Designing Nuclear Nonproliferation and Security International Training Course Demand Survey

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1. Introduction

The Republic of Korea (ROK)'s International Nuclear Nonproliferation and Security Academy (INSA), inaugurated in 2014, has been offering a wide range of International Training Courses (ITC) to build the nuclear nonproliferation and security capacity of the ROK's partner countries and nuclear newcomer states.

For the past ten years, INSA has identified the need to develop a course through internal consultancy meetings with regulatory experts in the Korea Institute of Nuclear Nonproliferation and Control (KINAC) and other experts in academic institutions or international organizations such as the International Atomic Energy Agency. Some courses were developed following bilateral meetings with partner countries to accede to their requests. As such, identifying the nuclear nonproliferation and security training course depended on irregular and subjective assessment.

Since INSA has marked its tenth year of operation, it has accumulated a significant number of graduates and partners who can share their experiences and return meaningful feedback. Therefore, this study suggests designing and conducting a survey to collect data and analyze the results to draw out a way forward for INSA to plan its future ITCs.

2. Background Study of INSA's ITCs

Before designing the survey, the questionnaire should be drawn from INSA's experience in the past ten years of ITCs.

2.1 Courses

The objective of INSA is to serve as a Centre of Excellence for developing nuclear nonproliferation and security human resources and to operate education and training courses for the ROK to contribute to establishing global regulatory infrastructure as a responsible nuclear supplier state. Following this objective, INSA has developed courses covering various themes and levels, mainly through the cooperation of the ROK-United States (US) Permanent Coordinating Group (PCG). Today, INSA has 11 thematic courses and also runs customized courses, which are tailor-made to meet the international community or ROK's partners' specific demands.

Table I: INSA ITCs

Area	Courses
Nuclear Security	-Nuclear Security Infrastructure Development -Physical Protection System Elements -Security Contingency Plan -Fundamentals of Cybersecurity at Nuclear Facilities -Cybersecurity for Physical Protection Support Personnel at Nuclear Facilities
Safeguards	-Fundamentals of Nuclear Safeguards -Provision of Safeguards Information to the IAEA -Strengthening State Safeguards Regulatory Authority
Export Control	-Introduction to Strategic Trade Controls -Licensing Systems for Strategic Trade Controls -Strategic Trade Control Enterprise Outreach
Customized	-Nuclear Nonproliferation and Security

As of August 2024, INSA delivered a total of 35 ITCs, among which 19 were on the nuclear nonproliferation theme, 12 were on nuclear security, and 4 were customized courses. Usually, the annual ITC plan is determined through consultations with stakeholders such as the KINAC experts, the Nuclear Safety and Security Commission (NSSC), and PCG partners.

Fig. 1. Number of delivered INSA ITC from 2014 to 2024 by theme

2.2 Trainees

INSA adopts an official process of nominating trainees through diplomatic channels. As INSA completes planning the course, it sends the request to distribute the call for nomination of trainees to the Ministry of Foreign Affairs (MOFA) via NSSC. Then, the MOFA distributes to its overseas embassies, and embassies contact related organizations to gather information about candidates. Once the country of residence completes the nomination, it is forwarded to INSA, and INSA reviews the candidates' information to confirm their participation. This process is particularly beneficial in securing the identification and qualification of trainees. The downside would be that if the country of residence does not have an organization dedicated explicitly to nuclear nonproliferation and security, potential candidates interested in developing their capacity in the nuclear nonproliferation and security field may be hidden in blind spots.

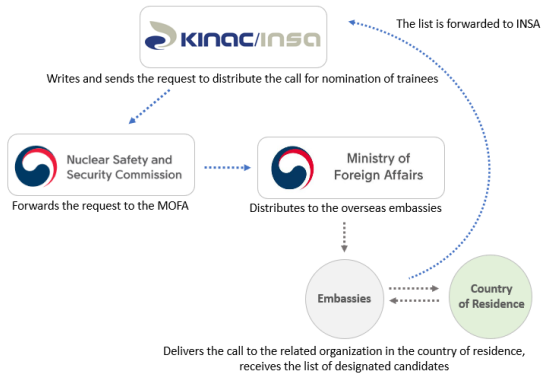

Fig. 2. Process of nominating trainees

So far, 604 trainees have participated in INSA ITC through this nomination process [1], and the majority of them are from Asia, which is presumed to be due to its geographical proximity to the ROK. However, the number of trainees from the Middle East is also notable, and it can be explained by the participation of the United Arab Emirates (UAE), which imported the ROK's nuclear power plants.

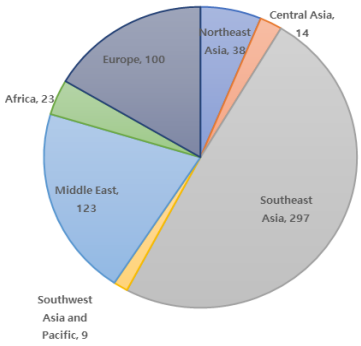

Fig. 3. Number of INSA ITC trainees by region from 2014 to 2024, by theme

3. Designing Survey

Based on the study of the history of INSA ITC operation, the survey questionnaire can be designed considering the following elements.

2.1 Purpose, method, and target of the Survey

The survey will be distributed to the INSA ITC graduates, and the initial recipients will be approximately 500. The survey can be forwarded within their network and is expected to reach at least 1,000 recipients to collect data that can help determine the demands of potential trainees for the INSA ITCs.

The survey will be developed on an online platform, such as Google Form, Typeform, or SurveyMonkey, and the link will be sent out by emails that the graduates provided in their nomination form, and they will be asked to forward the survey to their supervisors and colleagues.

2.2 Questionnaire

The questions should help identify the demands of future trainees. The survey will allow us to analyze various elements that affect the trainees' participation in INSA ITC. The survey should collect the trainees' profiles, such as their nationality, gender, age, type of employer, and history of their ITC participation. Then, the survey can ask about the trainees' experience with INSA ITC. Moreover, the respondents will answer questions regarding the future demands of the ITC. An informative note of INSA ITC can be provided along with the questionnaire to help and remind the recipients to understand the background of the survey.

Table II: Model Survey Questionnaire

Survey on International Nonproliferation and Security Academy (INSA) International Training Courses (ITC)

Introduction

Purpose
The purpose of the survey is to collect information on INSA ITC graduates' opinions on INSA ITC. The collected data will be utilized to identify the demands of future trainees, determine areas for improvement, and plan future INSA ITCs.

Methodology
The survey is distributed to INSA ITC graduates' emails, which were provided to INSA through their submission of the nomination form. The recipients of this survey are encouraged to respond to the study for an enhanced education and training program of INSA for global nuclear nonproliferation and security capacity-building. The recipients can also forward this survey to their supervisors, colleagues, or others who wish to contribute to this data collection.

Data Utilization
The survey will be conducted anonymously; however, the recipients are encouraged to provide some of their profiles, which will help INSA analyze the dynamics between data. The collected data will be analyzed under various criteria, and INSA will produce an analysis report. The report may be publicized at academic conferences or by any other form of publication.

Acknowledgment
INSA expresses its most profound appreciation for your participation in this survey.

Questionnaire	
Profile of the respondent	
1. Nationality	
2. Gender	Male / Female / Prefer not to answer
3. Birth Year	
4. Type of Current Employer	Government / Public Institution / International or Regional Organization / Public Enterprise / Private Enterprise / Unemployed
5. Graduate of INSA ITC	Yes / No
6. Which areas of expertise do you perceive as your biggest strength?	Technical knowledge and skill / Administration / Management / External Relations / Research and Development
7. What would be the most critical area of expertise to carry out your duty?	Technical knowledge and skill / Administration / Management / External Relations / Research and Development
8. What would be the most critical skill set for carrying out your duty?	Scientific Experimentation / Report Writing / Communication / Planning and Coordination / Budget Management
Questions for INSA ITC graduate respondents	
1. How many times have you participated in INSA ITC?	
2. Which thematic course did you participate in?	Nuclear Security / Safeguards / Export Control / Other
3. What are the reasons you chose to participate in INSA ITC?	Reputation / Recommendation / Location / Programme / Facility / Other
4. How would you rate your overall satisfaction level with INSA ITC?	Scale of 0 to 10
5. How useful was INSA ITC for you to gain practical knowledge so that you could carry out your duties?	Scale of 0 to 10
6. Which elements of the INSA ITC did you find most useful?	Lectures / Exercise / Technical Visit / Discussions and Q&A
Questions for non-INSA ITC graduate respondents	
1. Have you heard of INSA ITC?	YES / NO
2. Do you think INSA ITC was helpful for your colleague/employee? Did they gain useful knowledge to carry out their duty?	Scale of 0 to 10
3. Have you ever participated in any ITC?	YES / NO
4. How would you rate your overall satisfaction level with other ITCs?	Scale of 0 to 10
5. Which elements of other ITCs did you find most useful?	Lectures / Exercise / Technical Visit / Discussions and Q&A
Questions for all respondents	
1. Would you recommend INSA ITC to others, or are you interested in participating in INSA ITC?	Yes / No
2. Why would you / would you not recommend/participate in INSA ITC?	Reputation / Recommendation / Location / Programme / Instructors / Technical Visit / Network of Fellow Trainees / Other
3. If you would recommend INSA ITC, to whom would you reach out?	Students / Junior Professionals / Colleagues / Government Officials / Regulators / Nuclear Facility Operators
4. Which theme would you recommend/be interested in?	Nuclear Security / Safeguards / Export Control / Other
5. Within the themes, what elements would you / others be interested in learning?	
6. What would be the areas that INSA should reinforce/develop for better ITC?	
7. Please provide any other comments	

4. Conclusion

Over the past ten years, INSA's duty has been to dedicate itself to its growth through developing courses, training and securing instructors, establishing a structure for operation, and promoting its presence to the international community. As it enters the maturity stage, INSA needs a more systematic and scientific approach to efficiently and effectively fulfill its mission. The survey will provide an initial data collection to provide insight for INSA to access its past and design a way forward.

REFERENCES

[1] KINAC/INSA, Statistic of INSA ITC from 2014 to 2024