

**Joint Institute of Food Safety and Applied Nutrition**

**Good Aquacultural Practices &  
Good Fishing Vessel Practices  
Trainings**

**2013 – 2018 Evaluation Summary**

JIFSAN

3-31-2020



Between 2013 and 2018, the Joint Institute of Food Safety and Applied Nutrition (JIFSAN) delivered 10 Good Aquacultural Practices (GAqP with HACCP) trainings and 8 Good Fishing Vessel Practices (GFvP with HACCP) trainings internationally. Three of the countries are Latin American countries and five are Asian countries.

Almost three quarters of the participants were men. Over 80% of the participants obtained a Bachelor's degree or higher. Almost half of the participants obtained Masters, Doctorate, or professional Degrees. Almost three quarters of them have received previous safety trainings related to seafood or aquaculture. Most of the participants had less than five years of experience in their current profession.

The participants were asked to report all their sectors of employment and primary functions if they have multiple employments. Most of the participants reported to be employed in the public sector. Almost two fifths of them were employed by the national government or central government. About three quarters of the participants reported that they work as inspector, auditor, researcher, laboratory technicians, etc. about 30% of the participants also reported they work as extension officers, program coordinators, and so on.

Nearly three quarters of the participants reported to have at least a moderate level of English proficiency.

The participants were asked about the barriers to Good Aquacultural Practices or Good Fishing Vessel Practices in their country and or in their organization. They were asked to choose from four categories of barriers: workers in the organization (e.g. lack of training, understaffed, etc.) , institutional or legal concerns in the country (e.g. lack of awareness, lack of regulations, etc.), equipment or infrastructure in the organization (e.g. lack of hand-washing facilities, lack of potable water, etc.), and supply chain or infrastructure in the country (e.g. lack of cold storage, lack of approved drugs, etc.). Many participants did not respond to this question. More than half of the respondents of each category reported that factors in the category posed as barriers to Good Aquacultural Practices or Good Fishing Vessel Practices.

Since the GAqP trainings and the GFvP trainings have different teams of instructors, we report participant feedbacks and learning outcomes separately.

### **Good Aquacultural Practices**

Most of the participants were satisfied or very satisfied with different aspects of the training, including the overall training effectiveness, training material, length of training, practical exercises, and instructors. When breaking down to sectors, participants were quite satisfied with most of the sections. In comparison, Section 1 – Aquaculture Production, Hatchery, and Grow-Out received lower satisfaction than other sections.

A small percentage of participants reported difficulty in learning. Lack of relevant experience and language barrier were the most commonly reported sources of difficulty.

Measured by the pre- and post-training knowledge test scores, there was an overall improvement in participant knowledge in Good Aquacultural Practices and HACCP. Most of the participants improved their scores after the training. However, there were a few questions with low percentage (<70%) of correct answers after training, such as question 6, question 12, and question 18.

### **Good Fishing Vessel Practices**

Most of the participants were satisfied or very satisfied with different aspects of the training, including the overall training effectiveness, training material, length of training, practical exercises, and instructors. However, the proportion of satisfied is slightly higher than that of the very satisfied. When breaking down to sectors, participants were quite satisfied with most of the sections.



A small percentage of participants reported difficulty in learning. Lack of relevant experience and language barrier were the most commonly reported sources of difficulty.

Measured by the pre- and post-training knowledge test scores, there was an overall improvement in participant knowledge in Good Aquacultural Practices and HACCP. However, quite a few participants obtained equal or lower score in the post-training tests than in the pre-training test, showing some confusion in learning. The confusion is most likely coming from question 2 and question 13, with higher percentage of participants answering correctly before training than after training. In addition, question 6, question 9, question 11, question 12, question 15, and question 18 all had lower than 70% of correct answers after the training.

JISAN

March 31, 2020

# **JIFSAN'S Good Aquacultural Practices (with HACCP) and Good Fishing Vessel Practices (with HACCP) International Training Evaluation Summary 2013 - 2018**

Between 2013 and 2018, the knowledge tests and questionnaires for GAqP and GFVP trainings were updated several times. The ways these tests and questionnaires were administered also varied from training to training. To combine data from different trainings in this time period and protect participant privacy, we made the following decisions in data cleaning.

First, we do not try to match the pre-training questionnaires, post-training questionnaires, and knowledge tests. As a result, within a training session, there might be participants who did not submit all the documents. For example, a participant may have submitted the pre-training questionnaire and the knowledge tests, but not the post-training questionnaire. As a result, this participant's response will be counted in the participant background summary and the learning outcome summary, but not in the participant feedback summary. In addition, there is one GAqP training in India with only pre-training questionnaires and knowledge tests, but without post-training questionnaires. Beginning 2017, the pre-training questionnaire and post-training questionnaire are combined and administered only after training. Therefore, participants who have submitted the combined questionnaire will be counted in both the participant background and participant feedback summaries. A GAqP training and a GFVP in the Philippines have only knowledge tests, but no combined questionnaires.

Second, we only report knowledge tests results that can be matched before and after the training. Each participant takes the knowledge test once before training and once after training. Because we want to capture the individual level improvement in knowledge test scores, we match the scores by participant name or participant ID. Participants who have completed only one of the tests are excluded from the learning outcome summary.

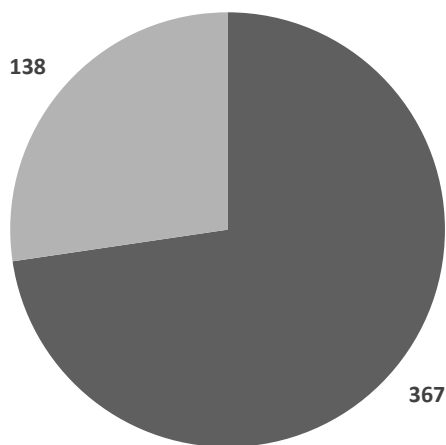
Third, one training in Jamaica is a combined training of GAqP and GFVP. The questions from this training has a larger overlap with a typical GAqP training knowledge test. Hence, we classify it as a GAqP training when reporting participant feedback and learning outcomes.

Finally, we select a subset of knowledge test questions to calculate test scores and report them in "Distribution of Knowledge Test Scores before and after Training" and "Comparing Knowledge Test Scores before and after Training". Because knowledge test questions change overtime, the scores are calculated from the set of questions that did not change over time. We do report questions that are used in more than one trainings in the "Percentage of Correct Answers" graphs and tables. The set of questions used in score calculation can be identified from the "Percentage of Correct Answers" table – questions with larger sample sizes. In GAqP, they are questions 1 – 11 and 17 – 20. In GFVP, they are questions 2, 4 – 11, 13 – 14, 16 – 17, and 20.



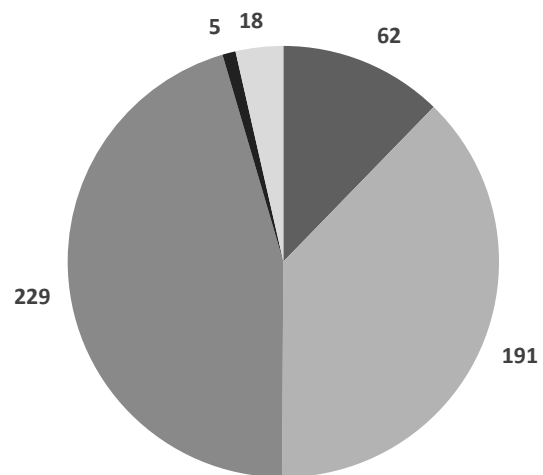
Country	# Completed Tests	# Participant Background	# Participant Feedback
Bangladesh	77	78	75
Ecuador	70	69	71
India	149	166	142
Indonesia	52	55	58
Jamaica	39	44	41
Peru	63	65	65
Philippines	86	0	0
Vietnam	28	28	31
<b>Total</b>	<b>564</b>	<b>505</b>	<b>483</b>

**Gender**



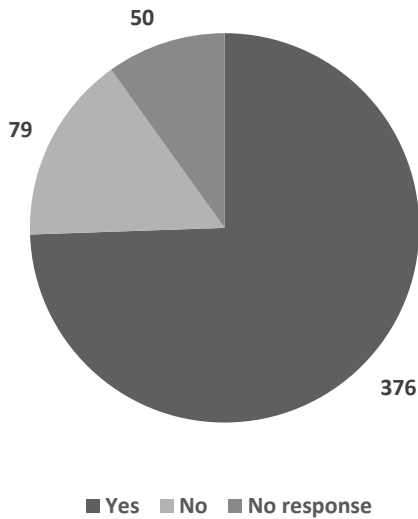
■ Male ■ Female

**Highest Education Attainment**

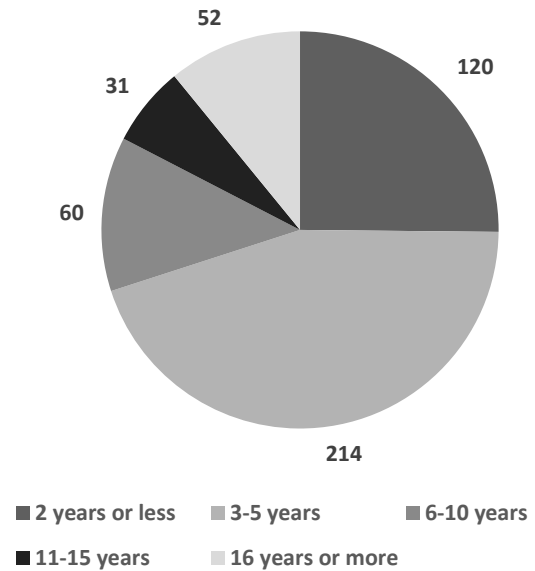


■ No College ■ College ■ Post-graduate ■ Other ■ No response

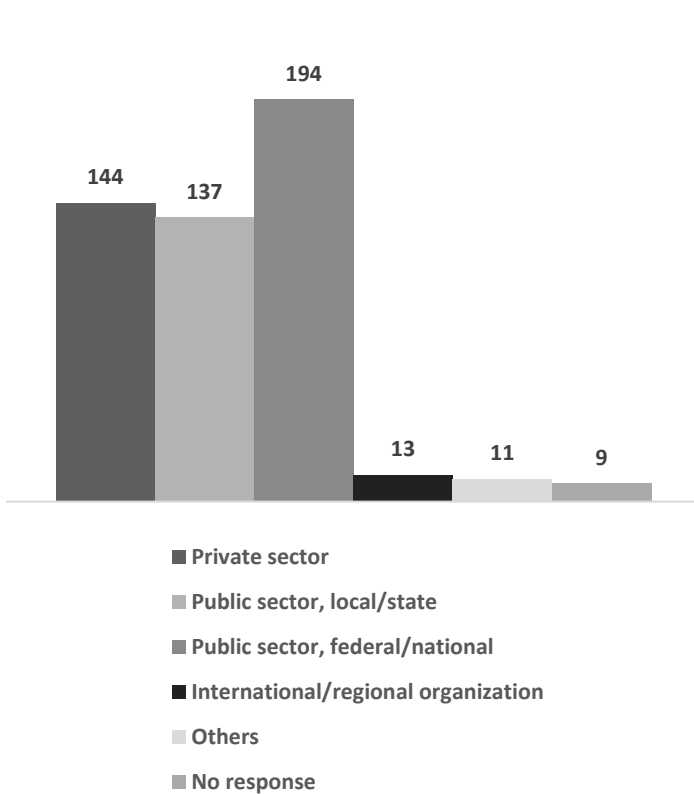
### Previous Aquaculture or Seafood Safety Training



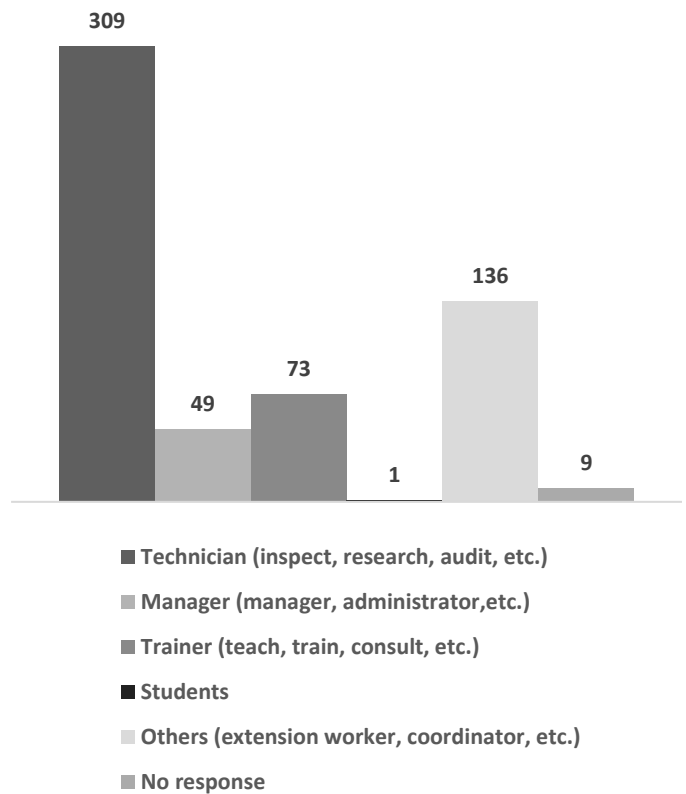
### Years of Experience in Current Profession



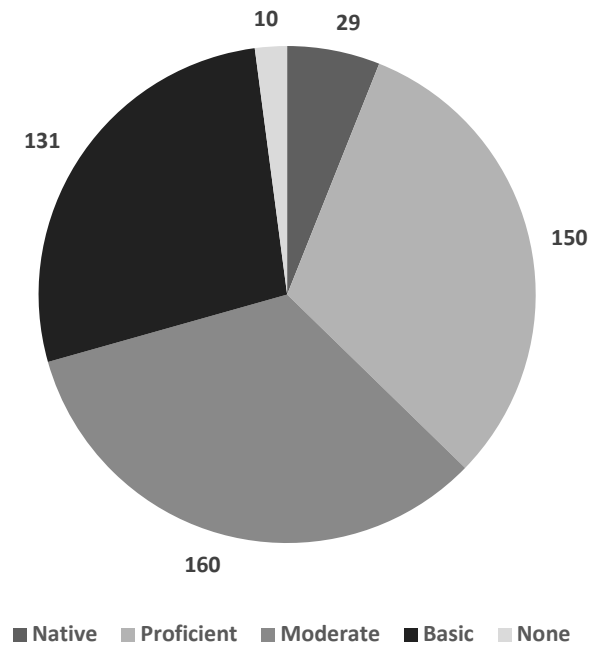
### Sectors of Employment



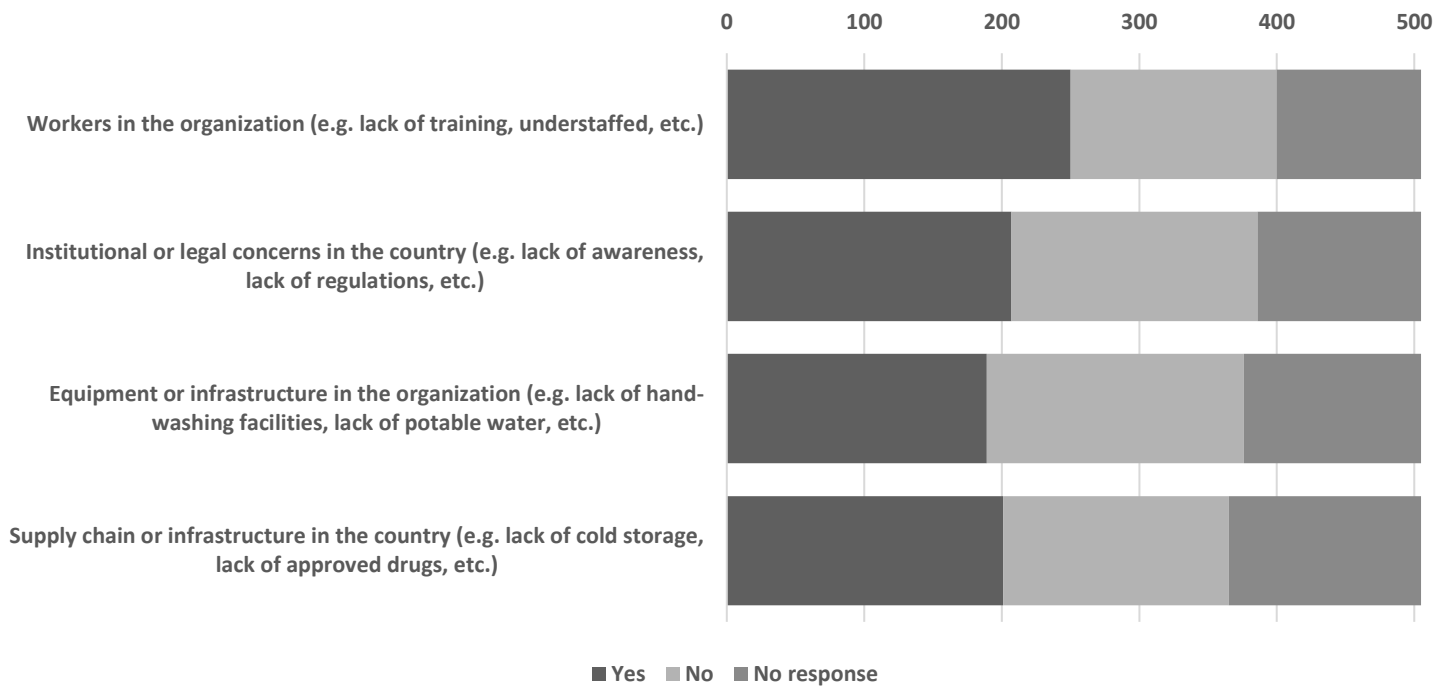
### Primary Functions of Employment



### English Proficiency

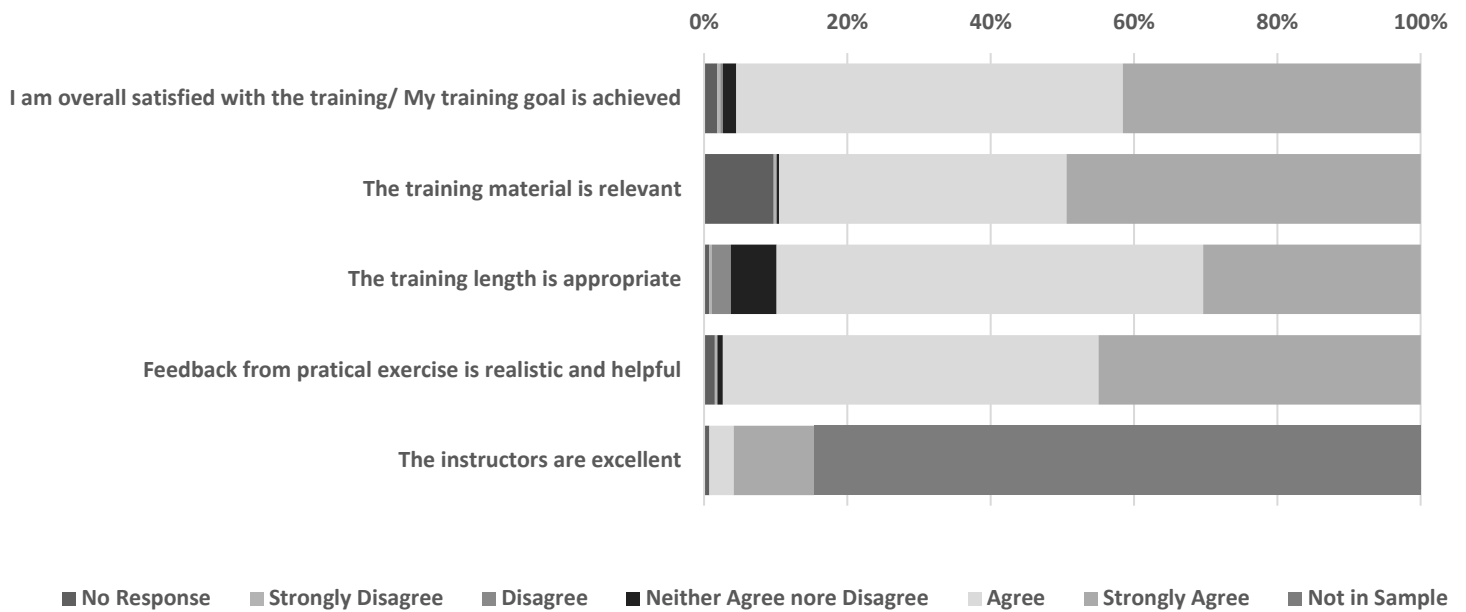


### Aspects with barriers to GAqP/GFVP in your country or your organization.

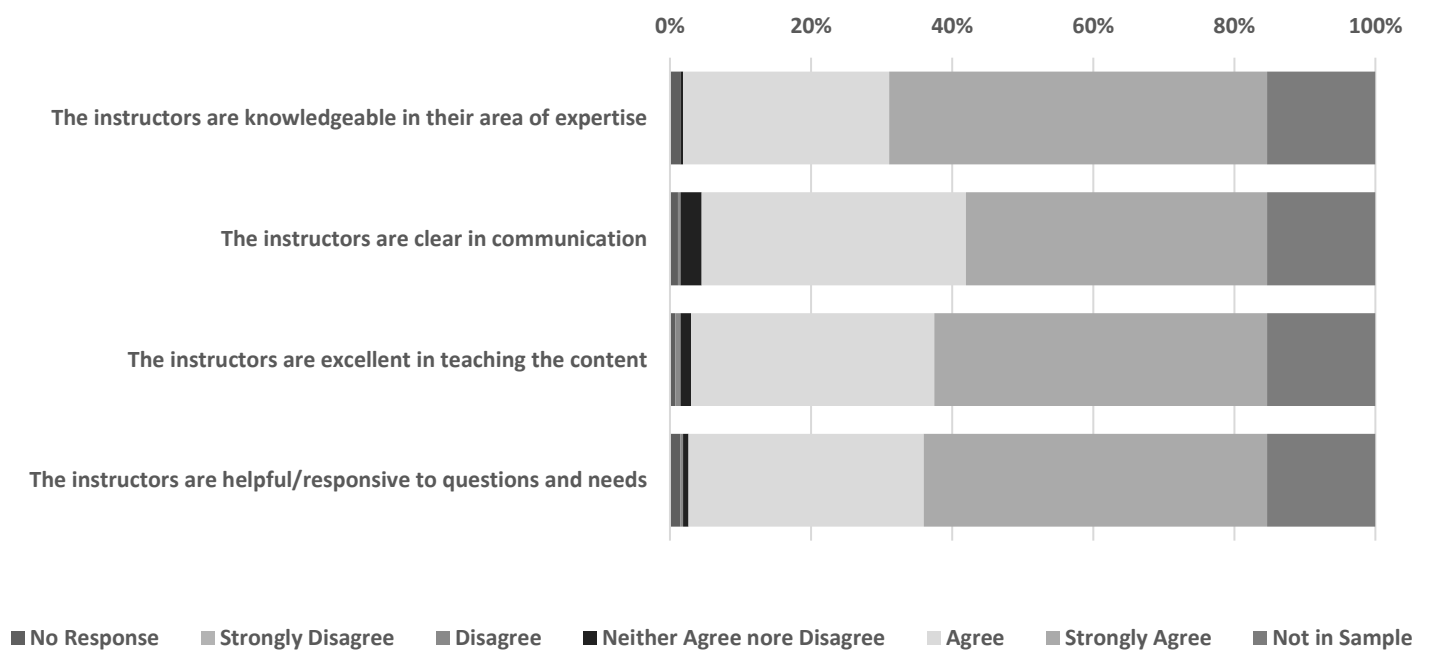


## Participant Feedback and Learning Outcomes - GAqP

### Participant Satisfaction with Training - GAqP

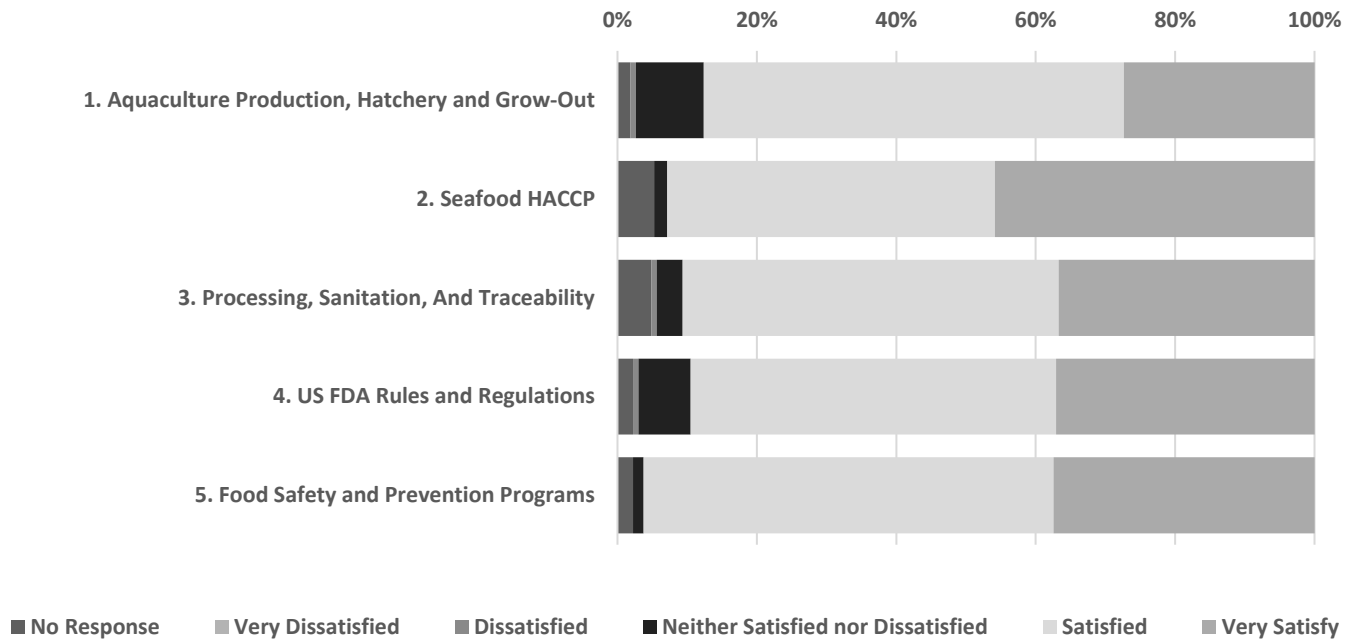


### Participant Satisfaction with Instructors - GAqP

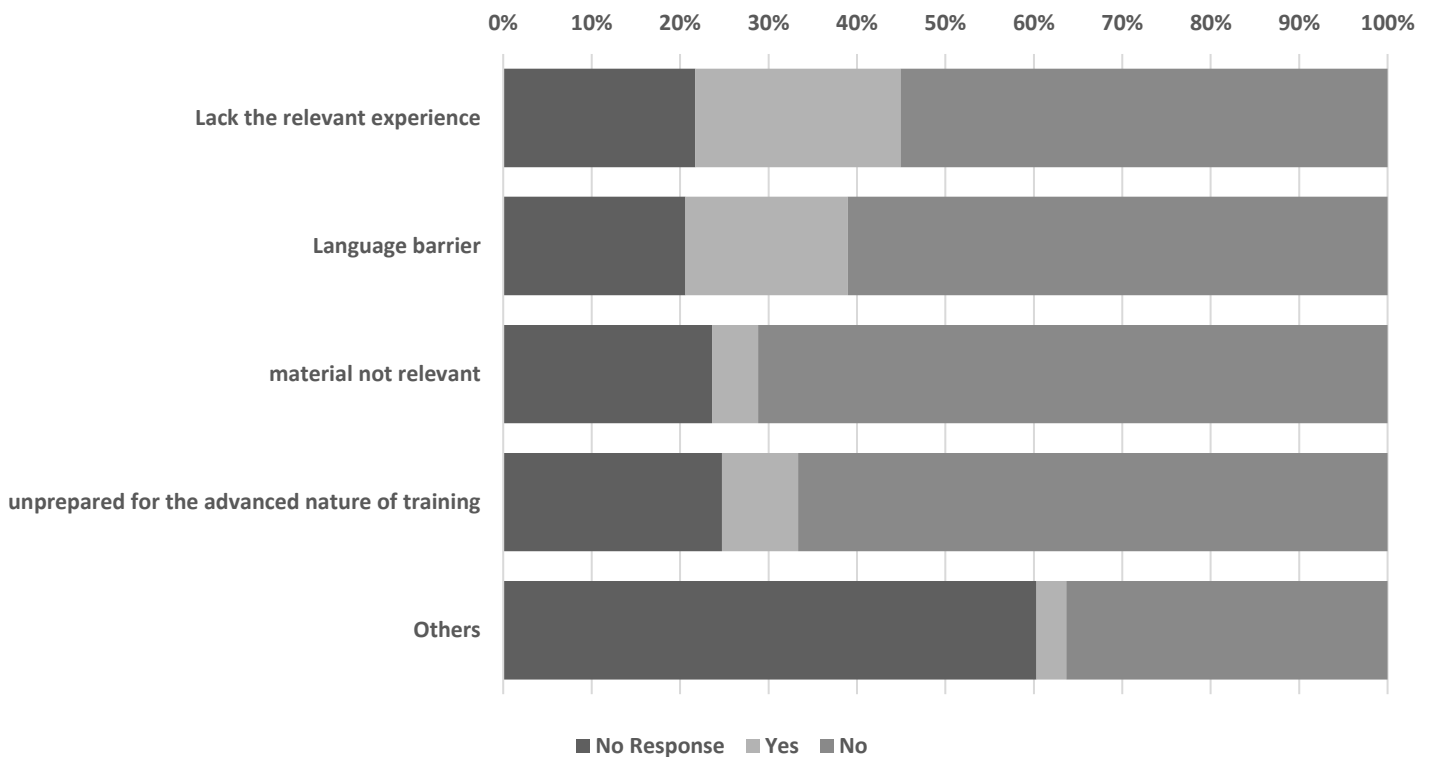




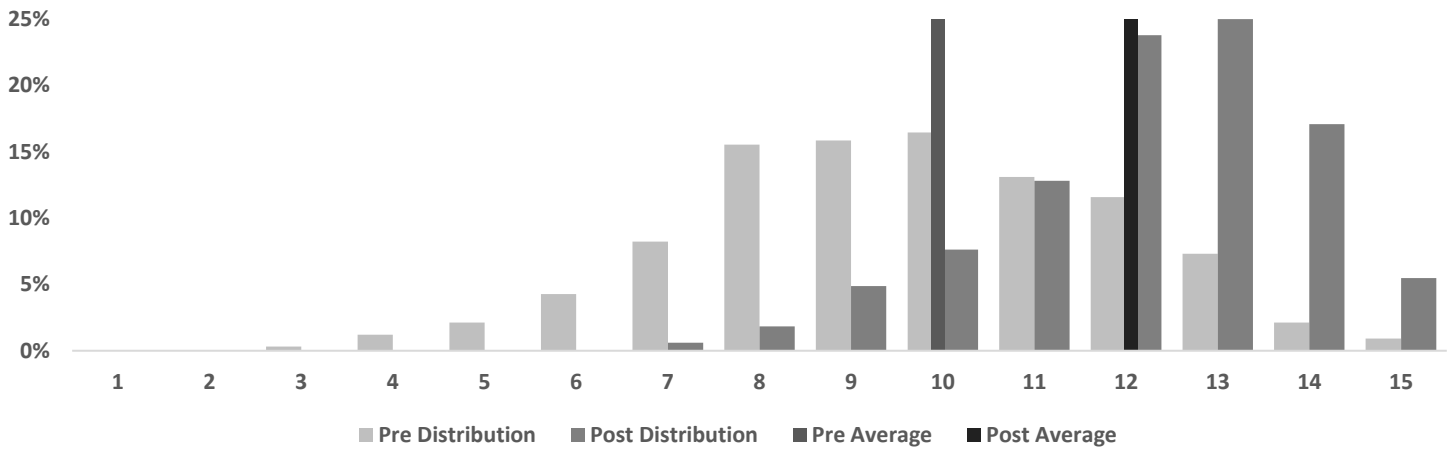
### Participant Satisfaction with Each Section - GAqP



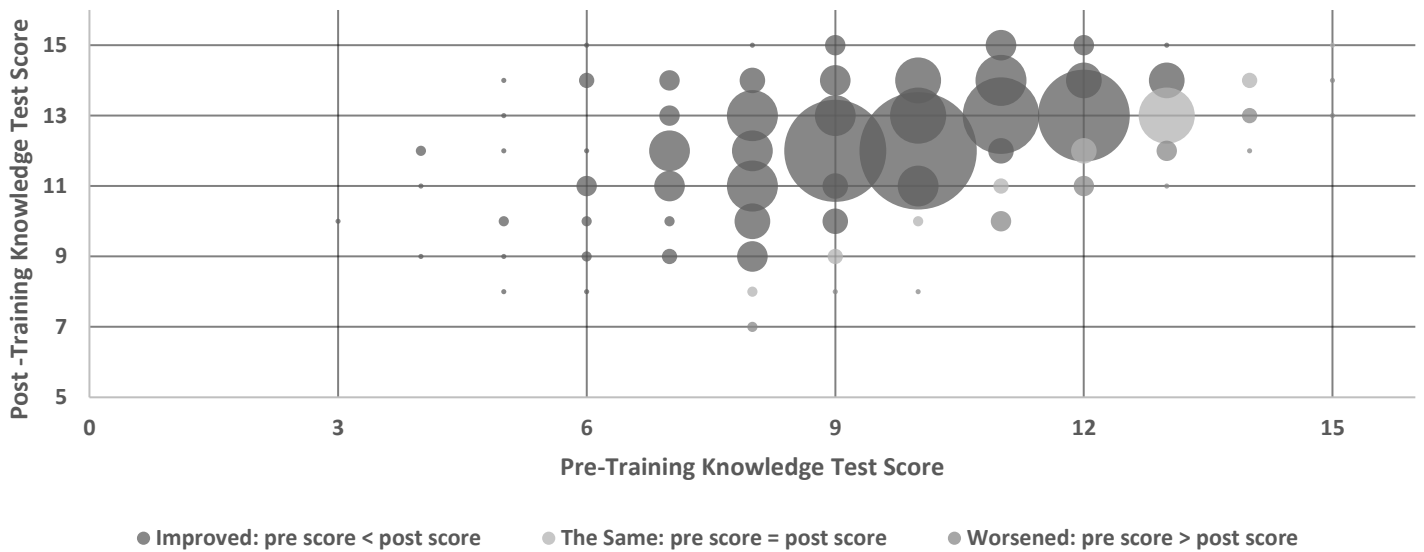
### Source of Difficulty in Learning - GAqP



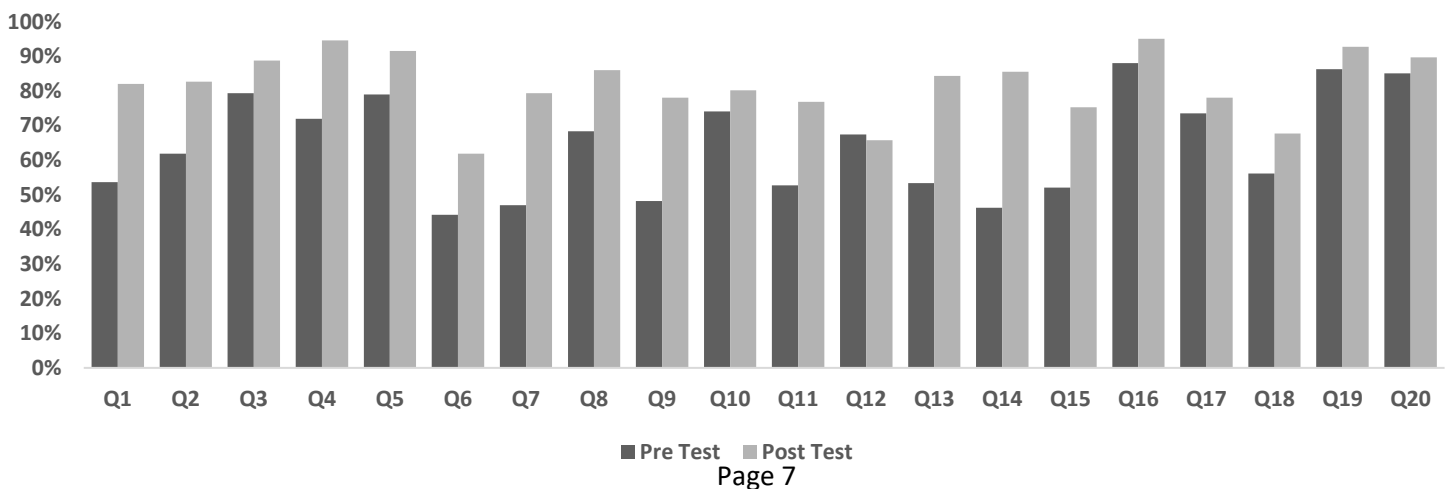
### Distributions of Knowledge Test Scores before and after Training - GAqP



### Comparing Knowledge Test Scores before and after Training - GAqP



### Percentage of Correct Answers - GAqP



**Distributions of Knowledge Test Scores before and after Training - GAqP**

**(total = 15)**

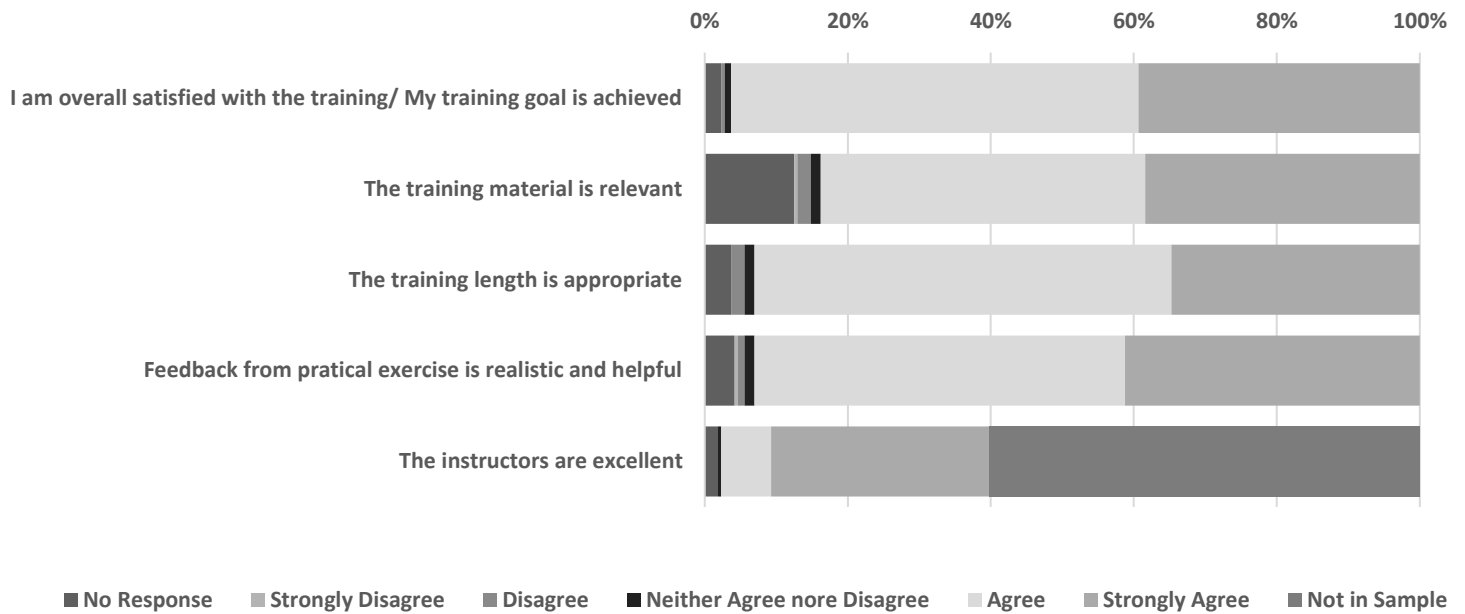
<b>Scores</b>	<b>Pre Distribution</b>	<b>Post Distribution</b>
1	0%	0%
2	0%	0%
3	0%	0%
4	1%	0%
5	2%	0%
6	4%	0%
7	8%	1%
8	16%	2%
9	16%	5%
10	16%	8%
11	13%	13%
12	12%	24%
13	7%	25%
14	2%	17%
15	1%	5%
<b>Average Score</b>	<b>10</b>	<b>12</b>

**Percentage of Correct Answers - GAqP**

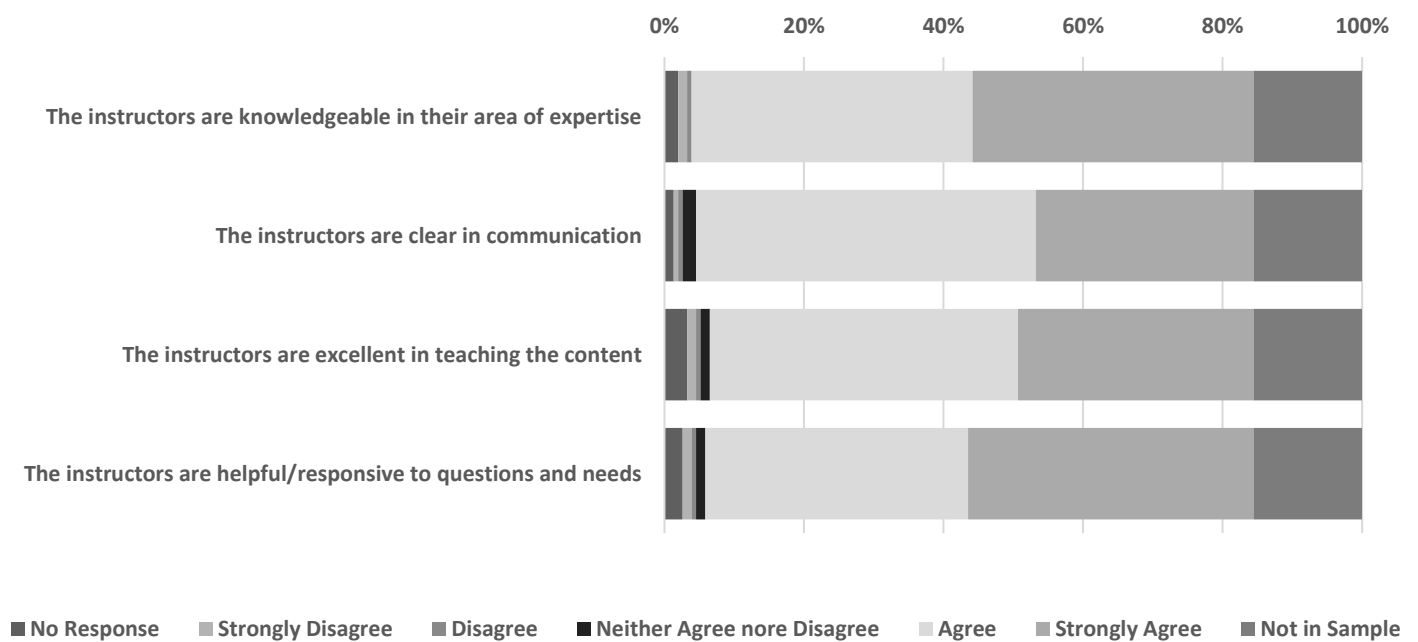
	<b>Pre Test</b>	<b>Post Test</b>	<b>Sample Size</b>
Q1	54%	82%	328
Q2	62%	83%	328
Q3	79%	89%	328
Q4	72%	95%	328
Q5	79%	91%	328
Q6	44%	62%	328
Q7	47%	79%	328
Q8	68%	86%	328
Q9	48%	78%	328
Q10	74%	80%	328
Q11	53%	77%	328
Q12	67%	66%	242
Q13	53%	84%	242
Q14	46%	86%	242
Q15	52%	75%	242
Q16	88%	95%	242
Q17	73%	78%	328
Q18	56%	68%	328
Q19	86%	93%	328
Q20	85%	90%	328

## Participant Feedback and Learning Outcomes - GFvP

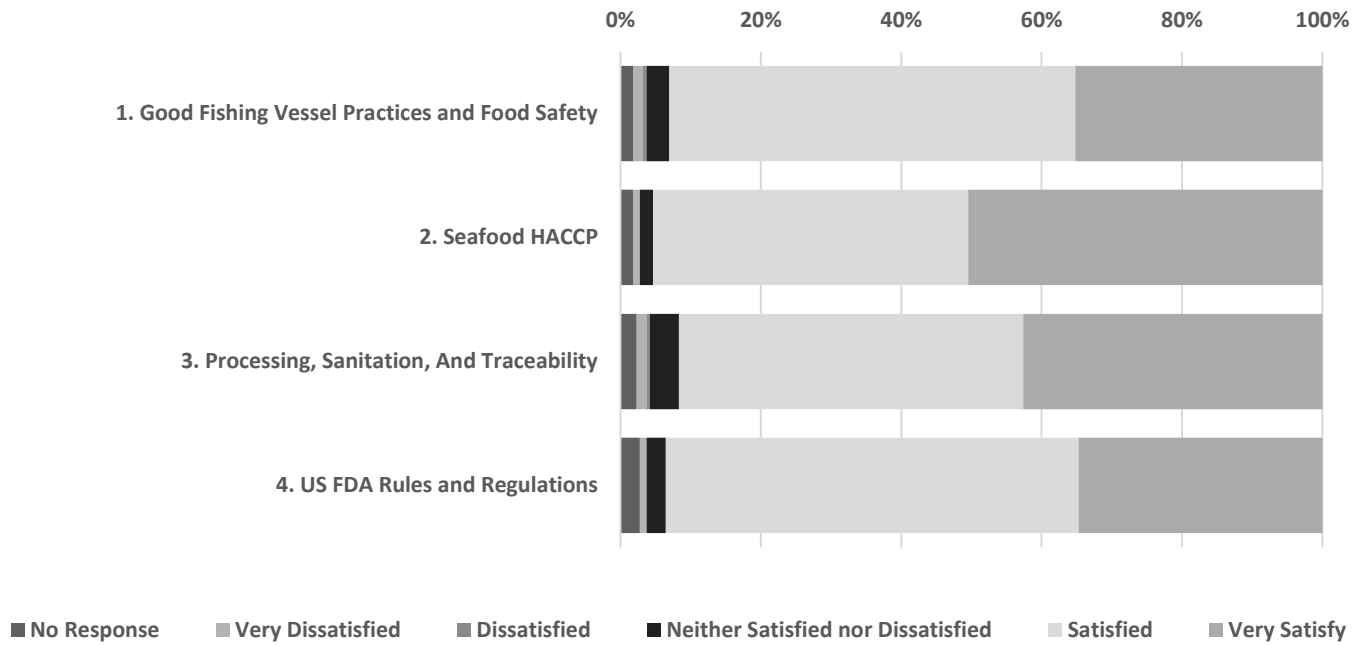
### Participant Satisfaction with Training - GFvP



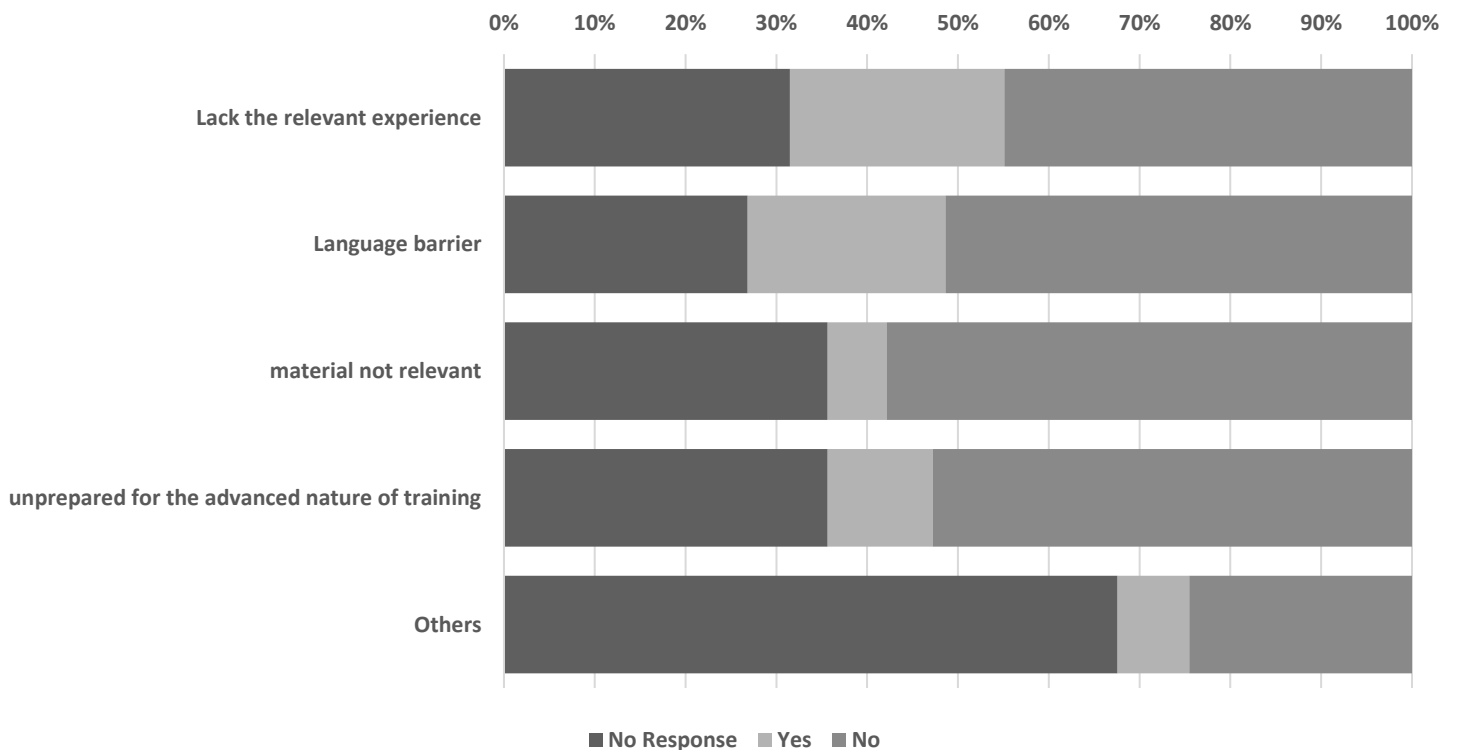
### Participant Satisfaction with Instructors - GFvP



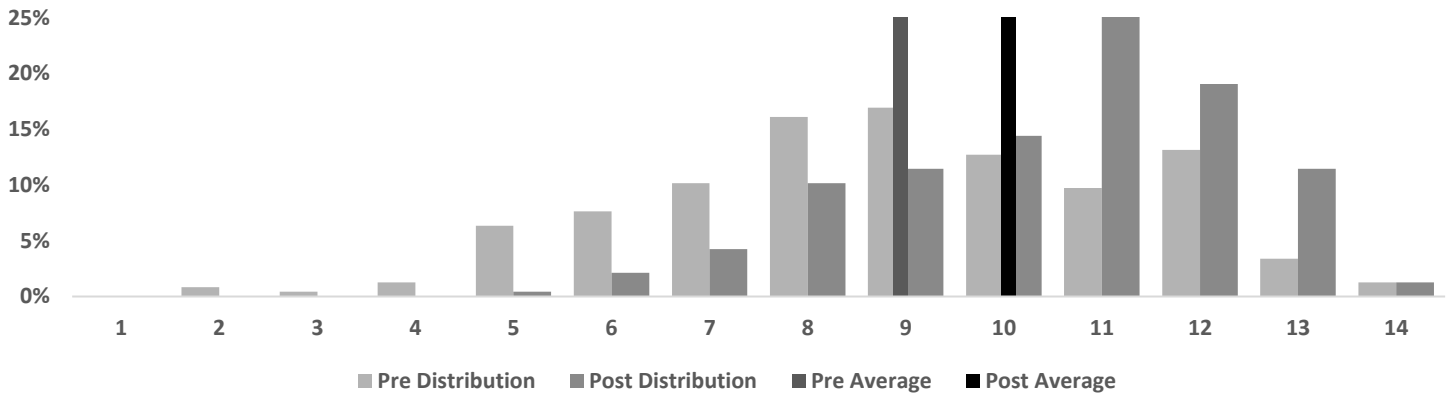
### Participant Satisfaction with Each Section - GFvP



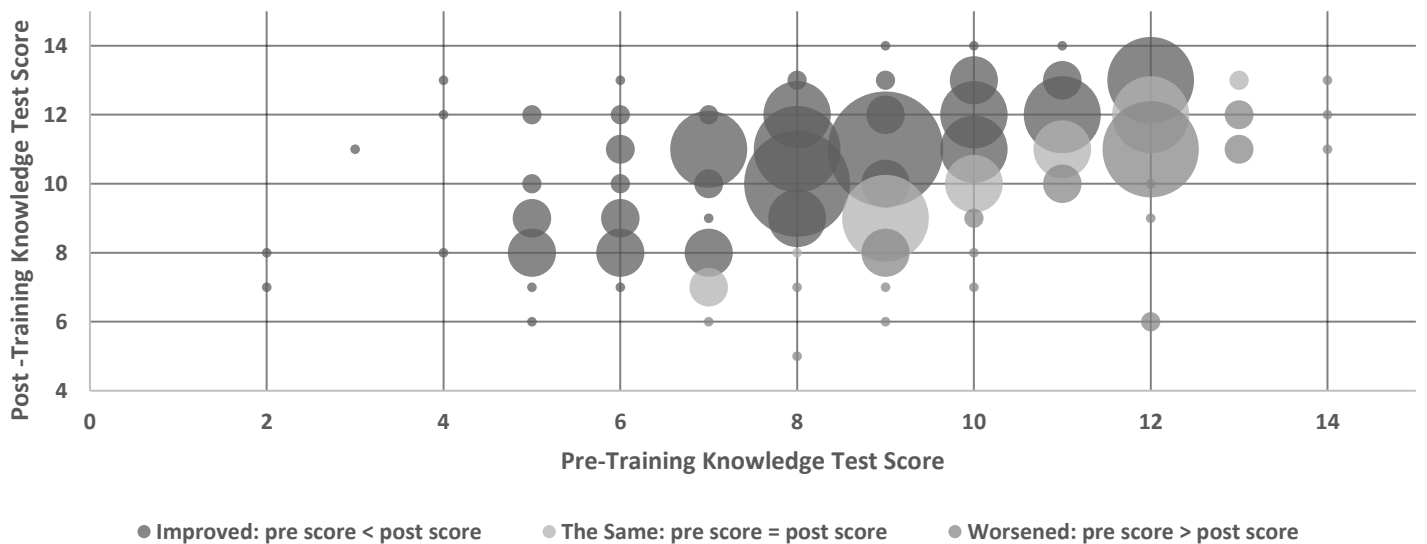
### Source of Difficulty in Learning - GFvP



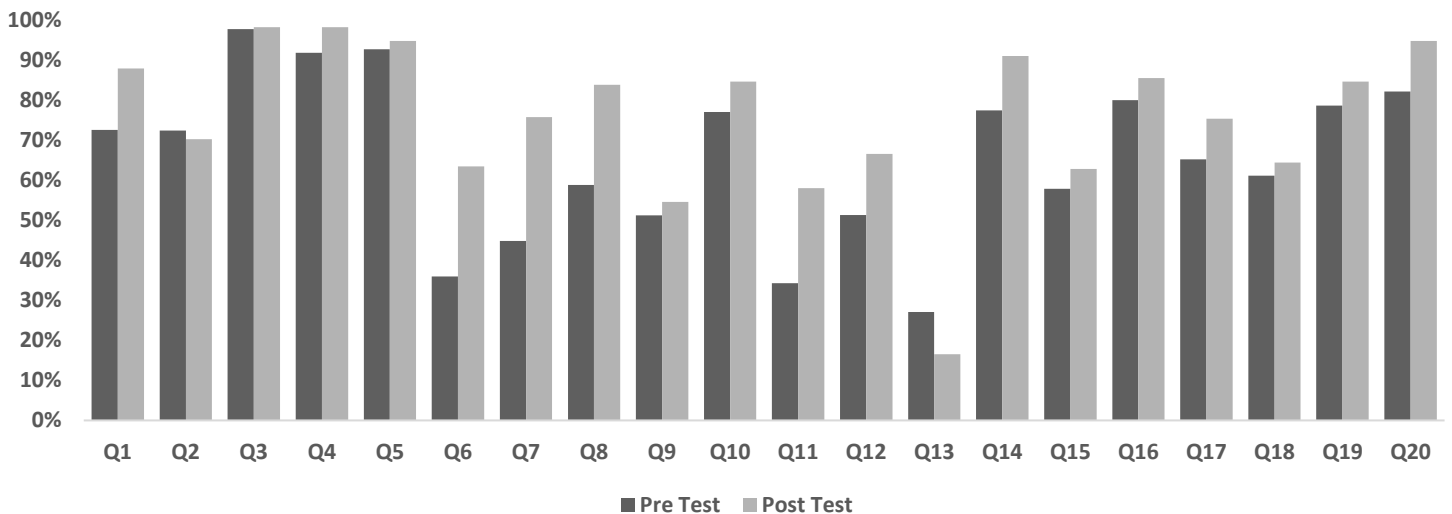
### Distributions of Knowledge Test Scores before and after Training - GFvP



### Comparing Knowledge Test Scores before and after Training - GFvP



### Percentage of Correct Answers - GFvP



**Distributions of Knowledge Test Scores before and after Training - GFvP**

**(total = 14)**

<b>Scores</b>	<b>Pre Distribution</b>	<b>Post Distribution</b>
<b>1</b>	0%	0%
<b>2</b>	1%	0%
<b>3</b>	0%	0%
<b>4</b>	1%	0%
<b>5</b>	6%	0%
<b>6</b>	8%	2%
<b>7</b>	10%	4%
<b>8</b>	16%	10%
<b>9</b>	17%	11%
<b>10</b>	13%	14%
<b>11</b>	10%	25%
<b>12</b>	13%	19%
<b>13</b>	3%	11%
<b>14</b>	1%	1%
<b>Average Score</b>	<b>9</b>	<b>10</b>

**Percentage of Correct Answers - GFvP**

	<b>Pre Test</b>	<b>Post Test</b>	<b>Sample Size</b>
<b>Q1</b>	73%	88%	183
<b>Q2</b>	72%	70%	236
<b>Q3</b>	98%	98%	183
<b>Q4</b>	92%	98%	236
<b>Q5</b>	93%	95%	236
<b>Q6</b>	36%	64%	236
<b>Q7</b>	45%	76%	236
<b>Q8</b>	59%	84%	236
<b>Q9</b>	51%	55%	236
<b>Q10</b>	77%	85%	236
<b>Q11</b>	34%	58%	236
<b>Q12</b>	51%	67%	183
<b>Q13</b>	27%	17%	236
<b>Q14</b>	78%	91%	236
<b>Q15</b>	58%	63%	183
<b>Q16</b>	80%	86%	236
<b>Q17</b>	65%	75%	236
<b>Q18</b>	61%	64%	183
<b>Q19</b>	79%	85%	183
<b>Q20</b>	82%	95%	236