Design I& II Non-response(Missing) Data Analysis Survey Planning (Questionnaire Design)
Economy	Introduction to Economics Understanding of Econometrics Understanding Financial Statements Industry Classification, Index Theory Writing Consumer Price Statistics Income and Expenditure Statistics Input-Output Table	Economic Time-series Analysis
Society	Introduction to Sociology Understanding Social Statistics Understanding Demographic Statistics Understanding Agricultural Statistics Occupational Classification	Population Projection
Information Technology	Using Statistical DB System Utilization of National Statistical Information Trends of Recent IT and Protection of Privacy Database Practice (Oracle)	Masking Skills (to be open)

For public officials with insufficient theoretical exposure and understanding, it may be difficult to take specialist courses that are designed to achieve high level of understanding and require long-term commitment. We believe that the program is worth the effort as a means to procure the ever-insufficient pool of professionals and deliver the work-related know-how.

3.3. E-learning Courses

The development of information communication technology (ICT) and enhancement of Internet infrastructure facilities have resulted in new possibilities in statistics education methods. The e-learning programs utilize the Internet and the World Wide Web (Web) as the primary user environment and thus possess the freedom from temporal and spatial restrictions, as well as unlimited repetition. Those advantages provide convenient opportunities creating a popular demand, among the busy public officials. In addition, instructors may self-regulate the details of the education, and may customize the level of training to what the trainees wish. Furthermore, performance management system of local offices of KOSTAT also encourages their staff to engage in e-learning courses, especially Statistical Survey Guidelines.

However, operators of the e-learning system always face the task of selecting topics fit to e-learning environment and creating well designed programs and contents. <Table 5> shows the details of e-learning courses currently offered by the STI. Courses are always open so that anyone who wishes to take them can do so simply by accessing Internet homepage. The e-learning center (http://sti.kostat.go.kr or http://elearn.nso.go.kr) offers not only open courses, but also videos of actual class sessions and various e-books and materials so that trainees may access and study them at any time.

<Table 5> E-learning courses of Statistical Training Institute

Category	Courses	Eligibility	Method of Evaluation	Average Completion Rate
Basic Statistics (5)	Statistical Way of Thinking (17h) Basics of Research Methods(10h) Basics of Sampling Theory (14 h) Industry Classification (14h) Job Classification(14h)	ALL	Essay-based Task Evaluation	80%
Advanced Statistics (6)	Statistical Analysis Using SPSS (30h) Statistical Analysis Using Excel (14h) Understanding the Regression Analysis (20h) Time-series Analysis and Practice (16h) Understanding the Financial Statements (20h) SAS through Examples (20h)	ALL	Essay-based Task Evaluation	70%
Statistical Survey Guidelines (12)	Mining and Manufacturing Trends I & II (16h) Analysis of Service Industry Trends (6h) Consumer Price Index (9h) Economic Activity Population Survey (6h) Survey of Household Trends (9h) Survey of Population Trends (6h) Survey of Agricultural Economy (21h) Survey of Fishery Economy (11h) Survey of Agricultural Production Trends (8h) Survey of Fishery Production Trends (8h) Survey of Land Size Statistics (7h) Survey of Livestock Trends (6h)	KOSTAT Survey-related staff	Multiple choice-based Random Questions	90%
Open	Survey of Corporate Activities (4h) Power Point 2007(30h) Hangul 2007(10h) Practical Power Point Through Examples(15h) Statistical Laws and Institutions(4h) Basic Statistical Research of Business Enterprises(17h) Computer Usage Capability (17h) Survey Methodology (4h)	ALL	None	

The e-learning programs use the LMS (Learning Management System), and proceeds from the course application to confirmation of list of trainees, course taking, evaluation and completion. Completion is determined applying 60% of progress and 40% of evaluation. A trainee who has failed to complete a course is prohibited from taking another e-learning course for the next three months. The number of homework reports is determined based on the principle of one

essay per 10 hours, and the instructor grades the presented essays to evaluate the trainees study progress. Also, to enhance the study efficiency, the number of study sessions a trainee can take is limited to four, and a trainee may take only one topic a month.

The contents for the e-learning programs are developed through outsourcing as well as other government organizations by means of joint usage. Regular courses are usually created through outsourcing, and it normally takes 3 - 6 months to assemble a course. Contents are made in light of educational engineering considerations, content delivery and user interests, and related contents specialists invest huge amount of time in the development. Recently, quality control has become a major issue: How to assure that the contents are error-free throughout the entire course of content creation, modification and changes.

The e-learning programs offer convenience. But, they also pose problems such as low control, low level of completion, difficulties in fair evaluation, and low level of educational efficacy. At the STI, we try to overcome such shortcomings through the following efforts. First, we have adopted the "Seven Touch" principle, which requires at least 7 introductions and encouragements through e-mail messages and SMS, beginning before the first session of the formal training and continued throughout the length of the course. This method substantially raises the completion rate, as the training operator shows persistent interests in the progression of trainees. Second, we strive to enhance the level and efficiency of evaluation through, for example, problem solving-type reports that require trainees to solve different problems on the same subject topic. It augments the effect of learning, because the trainees solve the problems personally before presenting the results. Third, we supplement the e-learning through "Blended-Learning". Finally, we have automated all steps of the courses such as the introduction, participation, question and answers, and evaluation within the system to increase the operational efficiency of the e-learning programs.

4. Conclusions

The major mission of the Statistical Training Institute is to develop the statistical competency of KOSTAT staff. In order to fulfill the mission, the STI establishes primary training needs through KOSTAT policies of recruitment, development, and performance management of human resources, which are also influenced by the overall policies of the Korean Government. Most of all, obligatory courses, management performance, and new development policy compelled KOSTAT staff to take courses in the STI. In addition, the STI also locates training needs mainly through a range of surveys, open discussions, and formal and informal networks with professional groups.

The STI offers various courses for public officials. In addition, new formal programs have been introduced in particular categories for staff to broaden their knowledge and skills: A long-term (3 hours per week, 16 weeks or longer) courses to develop job competency on a graduate school level, which is organized with a small number of trainees applying rigorous diagnosis and evaluation. Currently, the STI offers six long-term specialized courses on survey planning, sample design (I and II), population projection, economic time series analysis, and handling non-response data. Additional courses will be provided next year. After the successful completion of the specialized courses, the trainees will be given special assignment to achieve professionalism of KOSTAT.

Through e-learning programs, the STI provides a variety of contents especially to KOSTAT staff of local offices so that trainees may study at anytime, anywhere, which encourages voluntary and self-motivated study among trainees. IT development has contributed to the progress of our statistical training including an e-learning system. But, a challenge has arisen in response to the rapid IT developments: the involvement of external IT experts as much time is needed to train staff in certain applications. Therefore, the STI obtains professional skills by both contracting in experienced staff and by outsourcing work mainly for advanced IT related contents and statistical packages.

While it is helpful for acquiring theoretical knowledge in universities, a challenge remains as post graduate courses offered by universities have limitations in providing useful practical skills with new KOSTAT staff who are actually involved in producing and disseminating statistics. Thus, we plan to introduce the credit bank system, and to establish Official Statistics Institute which will offer Master's degree courses in which the training results can be linked with KOSTAT in order to improve the statistical competency of individuals as well as the organization. These plans also focus on support of self-motivated study of participants and further development of the pool of specialists. The culture of solid professionalism and ample training opportunities will help retain qualified staff in the organization. Training is the key to the success.

References

Statistical Training Institute, 2010, *Evaluation Report of Training in 2009.*
Statistical Training Institute, 2010, *Training Plan in 2010.*

Appendix. Samples of Survey Questionnaires

1.1. Training Course Completion Survey

Item no.	Question
1	What is your Gender?
2	What is your age?
3	Where do you belong to?
4	How long have you worked in the field of Statistics?
5	(Only for officers of Statistics Korea) What is your position?
6	Why did you participate in this course?
7	To what extent have you participated in this training course?
8	After completing the course, how satisfied are you with it?
9	How much do you think the course will help your work and your self development.
10	Do you think the content and organization of the course subjects were appropriate?
11	What educational achievements have you obtained from this course? (Multiple selection possible)
12	To what extent have you known about the course before you entered the training program?
13	To what extent have you understood the content of the training program?
14	Do you think the length of the training program is appropriate?
15	(Please select your perception regarding the following Items) Training Management · Progress
16	Cafeteria & Meal
17	Accommodation & Facilities
18	Lecture Room · Computer Laboratory · Discussion Room
19	Faculty Hospitality. If you have any recommendations related to accommodation and training administrative support, describe it.
20	(Please select your perception regarding the training method used in STI) Divided Discussion Presentation
21	Case Study Presentation
22	Cultural Tour & Field Trip
23	Liberal Arts Program (including Visual and Auditory programs)
24	To what extent did the cyber education prior to the course help you?
25	Do you think that the cyber education courses are selected appropriately?
26	Recommendations for improvement of the training program (*Please describe as freely as you want)
27	Impression of the Statistical Training Institute (*Please describe any compliment, dissatisfaction, or satisfaction you had during the program)

1.2. Survey on E-learning Course

Item no.	Question
1	What is your Gender?
2	What is your age?
3	Where do you belong to?
4	How long have you worked in the field of Statistics?
5	(Only for officers of Statistics Korea) What is your position?
6	Why did you participate in this course?
7	To what extent have you participated in this training course?
8	After finishing, how satisfied are you with the course?
9	How much do you think the course will help your work and your self development?
10	Do you think the content and organization of the course subjects were appropriate?
11	What educational achievements have you obtained from this course? (Multiple selection possible)
12	To what extent have you known about the course before you entered the training program?
13	To what extent have you understood the content of the training program?
14	Do you think the length of the training program is appropriate?
15	Did the system operate stably?
16	How satisfied are you with the learning contents?
17	During the training program, have you referred to additional materials besides the training content?
18	To what extent did your training administrator provide appropriate training guidance?
19	To what extent did the instructor show interest in the learning process and answer to questions appropriately?
20	To what extent did the content of the assignments help you understand the learning content?
21	To what extent do you think that the level of difficulty of the assignments is appropriate?
22	Impression of the Statistical Training Institute(*Please describe any compliment, dissatisfaction, or satisfaction you had during the program)
23	Recommendations for improvement of the training program (*Please describe as free as you want)

1.3. Survey on Curriculum Design of the STI for 2011

Item no.		Question
1		How many times did you participate in a STI training program operated from July, 2009 to June, 2010 for 2 or more days?
2		(Training Need Question) STI divides training fields in the following way. What is the field you currently need the most?
3		If there is a course that you recommend to be newly established in STI, please describe the course name and the appropriate course length for it(in days).
4		If there is a course that you recommend to be cancelled in the STI's courses, please describe the course name.
5	1	How long do you think is an appropriate length of a statistics course?
5	2	How long do you think is an appropriate length of an economics course?
5	3	How long do you think is an appropriate length of a social course?
5	4	How long do you think is an appropriate length of a information course?
5	5	How long do you think is an appropriate length of a survey course?
5	6	How long do you think is an appropriate length of a administrative/office course?
5	7	How long do you think is an appropriate length of a leader competency course?
6		If the STI operates a long-term course to nurture statistical professionals, will you participate in it? (Professional nurturing courses in 2010 : Sample design I, Sample design II, Economy Time Series Analysis, Missing data processing & analysis, Survey project(questionnaire design)
6	1	If you are willing to participate, please write the course you want to participate in.
6	2	How long do you think is an appropriate length of a Professional nurturing course? (Universities are teaching 3 hours a week, for 16 weeks, which is a total of 48 hours in a semester)
6	3	How should the time schedule of the Professional nurturing course be organized?
7		If the STI establishes and operates a Night time class, will you participate in it?
7	1	If you are willing to participate, please write the course you want to participate in and the desired length of the course (based on 3 hours a day) (Ex: Basic Excel / 5 days, Index Theories / 4 days, etc) Night courses in 2010: Excel basic, PowerPoint, English Presentation and Composition skills, Basic Chinese
8		If the STI establishes and operates a weekend class, will you participate in it?
8	1	If you are willing to participate, please write the course you want to participate in and the desired length of the course (based on 3 hours a day) (Ex: Written exam of social survey analyst (level two)/10 days, PowerPoint/7 days, etc) Weekend courses in 2010: Social survey analyst Written exam & Practical (level two), Social survey analyst Practical exam(level one)
8	1	How should the time schedule of the weekend course be organized?
9		(Only for Regional Statistics Officers, Statistics Korea Officers should go to item 10) Please write a course that you want to participate in which is specialized for regional statistics officers and the desired length of it. *more than 1 is possible(Ex: _____ course / 12 hours)
10		What is your opinion about the current number of mandatory participation?

10	1	If you answered 'deficient' or 'sufficient', which courses should be included or excluded? (ex, included: _____ course, excluded _____ course)
10	2	What is your opinion about the evaluation of the mandatory participation?
10	3	If the mandatory participation policy should be revised or supplemented, to what direction should it be changed?
11	1	Cyber education is composed of professional statistics courses and survey guidelines. If you have any opinion about the professional statistics courses, please write it down.
11	2	If you have any opinion about the survey guideline courses, please write it down.
12		If you have any opinion about the Statistical Training Institute, please write it down.
13. 1.		What is your organization?
2.		What is your position?
3.		What is your gender?
4.		How long have you worked in Statistics Korea?
Thank you for your comments!		