Evaluating Effectiveness and Impact of Safety and Health Training Delivered Using Distance Learning During the COVID-19 Pandemic

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RAPID TRANSITION TO DISTANCE LEARNING

March 2020 COVID-19 was Declared a Pandemic

Immediate Need for Worker Training on COVID-19

Designing and Delivering Training in REAL TIME

Transition to Health and Safety Training using Distance Learning

Evaluating Effectiveness of Worker Health and Safety Training

- Comparisons of Face-to-face versus Distance Learning Format on Immediate Training Outcomes
- Effectiveness of Health and Safety Training Delivered During Pandemic to Meet Emerging Safety Needs
- Next Steps for Distance Learning in Health and Safety Training
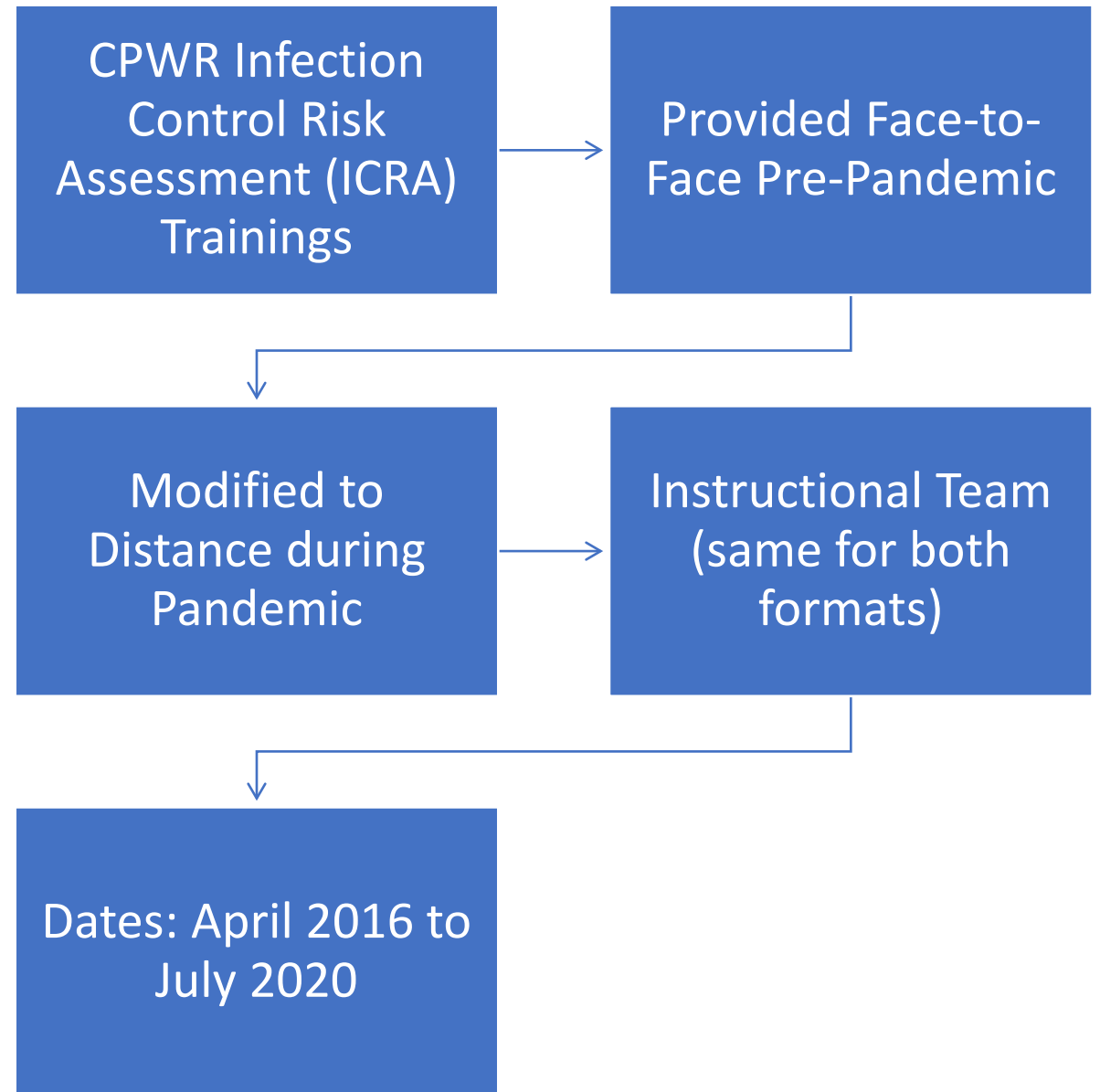
Study 1

Face-to-Face
vs
Distance Learning
for Health and Safety
Training

Infection Control Risk Assessment (ICRA) Awareness Courses

- ICRA Awareness course prepares workers to perform construction, renovation, maintenance and demolition activities in healthcare facilities

- Involves active learner participation: case studies, lectures with discussion, demonstrations and hands-on activities to engage learners

- Pre-pandemic: 8-hour (Face-to-face)

- During pandemic: Revised to 6-hour that includes 1-hour COVID-19 and the Construction Industry Awareness Training (On-line)

Courses Selected for Comparisons

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┌─────────────────────┐        ┌─────────────────────┐
│  CPWR Infection     │───────▶│  Provided Face-to-  │
│  Control Risk       │        │  Face Pre-Pandemic  │
│  Assessment (ICRA)  │        │                     │
│  Trainings          │        │                     │
└─────────────────────┘        └─────────────────────┘
                                          │
          ┌───────────────────────────────┘
          ▼
┌─────────────────────┐        ┌─────────────────────┐
│  Modified to        │───────▶│  Instructional Team │
│  Distance during    │        │  (same for both     │
│  Pandemic           │        │  formats)           │
│                     │        │                     │
└─────────────────────┘        └─────────────────────┘
                                          │
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┌─────────────────────┐
│  Dates: April 2016 to│
│  July 2020           │
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Evaluation of ICRA Awareness Courses

CPWR Training Course Evaluation (26 items)

Immediately following training

Effectiveness
- Instructor(s)
- Teaching Methods/Materials
- Overall

Learning
- Training-related Knowledge/Skills

Comparisons of
- ICRA Awareness 8-hr (Face-to-Face)
- ICRA/COVID-19 Awareness 6-hour (Distance)

Were There Differences in Effectiveness and Learning?

Face-to-Face ICRA Awareness (8-hr) with Distance ICRA/COVID-19 Awareness (6-hr)

Face-to-Face reported significantly higher ratings of EFFECTIVENESS:

- Instructors
- Teaching Methods and Materials
- Overall

- BUT no significant differences in LEARNING (Knowledge/Skills)

Face-to-Face ICRA (8hr) with Distance ICRA-COVID-19 (6hr)
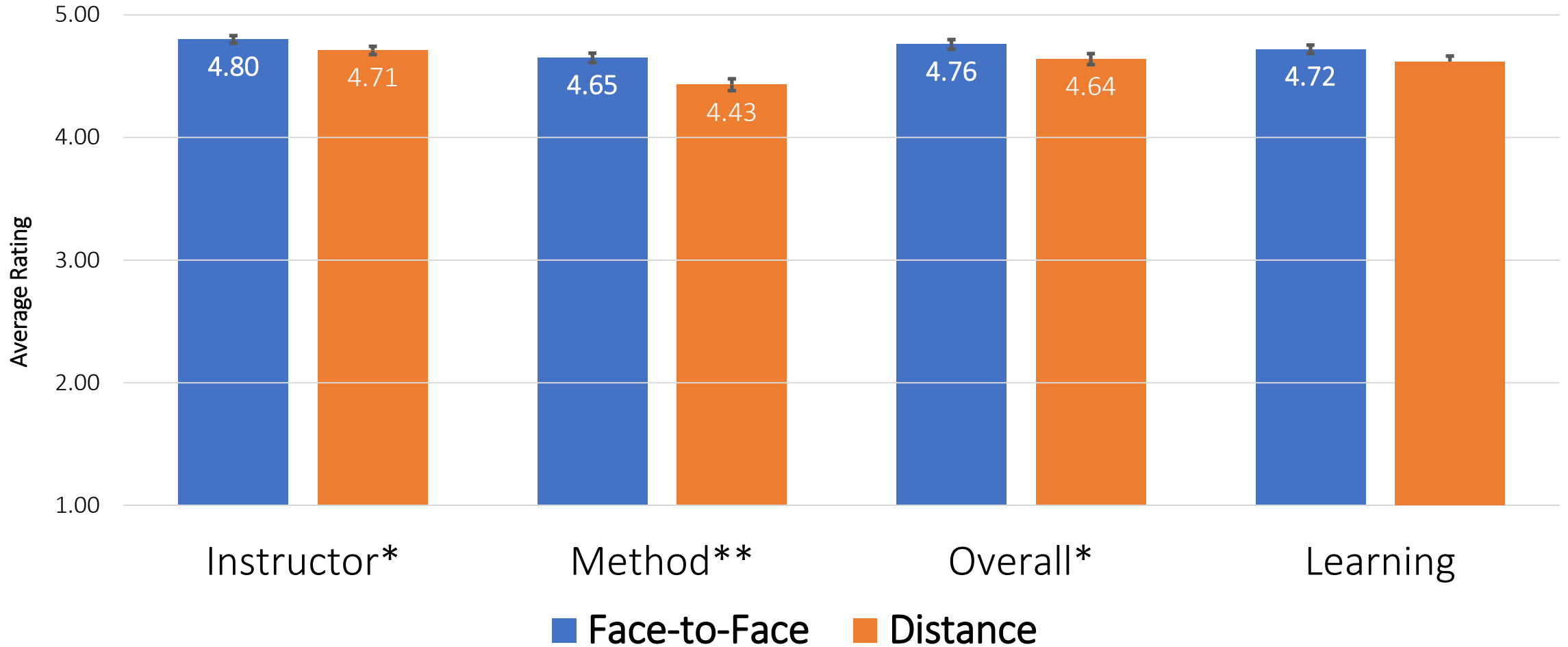
Study 2

Effectiveness of Distance Learning on Longer-term Outcomes

Effectiveness of Occupational Health and Safety Training Delivered During the Pandemic

- Designed and Delivered in Real Time to meet Worker Needs
- Trainings:
  - COVID-19 and the Construction Industry Awareness Training (1-hour)
  - ICRA/COVID-19 and the Construction Industry Awareness Training (6-hour)
- Delivery: Distance (Synchronous, On-line Format)
- Respondents:
  - Trainees (Members, Trainers, Union Representatives)
  - CPWR Instructors
- Evaluation: On-line, September 2020

CPWR Distance Learning Evaluation

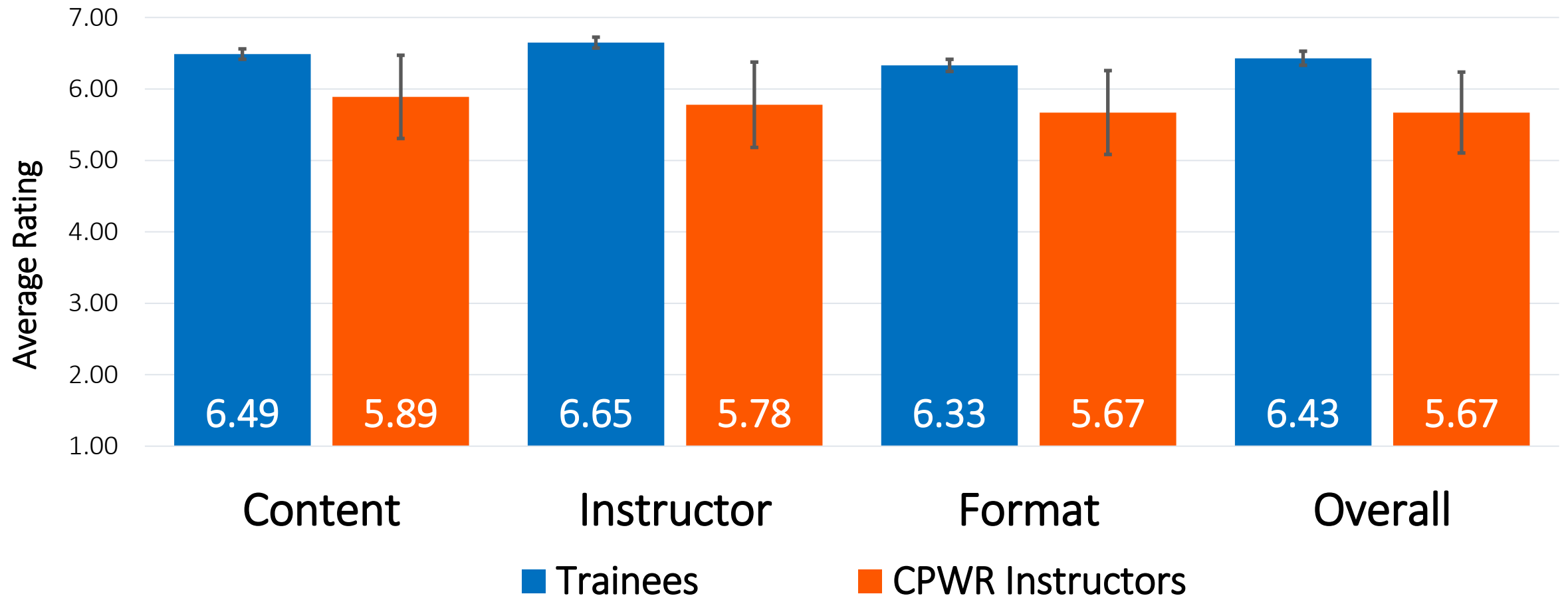## Training Effectiveness

1. On-line Questionnaire: Instructors, Trainees
   - Instructor
   - Content
   - Format
2. Semi-Structured Interviews: Instructors

Learning/Performance

1. On-Line Questionnaire: Trainees
   - Learning (CPWR Training-related Knowledge/Skills)
   - Performance on-the-job
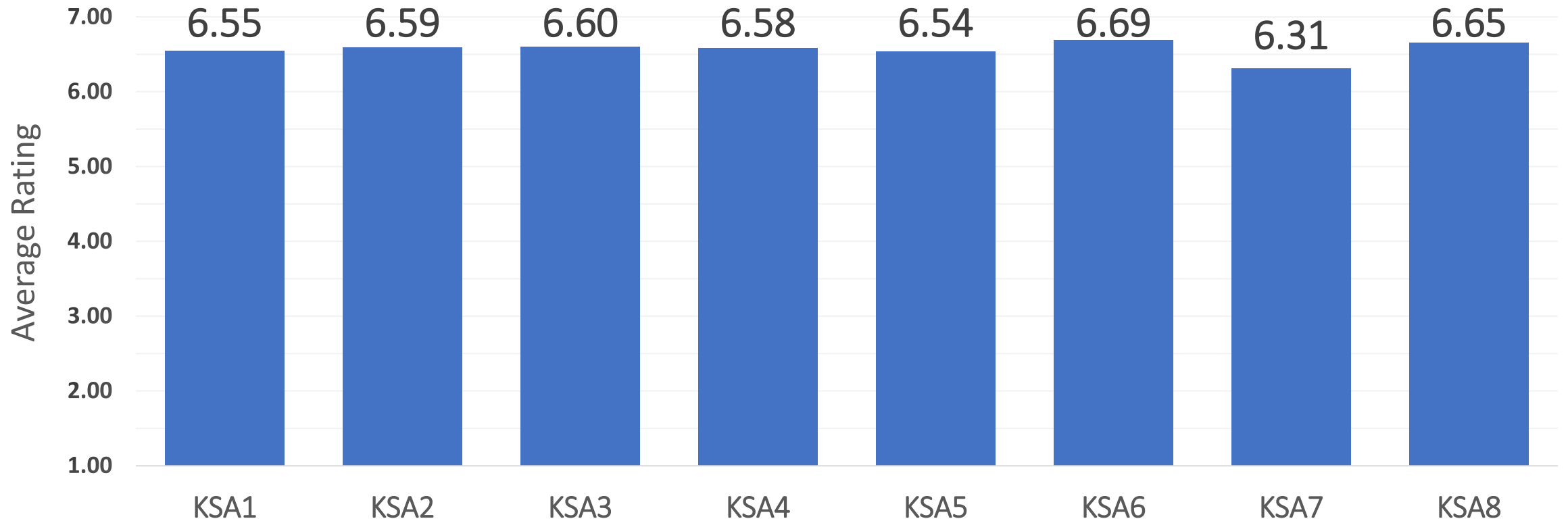   - Support on-the-job

Training Effectiveness

Ratings of Training Effectiveness

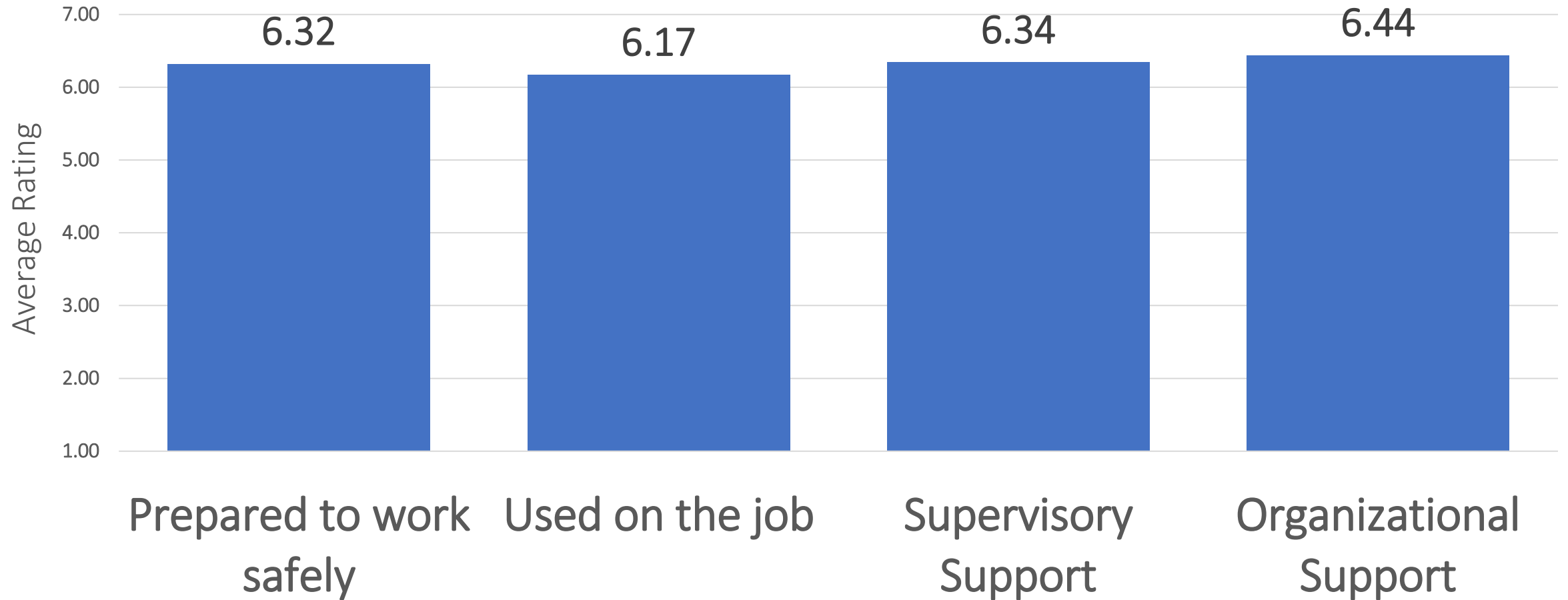# Learning Outcomes:
Maintenance of Learning

Participants' Learning: 6 months later

Bar chart showing Average Rating for Safety-related Knowledge, Skills, and Abilities:
KSA1: 6.55, KSA2: 6.59, KSA3: 6.60, KSA4: 6.58, KSA5: 6.54, KSA6: 6.69, KSA7: 6.31, KSA8: 6.65

Safety at the Workplace

What was Most/Least Valuable about the Distance Learning?

Comments from Trainees and CPWR Instructors

Instructor expertise
Use of synchronous on-line platform (Zoom)
Content/Application to the workplace
Interaction/discussions/breakouts/polls
Shift to distance learning (Safety/Flexibility)

MOST Valuable

Face-to-face more effective (Gold Standard)
Challenges in using hands-on
Technical issues
Limited ability to read non-verbal cues
Need Resources for Using Distance Learning

LEAST Valuable

Best Practices for Using Breakout Rooms

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Breakout rooms add another dimension to the distance learning experience by increasing interaction between trainees during a session. Just like polling, Kahoot!, and Quizlet, breakout rooms keep the learners engaged throughout the training by simulating in-person small-group exercises. Breakout rooms also offer another way for the trainer to measure the level of understanding among trainees. The following are some helpful practices to consider when going into breakout rooms. Read more at www.cpwr.com/distance-learning-report.

Set expectations at the beginning of the breakout exercise

Provide an overview of the exercise and expected outcomes of the breakout session. This can include what the trainees will see on their screens during the breakout session.

Include a mix of participants for each breakout session

If possible, select trainees with different levels of expertise and experience for each breakout room to ensure differing perspectives in the discussions. Ideally, create groups of at least 3 and no more than 8 people.

Provide clear instructions for the breakout activity

Define the specific tasks and goal for the activity so that trainees are be able to stay focused on that goal during the breakout session.

Assign a facilitator for each breakout room

Depending on the activity, each group should designate roles for the activity such as a facilitator to lead activities, notetaker to capture discussion points, and reporter to share key findings from the breakout session.

Announce the expected duration of the breakout session

By giving a time frame for each breakout session, trainees can better manage their time and prioritize the activities or discussion points.

Indicate how trainees can get help, if needed, during the breakout session

Instructors and co-instructors should provide a mechanism to help trainees with questions or technical difficulties once they have joined the breakout session.

Monitor the breakout sessions

Instructors should circulate throughout the breakout groups as trainees complete the breakout activity to ensure that trainees are on-task and provide guidance and additional instruction as needed.

2/2021

Distance Learning for Health and Safety Training

➢ Preliminary evidence of using the **distance learning format** to successfully deliver **health and safety training** designed in **real time** in response to a **pandemic**

➢ **Strategic decision-making** regarding use of distance technology to **improve health and safety training systems**

➢ Research is needed to identify **key trainee characteristics** and **training features** using various formats and content in **integrating into face-to-face offerings** (blended learning, flipped classrooms)

➢ Consider **expanding training outcomes** to include measures of relationships (trust, cohesion, peer support)

Acknowledgements and Additional Resources

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- ***Full report available at:*** *https://www.cpwr.com/wp-content/uploads/RR2021-OHST-distance-learning-COVID.pdf*

- ***Best Practices and Tools and Tips for Trainers available at:*** *https://www.cpwr.com/research/research-to-practice-r2p/r2p-library/other-resources-for-stakeholders/best-practices-for-distance-learning/*

QUESTIONS?

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