

SKILLS EVALUATION SYSTEM
PROMOTION PROGRAM (SESPP)

**REPORT ON THE TRAINING SESSION
IN CAMBODIA**

Expert	Mr. INAGAWA Fumio (SESPP Secretariat Technical Advisor)
Period	Monday, December 15th ~ Friday, December 19th, 2025
Venue	National Polytechnic Institute of Cambodia (NPIC) Phnom Penh City, Kingdom of Cambodia
Training course	Skills Evaluation Method (SEM)
Trade & Grade	Mechanical Inspection, Grade 2

January, 2026

Outline of Results

1. Number of participants

<SEM>

Participants: 16 / Completed participants: 14

2. Schedule

Date & Time	Content
December 15th (Monday) 8:30 - 16:30 (All local time)	[Skills Evaluation Method (SEM)] (1) Explanation of the training schedule (2) Procedures leading to assessor certification • Explanation of the certification criteria for certified assessors (3) Structure and passing criteria of the Mechanical Inspection Grade 3 and Grade 2 test questions (theoretical test and practical test) (4) Standard and details for Mechanical Inspection • Explanation of the scope and details of Grade 3 and Grade 2 subjects related to the theoretical and practical test questions (5) Challenge exercise on Grade 3 theoretical test questions • Instructed the participants to answer the questions and indicate from which details items each question is derived. • Explanation of the questions and review of the details items from which each question is derived. • Explanation of the knowledge related to the Grade 3 theoretical test questions
December 16th (Tuesday) 8:30 - 16:00	[Skills Evaluation Method (SEM)] (1) Explanation of Grade 3 theoretical test questions, review of the details items from which each question is derived, and explanation of related knowledge (continuation from the previous day) (2) Challenge exercise on Grade 2 theoretical test questions • Instructed the participants to answer the questions and indicate from which details items each question is derived. • Explanation of the questions and review of the details items from which each question is derived. • Explanation of the knowledge related to the Grade 2 theoretical test questions. (completed the explanations of True/False questions, review of the details items from which each question is derived, and explanation of related knowledge.) • Assigned the homework due the following morning to answer both multiple-choice questions and from which details items each question is derived, and explained the procedure for the next day's training.
December 17th (Wednesday) 8:30 - 16:30	[Skills Evaluation Method (SEM)] (1) After participants answered the multiple-choice questions, review of the details items from which each question is derived, and explanation of related knowledge. (2) Grouping participants into pairs (forming 7 groups) and conducting an exercise on test question development • Explanation of key points in developing test questions • Each group to develop 5 True/False questions and 5 multiple-choice questions • Instructed how to fill in both the correct answers and the details items from which each question is derived • Instructed each group to present the theoretical test questions they had developed by displaying the content entered on a PC using a projector.

December 18th (Thursday) 8:30 - 17:00	[Skills Evaluation Method (SEM)] (1) Test question development exercise (continued from the previous day) (2) Presentations of test questions developed by each group - Reviewed the appropriateness and level of difficulty of the test questions and revised them into appropriate questions by all the participants after the presentations. (3) Explanation of sample question 1 of the planning work test - Presented a sample question in which the length L was to be calculated using 1 measuring roller and a micrometer, applying the Pythagorean theorem and trigonometric functions. - Explanation of how to write the measurement procedure, how to write explanatory diagrams, and formula for finding the length L.
December 19th (Friday) 8:30 - 12:00	[Skills Evaluation Method (SEM)] (1) Exercise and explanation of sample question 2 of the planning work test - Presented a sample question in which the angle θ and the length L were to be calculated using 2 measuring rollers and a micrometer, applying the Pythagorean theorem and trigonometric functions ($\tan \theta$). - Participants to describe the work procedure, explanatory diagrams, and the formulas for finding the angle θ and the length L. (2) Exercise and explanation of sample question 3 of the planning work test - Presented a sample question in which the angle θ and the length L were to be calculated using 2 measuring rollers, a lever-type dial gauge, and block gauges, applying the Pythagorean theorem and trigonometric functions ($\sin \theta$). - Participants to describe the work procedure, explanatory diagrams, and the formulas for finding the angle θ and the length L. (3) Wrap up - Completion of the questionnaire.

3. Review

- After explaining the method for developing theoretical test questions based on the standard and details for Mechanical Inspection, I divided the participants into 7 groups (each consisting of 2 members) and conducted an exercise on developing theoretical test questions. Each group developed 5 True/False questions and 5 multiple-choice questions. The developed theoretical test questions were then presented, and I reviewed their content together with all participants. As a result, the test questions developed by one group were of a quality that could be used as theoretical test questions without any revision. In addition, approximately 60% of the developed questions became usable after some revisions. Overall, I felt that the participants had achieved a certain level of competence in developing theoretical test questions.
- On the other hand, the participants commented that topics related to quality control, such as quality control issues, the 7 QC tools, and control charts, were difficult, as these subjects are not usually covered in their regular classes. However, I explained that these fields are regarded as important in manufacturing workplaces and constitute essential knowledge for both skilled workers and engineers. As various reference materials are available online, I advised the participants to first obtain and study easy-to-understand introductory materials.
- Some of the questions in the planning work test of the Mechanical Inspection Grade 2 practical test require solving geometrical and mathematical problems using trigonometric functions and the Pythagorean theorem. These questions also posed a high hurdle for the participants. I presented 3 basic sample questions and asked the participants to attempt to calculate the angle θ and the length L ; however, only 5 out of the 12 participants were able to solve the problems without hints. Therefore, I provided explanations for each sample question, including how to write the measurement procedures, how to write explanatory diagrams, and the formulas for finding the

angle θ and the length L. After that I assigned them to do homework on completing the planning work test questions by the first day of the Mechanical Inspection Grade 2 Skills Assessor Training (SAT) course scheduled to be held in February 2026. I believe that supplementary sessions will be necessary in the next Mechanical Inspection Grade 2 SAT course to help the participants overcome their weak areas.

4. Questionnaire Results

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◆ Participants: 14 (Respondents: 14) (* 5-point rating scale)

Satisfaction level:	Very satisfied = 9	Satisfied = 5
Usefulness level:	Very useful = 9	Useful = 5
Needs of continuation:	Must continue = 10	Should continue = 4

[Most significant program]

- Verification of accuracy in equipment setup
- Preparation of test questions for evaluation
- Measurement techniques
- Procedures for using measuring equipment
- Calculation of object diameter and measurement methods
- Planning work test questions
- Group work on test question development
- Calculation methods using measuring instruments
- Development of theoretical test questions
- Methods for calculating angle θ , height H, and length L
- The overall training program (2)
- Practice of test questions
- Measurement methods and formulas using mathematics

[Improvements and proposals]

- I found that the training room was not a suitable environment for measurement work. (It was extremely hot.)
- I would like to request more hands-on practical training using measurement equipment.
- I would also like to request training related to quality control.
- After the completion of this training, I hope that new training programs will be implemented for the benefit of the next generation.

[Opinions, comments, and preferred trades for the future]

- Defect inspection of welded parts
- Training in mechanical measurement
- Mechatronics (4)
- CAD/CAM
- Machining {Turning, Milling, and machine tool inspection (flatness, parallelism, roundness, etc.)}
- Design and material science (Material Science)
- Request for information on measuring instruments
- Desire to conduct evaluations of assembly machinery
- Skills Evaluation Trial (SET) for Mechanical Inspection
- Training to become a specialist in mechanical measurement and machining
- Requests for Grade 1 Mechanical Inspection training and new training programs using more precise tools and equipment

◆ Manager: 1 (Respondents: 1) (*5-point rating scale)

Needs of continuation: Must continue = 1

[Improvements and proposals]

· None in particular

[Opinions, comments, and preferred trades for the future]

· None in particular