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CPWR R2P Concept Mapping Report

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CPWR r2p Concept Mapping Report

Introduction

Concept mapping is a participatory approach to organizing ideas using a mixed methods (i.e., combining qualitative and quantitative data) approach (Kane & Trochim, 2007; Rosas & Kane, 2012), which is rooted in cognitive anthropology and builds on applied qualitative research methods, e.g., free lists, pile sorts, multidimensional scaling, and cluster analysis (d'Andrade 1995; Weller & Romney, 1988). This methodology engages diverse stakeholders in a multistep process to generate ideas, organize them into distinct categories, and rate them according to a set of criteria, for example how feasible or important is each idea (Rosas & Kane, 2012). Once participants organize ideas into different groupings, these related concepts are clustered visually (concept maps) and statistically (Rosas & Kane, 2012). Concept mapping for this project was conducted online using the Concept Systems Global Max platform (https://conceptsystemsglobal.com/index.php). This tool allows the methodology to be used to engage with a geographically diverse group of stakeholders. Key steps in the concept mapping process include: (1) generating statements; (2) sorting statements and developing the concept maps (i.e., visual representation of the statements); and (3) rating and prioritizing statements and clusters.

The concept maps produced at the end of the process are particularly powerful because they are easily interpreted, visual representations of the collective thoughts of a larger group. Concept maps have been used for a variety of purposes throughout different stages of planning, implementing, and evaluating projects. For example, this process has been used to outline the training objectives of a masters of public health program (Chastonay et al, 1999) and those of dissemination and implementation science practitioners and researchers (Tabak et al, 2017). The methodology has also been used to identify community strategies to support physical activity (Brennan et al, 2012; Kelly et al, 2007), and to develop research agendas in physical activity promotion (Brownson et al, 2008) and in the sustainability of evidence-based healthcare (Proctor et al, 2008). Particularly relevant for the r2p objectives, concept mapping has been used for program planning (Kane & Trochim, 2007), for example, in a statewide health improvement initiative (Trochim et al, 2004) and to develop a logic model for health promotion (Anderson et al, 2006). Concept mapping has the potential to be used in several ways to advance occupational safety and health, including identifying and prioritizing training needs for a particular hazard, identifying emerging hazards and stakeholder concerns, and prioritizing research needs and dissemination strategies. For this project, concept mapping was used to understand researchers' and practitioners' perspectives on the best ways to find out whether evidence-based safer tools, work practices, and other resources are being used on construction jobsites.

Methods and Results

Step 1: Generating statements

A convenience sample of stakeholders – construction safety researchers and practitioners – was identified and invited to participate in the online survey to brainstorm statements (responses) to a prompt asking about measuring the use of evidence in practice: *"The best way to find out whether safer tools, work practices, and other resources that result from safety and health research are being used on construction jobsites is…"*. Stakeholders were identified by CPWR-The Center for Construction Research and Training from participants in construction safety and health meetings that were taking place during the time this project was underway (e.g., government and academic safety and health researchers, representatives from construction unions and trade associations, trainers and other safety and health professionals), and from its internal database of industry stakeholders. The goal was to receive responses from a minimum of 100 stakeholders. The survey link was shared with participants in the safety and health meetings and sent via email to a larger convenience sample of stakeholders. All responses were anonymous – no personal identifiers were requested, and no attempts were made to connect an individual or organization with a response. This process was intended to take less than 10 minutes, and participants were given a 2 week window to respond with ideas. A reminder was sent at the end of week 1. Once participants clicked the link to participate, they were presented with the following prompt:

> *We all share a common goal to improve safety and health in the construction industry. Getting the findings, tools and resources resulting from safety and health research into the hands of workers and contractors is critical. But finding out if the research is being used on construction sites is challenging given the large number of projects throughout the country. We are asking for your help to identify the best ways to find out whether safer tools, work practices, and other resources that result from safety and health research are being used on construction jobsites. Please click Participate Anonymously to participate in a short (no more than 10 minutes) one question survey to share your ideas.*

The number of individuals who clicked on the link to participate exceeded the 100-minimum goal. Participants in the brainstorming step generated 256 statements. These statements were compiled for review by the project team and synthesized to: 1) obtain a list of unique ideas, with only one idea represented in each statement; 2) ensure that each statement is relevant to the focus of the project; 3) ensure that statements are clear and understandable for all participants; and 4) reduce the statements to a manageable number (under 125) for sorting and rating. This process reduced the final number of statements to 61.

Step 2: Sorting statements & cluster map development

A final question in the original brainstorming step was a request for volunteers to participate in the sorting and rating steps. Those that volunteered were taken to a separate survey link, so names could not be connected to their contributed statements. A total of 53 respondents volunteered and shared their contact information. Each volunteer received a follow-up email that explained what they would need to do to complete steps 2 (sorting) and 3 (rating) including:

- The estimated time to complete these steps - between 60 and 90 minutes;

- A link to the final steps and a brief explanation of each step;
- Instructions for establishing their anonymous user name and password, along with an explanation that the username and password would allow them to complete the steps in more than one sitting, and they would not be able to access their file and complete the steps if they forgot their username or password; and
- The deadline for completing both steps.

Participants were asked to complete the sorting and rating steps within a 2 week window; reminder emails were sent at the end of week 1. Due to a low response rate, two additional reminder emails were sent, and the response window was extended for an additional 2 weeks. The goal was to obtain at least 20 responses for the sorting and rating steps (rating described below). Concept Systems recommends a minimum sample size of 10 participants each for sorting and rating, although a larger sample of 25-40 is used frequently.

Sorting statements involved each participant grouping similar statements together into group categories (clusters) that made sense to them. The groupings are intended to be based on putting statements that have the same meaning or theme close to each other; thus, statements are not grouped based on what is important or hard to do. The number of clusters is determined by the participant; they are encouraged to identify as many as is needed for the groupings to make sense to them (recommended 5-20 clusters). Each participant then 'dragged' and 'dropped' each statement across the screen and into the clusters they had created. A limitation of the system was that a participant did not have to complete step 2 (Sorting) to move on to step 3 (Rating).

As described in Table 1, 20 participants completed the sorting process. These participants were not very representative of those reached out to in terms of their positions, with 70% of respondents identifying as a safety and health trainer or professional. There was a notable range of experience levels, with most participants being in the construction industry on average for nearly 24 years and in their current position for about 10 years. One limitation of the sorting process is that respondents have to be familiar with all terms in the brainstormed statements. If respondents are unfamiliar, they may skew the sorting results by sorting a statement into an unrelated cluster.

Table 1. Sorting Participant Demographics (n=20)

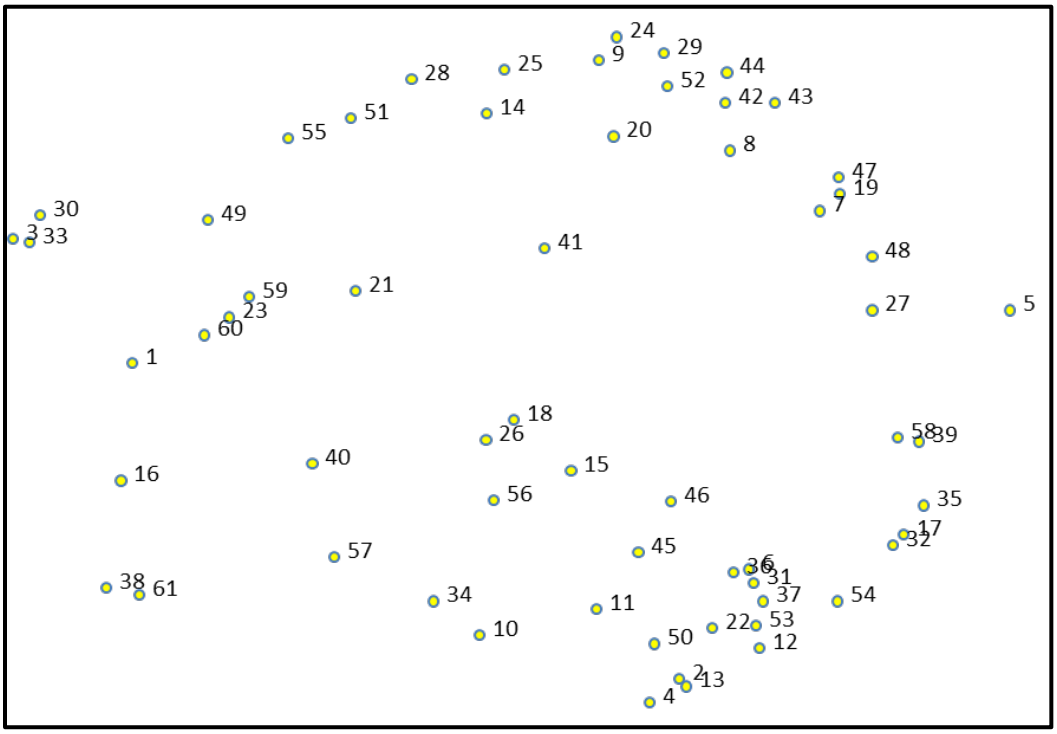
	N (%)
Position	
Contractor/Contractor Association	2 (10%)
Union Representative/Construction Worker	2 (10%)
Safety & Health Trainer/Professional	14 (70%)
Manufacturer	0 (0%)
Researcher/Government Representative	2 (10%)
	Mean (SD*)
Years in construction (n=30)	24.1 (10.3)
Range: 5-44	
Years in current position (n=30)	10.3 (6.4)
Range: 2-29	

*SD, standard deviation

The Concept Systems platform then used participant responses to inform the development of clusters to create one set of item groupings that most accurately reflects what all participants indicated in the sorting phase. This process is similar to cluster analysis, which is a data reduction technique commonly used to collapse many individual quantitative data points into meaningful groups (Aldenderfer & Blashfield, 1984). Creating clusters maximizes the similarity of data points within the cluster while maximizing differences between clusters. Cluster solutions (groupings of data points into different categories) are derived based on the distributions of each input variable (i.e., where most participants placed each statement). The analytic software places each observation into an initial, temporary cluster and evaluates the similarities between and within the clusters. Then, in an iterative manner, observations are rearranged such that the similarities within clusters and differences between clusters are maximized. Concept Systems walks the analyst through individual steps to develop the concept map, as described below.

First, a point map was created, which shows individual statements grouped such that items grouped together appear closer to each other on the map (Figure 1). The individual numbers correspond to the statement numbers as they appeared to participants, and their positions on the map indicate groupings of statements that were sorted more similarly or dissimilarly to each other. For example, items 38 and 61 (both bottom left corner of Figure 1) were frequently sorted together, while statements 38 and 43 (bottom left, top right respectively) were not. The distance between two items indicates how similar or dissimilar participants perceive the statements. See Appendix 2 for the corresponding statements for each number.

Figure 1. Point Map

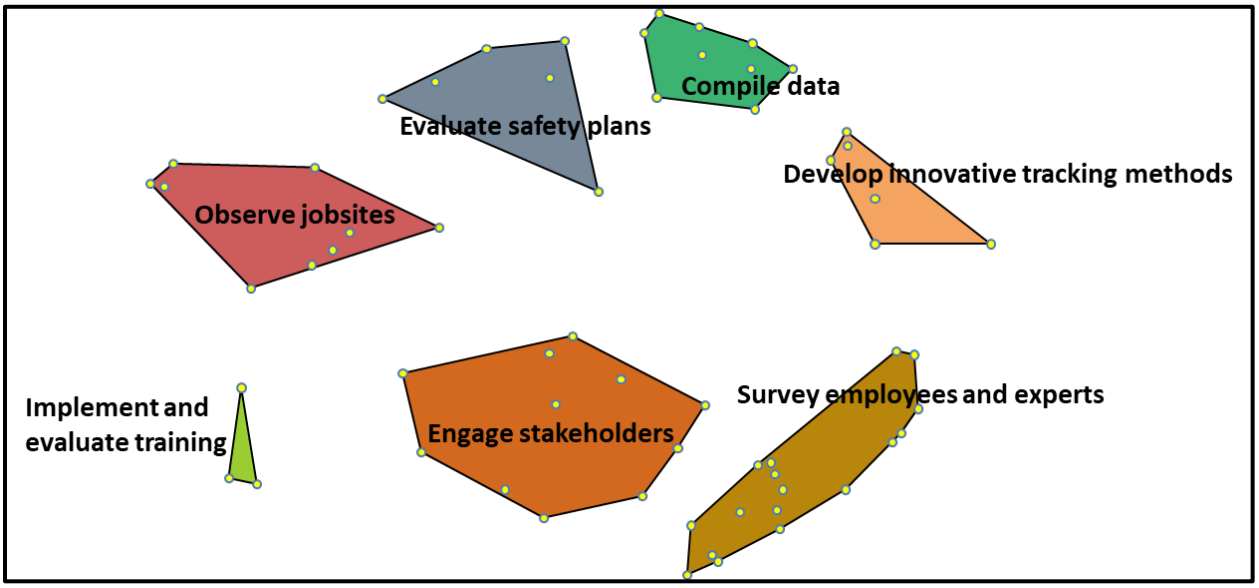


A cluster map was created next, which groups the point map into cluster solutions (Figure 2). The number of cluster solutions is specified by the user, and the clusters are drawn to maximize the similarity of items within a cluster and the differences between clusters. The shape and size of each cluster is chosen based on a visual inspection of the cluster solutions, with consideration given to: groupings that are not too granular (too few items per cluster, e.g., 2 items); not too large (too many items per cluster, e.g., 20); and that represent the special arrangement of items on the point map. Cluster solutions 5 through 10 were examined (Appendix 1). The 8-cluster solution looked to be the best fit overall, but not perfectly. Subsequently, two modifications were made to improve the 8-cluster solution.

a. One item was moved because it seemed to fit conceptually with the other cluster better than cluster-6 where it was originally placed.
b. Two clusters that were next to each other were merged because they did not represent distinct enough concepts to warrant two separate clusters.

The final cluster solution contained seven clusters of statements (Figure 2).

Figure 2. Cluster Map – 7-Cluster Solution



The seven clusters (categories) from the final cluster model were:

1. Observe jobsites
2. Evaluate safety plans
3. Compile data
4. Develop innovative tracking methods
5. Survey employees and experts
6. Engage stakeholders
7. Implement and evaluate training

These names were determined qualitatively by evaluating the items grouped within each cluster. Table 2 lists the statements according to their categorization within the final, 7-cluster solution.

Table 2. Statements according to final 7-cluster solution

Observe jobsites
Ask OSHA safety/health inspectors/consultants to collect information on use of specific interventions
Use remote video monitoring to assess what's happening on worksites
Visit jobsites during all phases randomly and conduct unannounced audits/observations of work practices, tools and equipment used
Observe on the job training for use of interventions
Use electronic monitoring to assess worker locations in relation to safety exposure
Use drones
Observe classroom training programs for use of interventions
Plan specific observations across a corporation to determine if there is regional success or other local success
Visit jobsites regularly, during all phases, and conduct planned audits/observations of work practices, tools and equipment used
Evaluate safety plan
Evaluate investments made by employers
Search the internet by the tool manufacturer
Review Task or Activity Hazard Analyses, for specific features of work such as roofing, etc., to see if they identify specific Activities, Hazards, and Controls - then see if they use these to educate the work crew before that feature of work starts
Determine if industry associations and practices (ANSI, etc.) have made changes
Evaluate practices prior to an incident and reassess if there is an incident
Review training curricula and equipment supplied
Compile data
Cross-check multiple data sources: observations, audits, worker and supervisor feedback, records of safety outcomes
Case studies
Conduct a textual analysis of their Corporate Safety and Health Plan, then their Site Safety and Health Plan.
Search the internet for health and safety guidelines
Search the internet by the problem
Examine workers' compensation data over time to identify changing patterns of injury that may be the result of changing practices
Establish a longitudinal study on the application of specific recommendations/findings that came from target research to determine change/adoption rate of the recommendations/finding (use observations, measure leading and lagging indicators before and after)
Study research and look for examples of successful implementation
Review accident/incident reports
Develop innovative tracking methods
Using the Delphi Method, convene those with extensive experience and knowledge in the subject area
Identify a baseline and monitor implementation to determine use and effectiveness of interventions
Establish a common data base for survey data and results to facilitate the gathering of data from diverse sources and the analysis of the universe of data by researchers

Interview tool manufacturer to see what tools are currently being used
Ask for a special panel of questions with the U.S. Consumer Product Safety Commission to determine the type of tools, etc. involved in injuries that end up in the emergency department
Use this approach (concept mapping) to ask industry what they are using
Survey employees and experts
Have worker centers distribute surveys to nonunion construction workers to ask about specific interventions or resources
Conduct a survey of workers, contractors, suppliers and tool manufacturers to find out which interventions are currently being used and create a database to track use
Ask/Interview supervisors/managers/foremen about use of work practices and equipment and why they are or are not being used
Conduct survey of safety committees (with craft, supervisor, and safety manager participation) to see if they know of specific interventions in use
Survey unions representing the construction industry about specific interventions - what works and doesn't work
Conduct a survey of workers, contractors, suppliers and tool manufacturers to create a database to track intervention use
Conduct supervisor/manager/foreman surveys about specific interventions - what works and doesn't work
Ask/interview workers about use of work practices and equipment and why they are or are not being used (acceptance and buy-in)
Conduct focus groups in differing geographic areas with different demographics
Survey trade associations representing the construction industry about specific interventions - what works and doesn't work
Do follow-up surveys to provide feedback on controls and work practices implemented
Ask workers whether they use new ideas and interventions given by researchers
Conduct survey of various projects to see if 1) research is being implemented, 2) if research is being applied in workforce task analysis, and 3) if workers are actually applying the research in doing their job.
Solicit workers' observations through unions and other non-company sources. Guarantee anonymity and enforce this guarantee
Conduct perception surveys throughout the workforce to find out what is being done regarding safety and health
Conduct workers/union member surveys about specific interventions - what works and doesn't work
Do an industry survey on the use of new methods, techniques and practices
Engage stakeholders
Ask the steward, foreman, worker about training received through their organization and onsite
Ask workers if they've been involved in an incident on the job and if there were work practices or equipment that could have prevented it
Visit jobsites and ask workers about their emotions (acceptance and buy-in)
Visit jobsites and ask supervisors/managers/foremen about use of work practices and equipment and why they are or are not being used
Provide lists of tools, work practices, etc. to contractors and ask which ones they have implemented and if the implementation made a difference and is still in use
Use a comprehensive social media campaign to solicit worker feedback on what practices/interventions are in use
Reach out to contractors or local unions to see if they can help gather information
Visit jobsites and ask workers about use of work practices and equipment and why they are or are not being used
Ask students what preventive measures they use on the job while using certain tools
Ask suppliers what tools and equipment are being requested and purchased

Interview workers compensation loss control consultants to inquire if they use CPWR materials, recommend those materials to policy holders, and observe hands-on application of CPWR concepts/techniques in the field
Implement and evaluate training
Train the contractors, superintendents, foremen, subcontractors and project safety about tool and work practices. Then audit the project by talking to employees, supervisors and subcontractors to see if they utilize new methods, tools, etc.
Promoting CPWR materials to construction management undergraduate students who are eager to learn and adopt new ideas/techniques (which they can take into the workplace at graduation.) Follow up with focus groups of recent graduates
Using journeyman upgrade classes/tool box talks/apprenticeships to help find out answers

Step 3: Statement rating and prioritizing

Participants were also asked to rate each statement according to two criteria: usefulness and feasibility, presented as 5-point scales for each criterion (1=not at all useful/feasible, 5=very useful/feasible). Twenty one participants completed this step of the concept mapping project (Table 3). The two clusters considered most useful and feasible both involved engaging stakeholders and experts through, for example, surveys and interviews, to measure use of interventions. This reinforced the value of engaging stakeholders through evaluation panels.

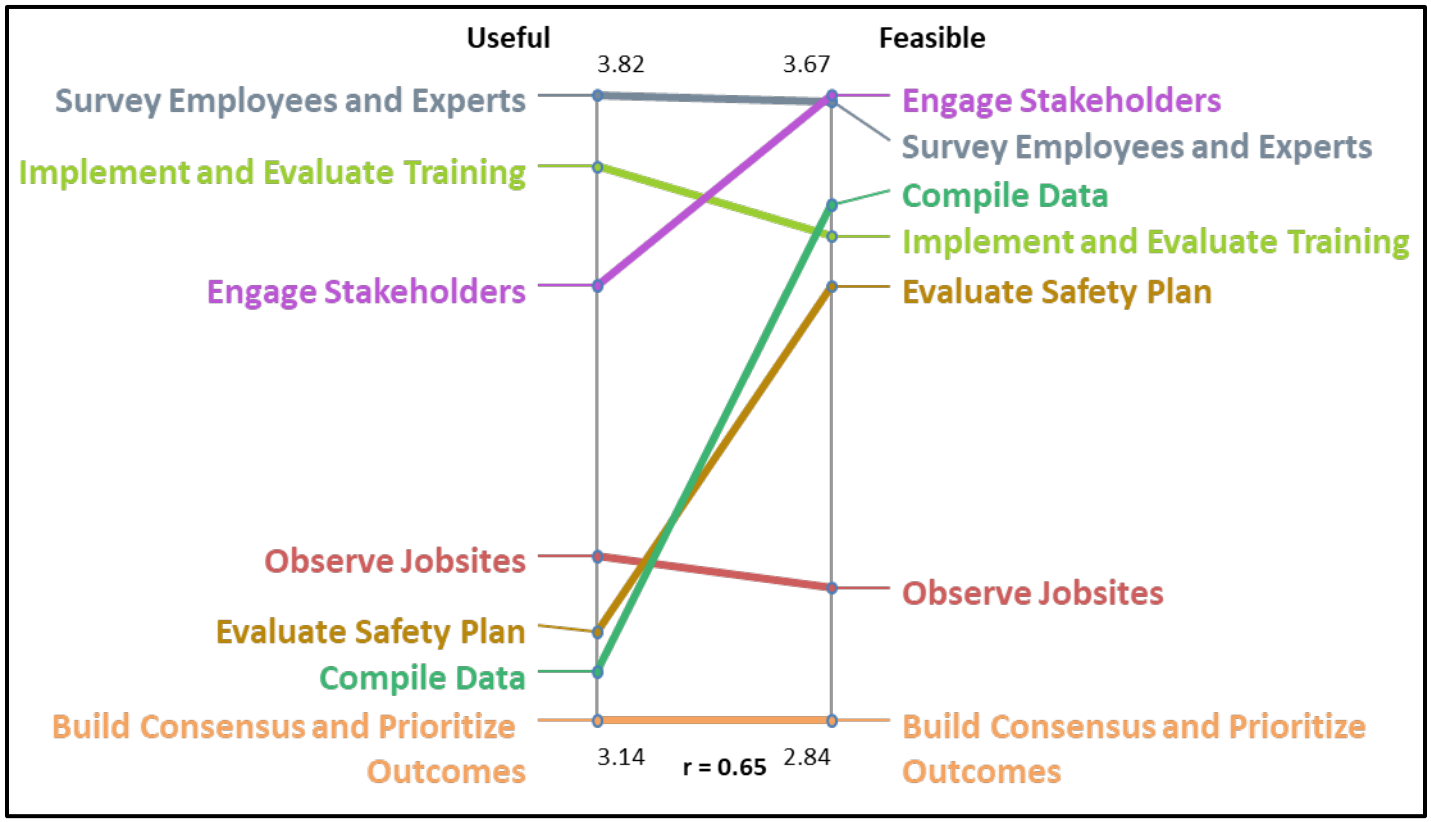
Table 3. Mean rating by cluster

Cluster	Usefulness	Feasibility
Observe Jobsites	3.32	3.02
Evaluate Safety Plan	3.24	3.42
Compile Data	3.20	3.53
Develop innovative tracking methods	3.14	2.84
Survey Employees and Experts	3.82	3.66
Engage Stakeholders	3.62	3.67
Implement and Evaluate Training	3.75	3.48

For a better visualization of the relationship between the two individual rating criteria, Concept Systems creates a pattern matching graph (also known as a ladder graph), which shows the average usefulness and feasibility ratings for each cluster (Figure 3).

a. "Surveying employees and experts" cluster was rated as both useful and feasible
b. "Implement and evaluate training" was rated as more useful but less feasible
c. "Evaluate safety plan" and "compile data" were rated as less useful but more feasible
d. "Develop innovative tracking methods" cluster was rated as least useful and feasible

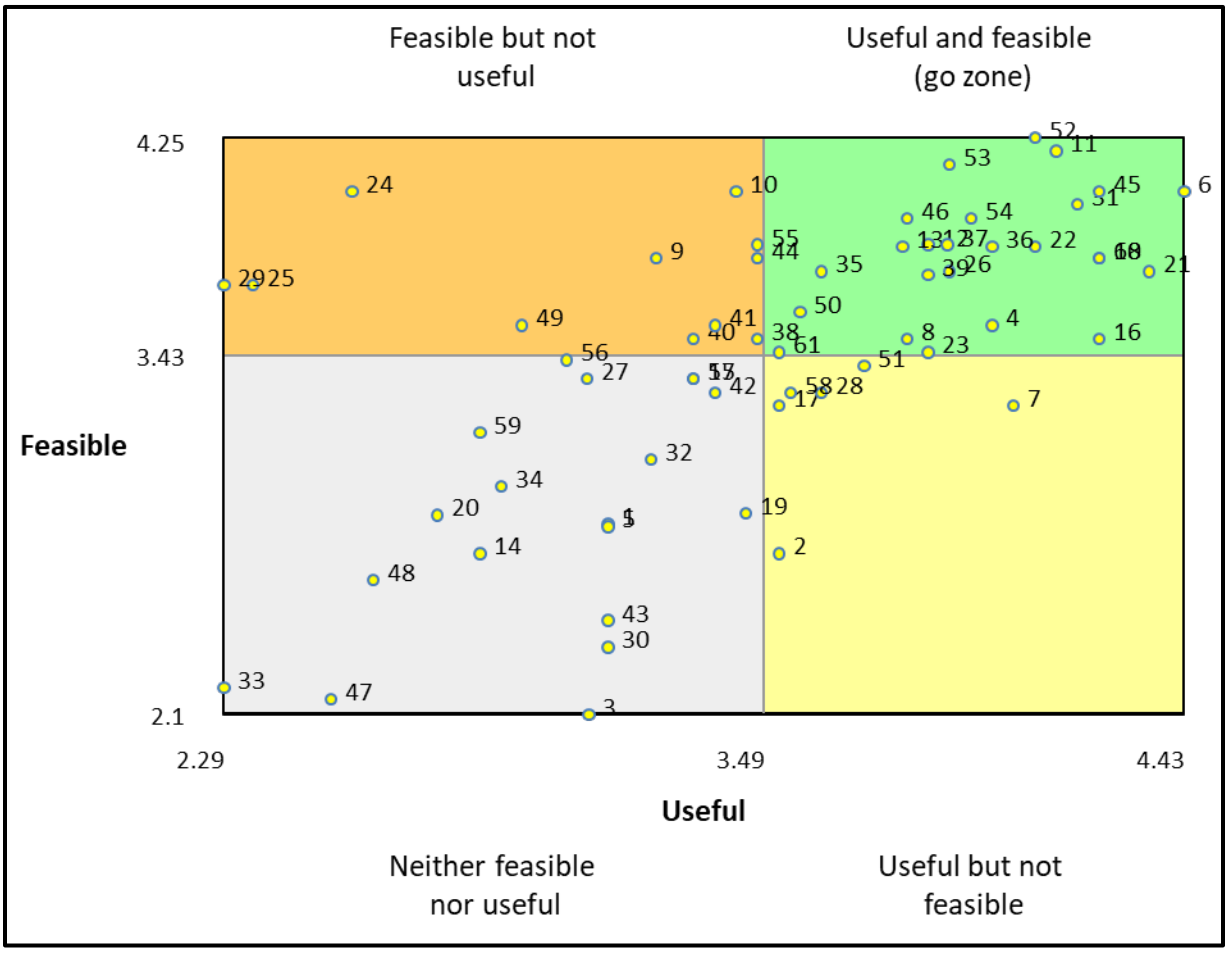
Figure 3. Pattern Match



Based on the ratings of the individual statements (i.e., separate from the cluster groupings), Concept Systems places individual statements into one of four quadrants to create a Go Zone map to highlight priority items that were rated both highly feasible and useful (Figure 4). The dots and their number labels refer to individual statements. The four quadrants are:

1. Feasible and useful ("go zone," green shading)
2. Feasible but not useful (orange shading)
3. Useful but feasible (yellow shading)
4. Neither feasible nor useful (gray shading)

Figure 4. Go Zone map



Individual statements receiving the highest and lowest ratings are shown in Table 4. A full listing of the individual statements by go zone quadrant is provided in Appendix 2. Some of the statements, while considered feasible for an individual working for a company to use, would be challenging and resource intensive for a third party, such as a researcher, to use to evaluate impact and outcomes. For example, a company safety professional would have access to their company's jobsite and could ask workers about use of equipment and why it is not being used. For researchers, gaining this access to enough different company jobsites to measure use of an intervention would be very labor and resource intensive, among other challenges.

Table 4. Statements with highest and lowest usefulness/feasibility ratings

Highest useful and feasible statements
Ask/Interview supervisors/managers/foremen about use of work practices and equipment and why they are or are not being used
Ask workers if they've been involved in an incident on the job and if there were work practices or equipment that could have prevented it
Ask/interview workers about use of work practices and equipment and why they are or are not being used (acceptance and buy-in)

Visit jobsites and ask workers about use of work practices and equipment and why they are or are not being used
Review accident/incident reports
Using journeyman upgrade classes/tool box talks/apprenticeships to help find out answers
Lowest useful and feasible statements
Evaluate investments made by employers
Conduct a textual analysis of their Corporate Safety and Health Plan, then their Site Safety and Health Plan
Use drones
Ask for a special panel of questions with the U.S. Consumer Product Safety Commission to determine the type of tools, etc. involved in injuries that end up in the emergency department
Use this approach (concept mapping) to ask industry what they are using

Conclusions

While the findings were somewhat limited by the narrow range of stakeholders that participated in the sorting and rating steps, the results from this concept mapping project highlight several approaches that could be used to assess and improve the translation of construction safety research into practice. The suggested approaches reflect the roles and perspectives of the responders, and ranged from ones that could be easily done in the context of an individual company or project to ideas that have broader applicability at the national level, which CPWR needs to achieve. Additionally, many participants noted the importance of engaging stakeholders from diverse settings and positions (e.g., supervisors, workers, employers, industry). Overall, the ideas presented suggest there is value in using multiple ways to evaluate whether dissemination efforts are resulting in safety and health research findings and interventions being used on construction jobsites. Methodology is clearly an important consideration for these participants, and there are opportunities for measures such as – surveys, observations and audits, and document review.

The results of this project also can be used in several other ways. For example, the go zone statements can be used to identify activities that could be undertaken with the types of stakeholders that participated since they considered them the most feasible and useful. Similarly, the statements that are not in the go zone, while not being viewed as the most useful or feasible by this group of participants, may still serve an important purpose in assessing r2p efforts and engaging other groups in the process. This concept mapping exercise also highlights the need for varied outreach strategies when engaging stakeholders and, because participants acknowledged the importance of the broad categories in this concept mapping project, it can be used to inform the types of panels and their representation to ensure that an innovation-specific panel has members with expertise in the content represented by the clusters.

Finally, concept mapping has the potential to be used in other ways to advance occupational safety and health, including identifying and prioritizing training needs for a particular hazard, identifying emerging hazards and stakeholder concerns, and prioritizing research needs and dissemination strategies.

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Appendix 1. Initial concept map cluster solutions

Figure A1. 5-cluster solution

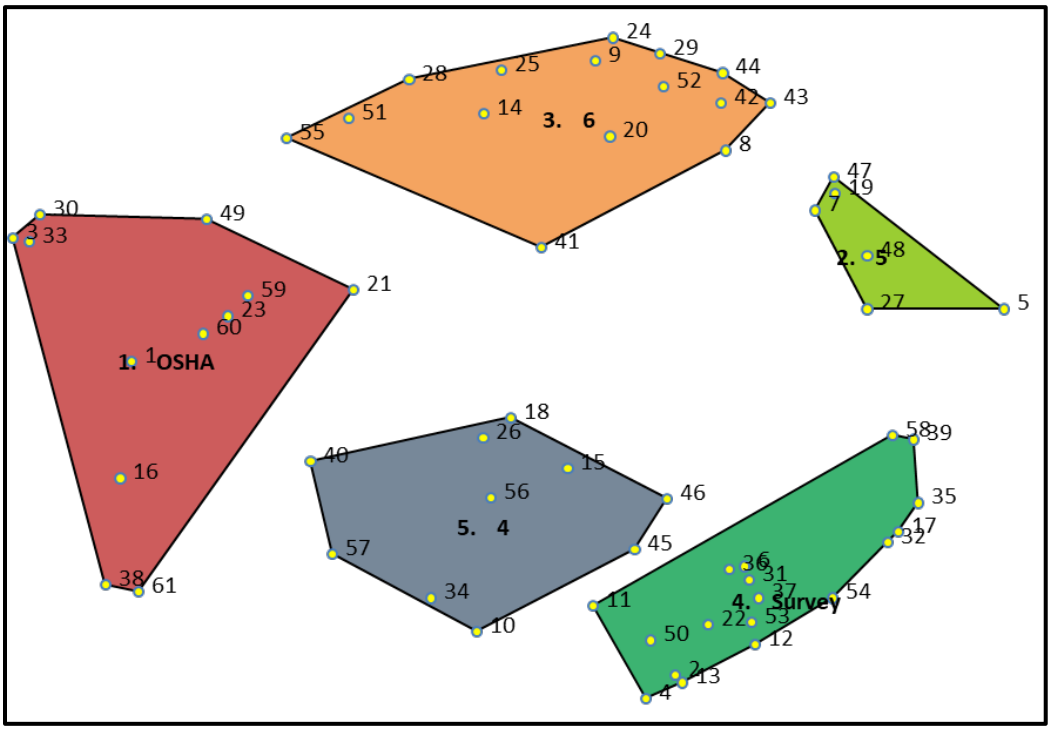


Figure A2. 6-cluster solution

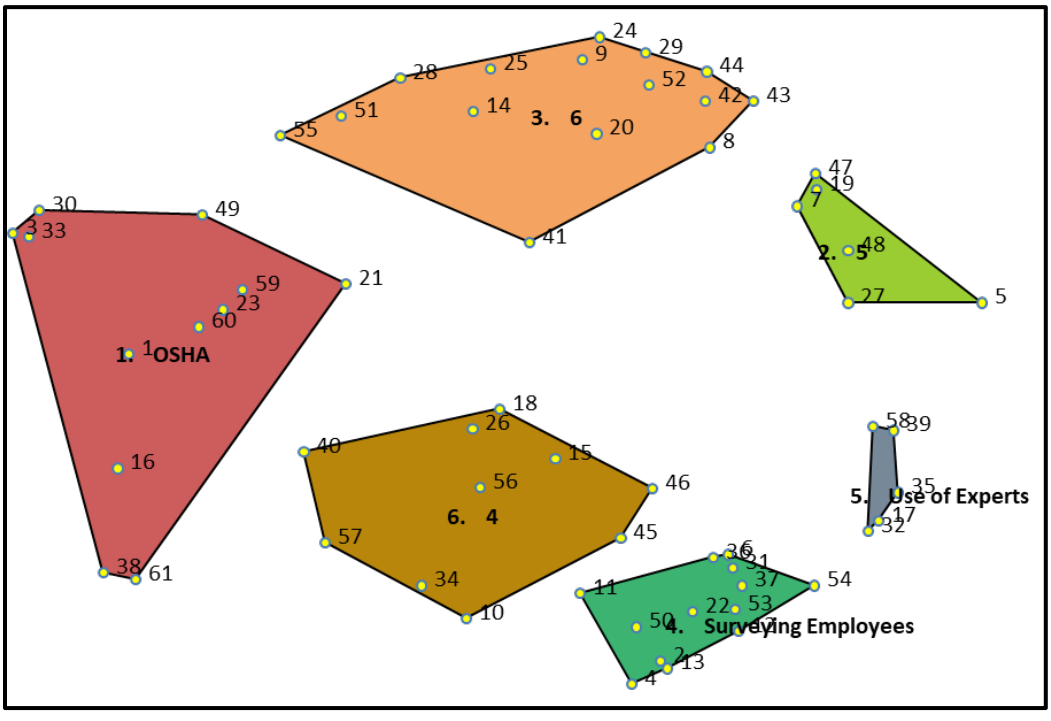


Figure A3. 7-cluster solution

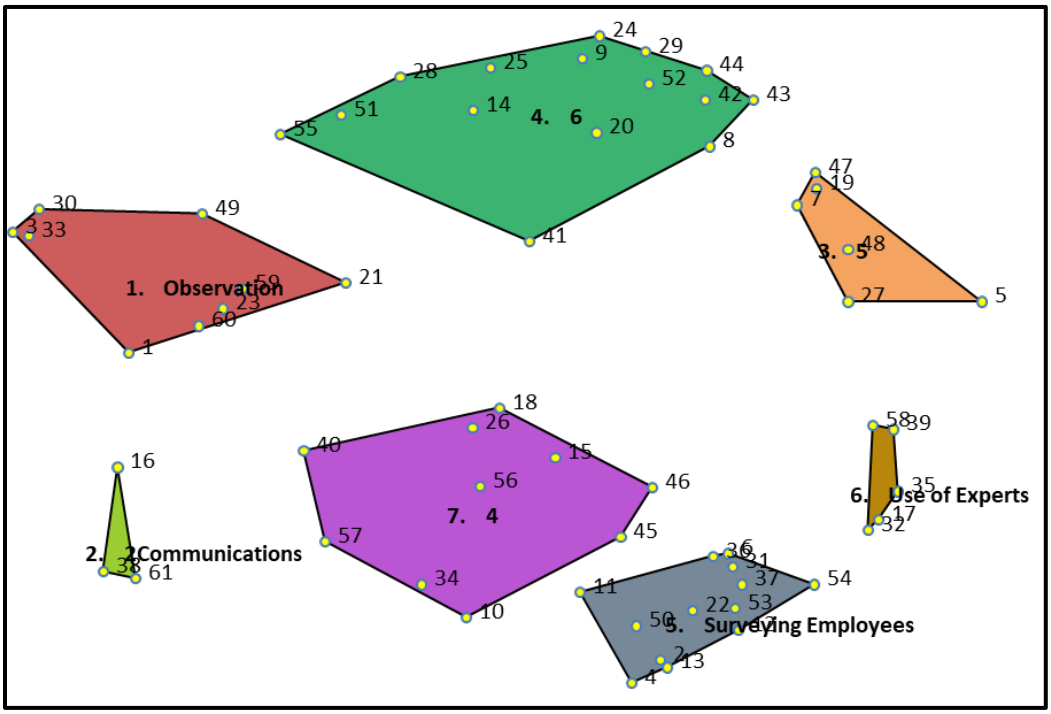


Figure A4. 8-cluster solution

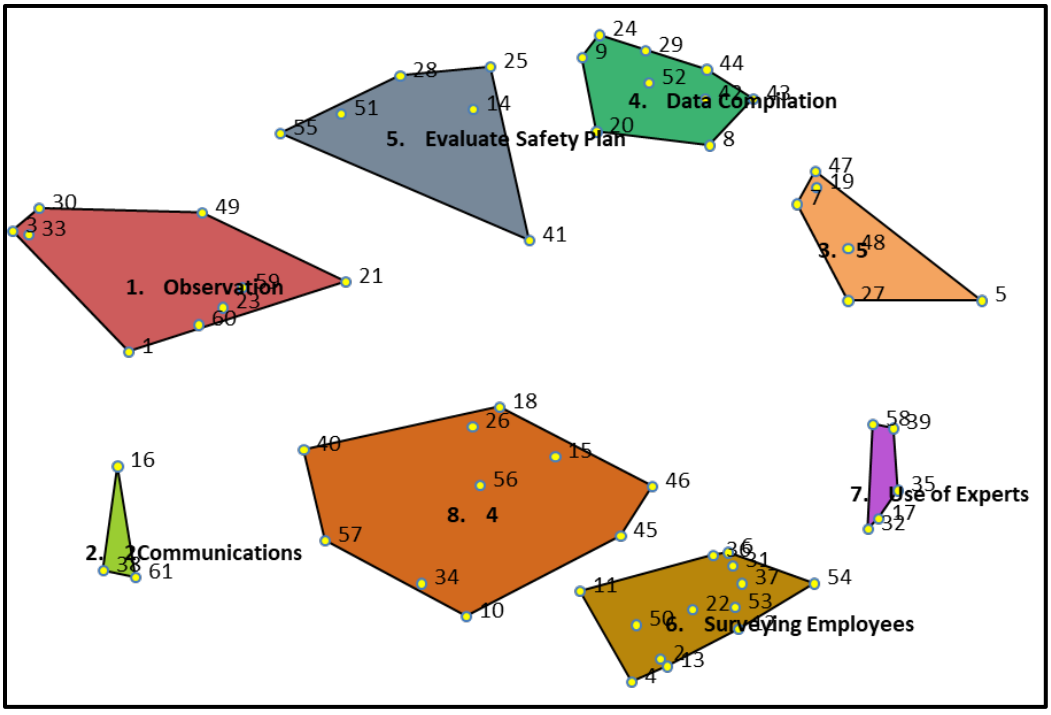


Figure A5. 9-cluster solution

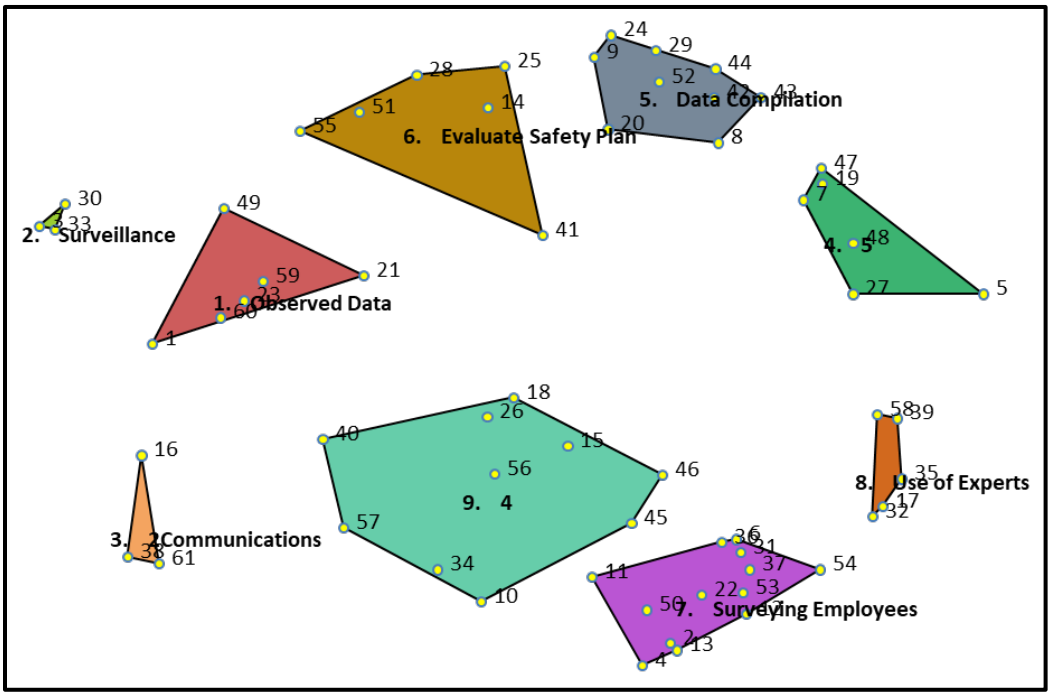
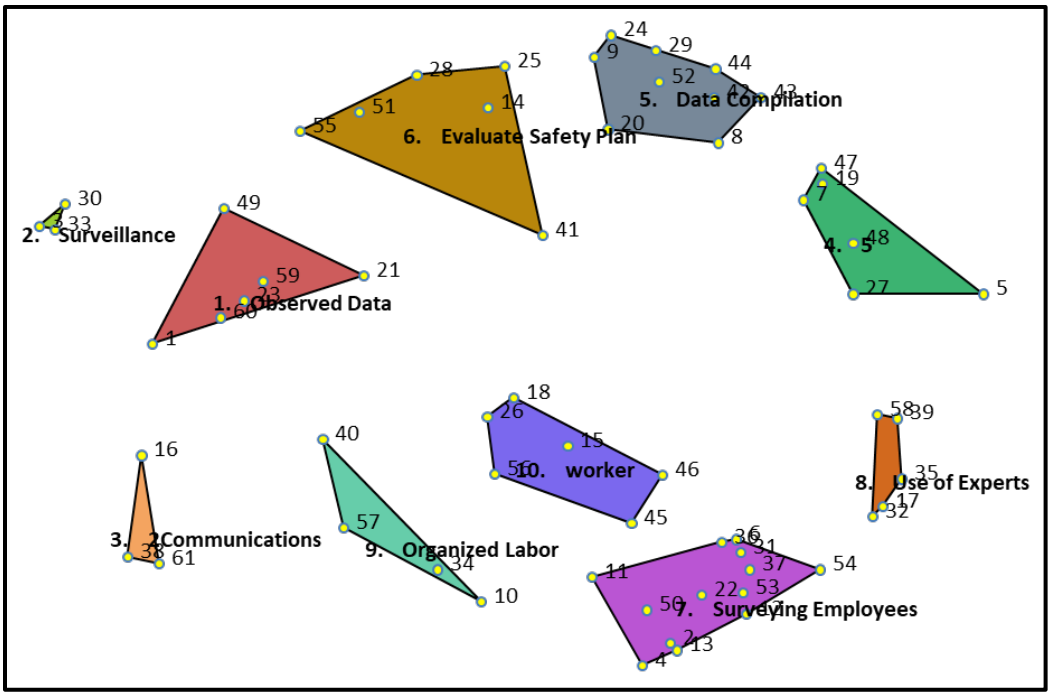


Figure A6. 10-cluster solution



Appendix 2. Go Zone Statements

Table A1. Useful and feasible statements ("go zone")

#	Statement
4	Conduct a survey of workers, contractors, suppliers and tool manufacturers to find out which interventions are currently being used and create a database to track use
6	Ask/Interview supervisors/managers/foremen about use of work practices and equipment and why they are or are not being used
8	Cross-check multiple data sources: observations, audits, worker and supervisor feedback, records of safety outcomes
11	Ask workers if they've been involved in an incident on the job and if there were work practices or equipment that could have prevented it
12	Conduct survey of safety committees (with craft, supervisor, and safety manager participation) to see if they know of specific interventions in use
13	Survey unions representing the construction industry about specific interventions - what works and doesn't work
16	Train the contractors, superintendents, foremen, subcontractors and project safety about tool and work practices. Then audit the project by talking to employees, supervisors and subcontractors to see if they utilize new methods, tools, etc.
18	Visit jobsites and ask supervisors/managers/foremen about use of work practices and equipment and why they are or are not being used
21	Visit jobsites during all phases randomly and conduct unannounced audits/observations of work practices, tools and equipment used
22	Conduct supervisor/manager/foreman surveys about specific interventions - what works and doesn't work
23	Observe on the job training for use of interventions
26	Provide lists of tools, work practices, etc. to contractors and ask which ones they have implemented and if the implementation made a difference and is still in use
31	Ask/interview workers about use of work practices and equipment and why they are or are not being used (acceptance and buy-in)
35	Survey trade associations representing the construction industry about specific interventions - what works and doesn't work
36	Do follow-up surveys to provide feedback on controls and work practices implemented
37	Ask workers whether they use new ideas and interventions given by researchers
39	Conduct survey of various projects to see if 1) research is being implemented, 2) if research is being applied in workforce task analysis, and 3) if workers are actually applying the research in doing their job
45	Visit jobsites and ask workers about use of work practices and equipment and why they are or are not being used
46	Ask students what preventive measures they use on the job while using certain tools
50	Solicit workers' observations through unions and other non-company sources. Guarantee anonymity and enforce this guarantee
52	Review accident/incident reports.
53	Conduct perception surveys throughout the workforce to find out what is being done regarding safety and health
54	Conduct workers/union member surveys about specific interventions - what works and doesn't

	work
60	Visit jobsites regularly, during all phases, and conduct planned audits/observations of work practices, tools and equipment used
61	Using journeyman upgrade classes/tool box talks/apprenticeships to help find out answers

Table A2. Feasible but not useful statements

#	Statement
9	Case studies
10	Ask the steward, foreman, worker about training received through their organization and onsite
24	Search the internet for health and safety guidelines
25	Search the internet by the tool manufacturer
29	Search the internet by the problem
38	Promoting CPWR materials to construction management undergraduate students who are eager to learn and adopt new ideas/techniques (which they can take into the workplace at graduation.) Follow up with focus groups of recent graduates
40	Reach out to contractors or local unions to see if they can help gather information
41	Determine if industry associations and practices (ANSI, etc.) have made changes
44	Study research and look for examples of successful implementation
49	Observe classroom training programs for use of interventions
55	Review training curricula and equipment supplied

Table A3. Useful but not feasible statements

#	Statement
2	Have worker centers distribute surveys to nonunion construction workers to ask about specific interventions or resources
7	Identify a baseline and monitor implementation to determine use and effectiveness of interventions
17	Conduct a survey of workers, contractors, suppliers and tool manufacturers to create a database to track intervention use
28	Review Task or Activity Hazard Analyses, for specific features of work such as roofing, etc., to see if they identify specific Activities, Hazards, and Controls - then see if they use these to educate the work crew before that feature of work starts
51	Evaluate practices prior to an incident and reassess if there is an incident
58	Do an industry survey on the use of new methods, techniques and practices

Table A4. Neither useful nor feasible statements

#	Statement
1	Ask OSHA safety/health inspectors/consultants to collect information on use of specific interventions
3	Use remote video monitoring to assess what's happening on worksites
5	Using the Delphi Method, convene those with extensive experience and knowledge in the subject area
14	Evaluate investments made by employers

15	Visit jobsites and ask workers about their emotions (acceptance and buy-in)
19	Establish a common data base for survey data and results to facilitate the gathering of data from diverse sources and the analysis of the universe of data by researchers
20	Conduct a textual analysis of their Corporate Safety and Health Plan, then their Site Safety and Health Plan
27	Interview tool manufacturer to see what tools are currently being used
30	Use electronic monitoring to assess worker locations in relation to safety exposure
32	Conduct focus groups in differing geographic areas with different demographics
33	Use drones
34	Use a comprehensive social media campaign to solicit worker feedback on what practices/interventions are in use
42	Examine workers' compensation data over time to identify changing patterns of injury that may be the result of changing practices
43	Establish a longitudinal study on the application of specific recommendations/findings that came from target research to determine change/adoption rate of the recommendations/finding (use observations, measure leading and lagging indicators before and after)
47	Ask for a special panel of questions with the U.S. Consumer Product Safety Commission to determine the type of tools, etc. involved in injuries that end up in the emergency department
48	Use this approach (concept mapping) to ask industry what they are using
56	Ask suppliers what tools and equipment are being requested and purchased
57	Interview workers compensation loss control consultants to inquire if they use CPWR materials, recommend those materials to policy holders, and observe hands-on application of CPWR concepts/techniques in the field
59	Plan specific observations across a corporation to determine if there is regional success or other local success

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