



GAME CHANGERS

GAMING SKILLS AND THE WORKPLACE

FACILITATOR'S GUIDE: PROBLEM SOLVING



Literacy Link South Central



Problem Solving: Facilitator Guide

This facilitator guide is part of a series created for the course “Game Changers: Gaming Skills and the Workplace.” Built in a modular fashion to allow for maximum flexibility, this course provides training on real-world skills that can be developed and practiced in a game-based environment. Using a combination of facilitated lessons, participatory activities, research, and games, this course will help teach a new generation of job seekers the 21st Century soft skills so critical to Canadian employers. Modules in this course include:



A Youth Advisory Committee played a key role in the development of this course. Literacy Link South Central offers thanks to committee members Cassandra Smith, Colin Todkill, Eleyas Araya, Eric Rice, Jamie Kaill and Taisha Jenee Pinsonneault for their input and guidance.

Gaming recommendations for this project were provided by our advisors at Teleos Engagement. Literacy Link South Central recognizes Gabriel Hancock, Robert Durant and Shayne Ganness and thanks them for sharing their in-depth knowledge of game design and development.

This curriculum was developed and formatted by Summer Burton, Project Manager, Literacy Link South Central. For questions about this curriculum, please contact Literacy Link South Central at 519-681-7307 or literacylink@llsc.on.ca

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A note for our Facilitators: This course was designed for flexibility. It is divided into several modules, and many can be done in the order that suits your personal facilitation style and the timing of each session in your course. Participants also have an opportunity to provide input into the order of modules.


At the start of each module you will find a list of supplies required, along with recommended tasks and activities for facilitators to complete before the session begins. A set of companion playbooks are available for participants and should be used by participants throughout.




Each module also has an estimated time requirement, which may fluctuate depending on your number of participants, how in-depth group discussions become, and how long game-play takes. You may find that the estimated length of time required for a particular module does not align with the time allotted for individual sessions in the course you are facilitating. Please note that every module is separated into a series of lessons, activities, discussions and games, so you can review it in advance, plan for an appropriate time to break, and begin your next session where you left off.


Tip: if you break up modules in this fashion, we recommend you set that expectation with participants in advance, so you do not appear to have run out of time.

Curriculum Legend: Each module includes several key components, meant to keep the workshop moving and provide breaks between lecture-style elements. Please watch for the following symbols to identify each element of the module you are facilitating:

 Facilitator notes (a summary of what should happen during a session. Facilitator notes provide an overview, which the facilitator can customize to reflect the format of their workshop/course)


 Lesson / presentation (facilitator-led teaching opportunities)


 Discussion (facilitator-led conversations, using provided questions. Facilitators are encouraged to respond to the conversation by adding their own questions whenever appropriate)


 Playbook (activities to be completed by participants in their curriculum work book. When a specific “right” answer is expected, an answer key is provided in your facilitator guide.)

 Activity (interactive or independent activities not included in the participant playbook)

 Game (interactive play-based opportunities, often using board games or digital games)

 Video (video presentations to be viewed by the group)

 Debrief (a discussion following an activity, game or video. Includes guiding questions and topics, and key points to cover when applicable)

 Independent work / homework (handouts or activities provided in the playbook, which are intended to be completed by participants independently. Some are reviewed, while others are for the participants personal information.)

Estimated time to complete this module: 1 hour and 50 minutes to 2 hours, not including a break.

Supplies required for this module:

- The Learner Playbook
- A flipchart with several available sheets of paper on it, or a whiteboard
- Either regular or erasable markers
- A SmartBoard, or laptop connected to a projector and screen, with internet access
- The PowerPoint Presentation “Problem Solving Questions”
- Computers with internet access for participants to use
- One or more Breakout EDU kits for playing the game Dr. Johnson’s Lab / Zombie Apocalypse. Please contact Literacy Link South Central if you need to borrow a Breakout EDU kit for your course.

Pre-session preparation:

- Consider any take-away activities or “homework” you may have assigned at the end of the last session, so you can review them before starting this module.
- Think about a time where you encountered a problem and had to think creatively to solve it. Be prepared to share it with participants.
- Write the following four words on a flipchart or whiteboard: Observing, Thinking, Decision-Making, Acting
- Check the link for the online article “Problem-Solving Skills: Definitions and Examples” on Indeed.com to be sure it works. The link has been provided below and in the participant playbook, and a copy is also available to print for participants if needed.
<https://www.indeed.com/career-advice/resumes-cover-letters/problem-solving-skills>
- Review the document “Dr. Johnson’s Lab Gameplay” carefully. It provides not only instructions for the game itself, but a list of important pre-game preparation required to run this activity successfully. Put aside additional time to set up this activity.
- Review the tutorials for how to set Breakout EDU locks, which is available at this link:
<https://www.breakoutedu.com/locks>
- Decide how you would like to have the group choose the topic for the next session and prepare any supplies you need.

Optional pre-session preparation:

- If you have not used Breakout EDU before, please review the Powerpoint presentation “Get to Know Breakout EDU,” available in the supporting documents for this course.

Introduction:

📖 Begin by welcoming participants and outlining the timing (including any breaks) for the session. Then, share the agenda. Note that the agenda is also in the participant playbooks for reference.

Agenda:

1. Approaching Life's Problems
2. Brainstorm a Solution to a Complex Problem
3. Problem Solving Questions
4. Skills for Problem Solving
5. Dr. Johnson's Lab / Zombie Apocalypse
6. Selecting the next session's topic
7. Wrap-up and take-away

Before you begin the first item on the agenda, take up or discuss any activities you may have asked participants to do between the last session and this one. They may be sharing observations from their life outside of class, letting you know what they learned from something you asked them to read, or describing an interaction they had with someone else.

Estimated time to complete: 5 minutes

Approaching Life's Problems

📖 Let the group know that there are few places in life where we're free of issues and problems – both in our work and personal lives. Problem solving skills are what take us from recognizing that there's an issue to being the type of person who is able to fix it. Games are all about problem solving... there's a challenging task put in front of you that often requires a less-than-straightforward solution, and you figure out how to overcome it. It's such a valuable skill – and highly transferrable to a non-gaming environment.

🗣️ Ask: Can anyone tell me about a time where they encountered a problem and had to think creatively to solve it? Answers will vary based on participant experiences. If no one has a response to this question, share a story about creative problem solving from your own experience.

📖 Explain that problem solving involves a combination of several different actions or activities. Point out the words you wrote on the whiteboard or flipchart as you explain that problem solving includes:

- **Observing** that there's a problem in the first place
- **Thinking** about possible solutions
- Making a **decision** about what you're going to do to try and solve the problem
- And then **acting** on it.



Note to facilitators: this is a good opportunity to discuss whether this group has already, or would like to, complete other modules in the Game Changer series. Both Observation Skills and Decision Making modules are available, and if you're running this workshop as part of a series, you can suggest that participants consider voting for one of these two modules for their next session.

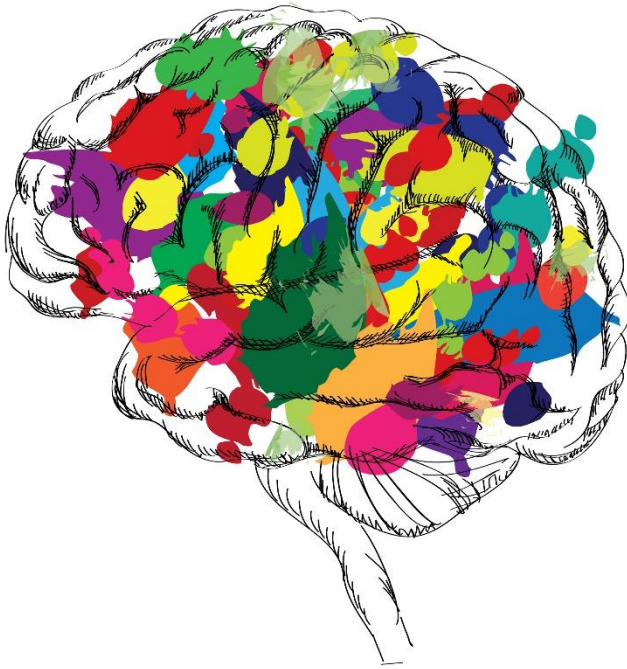
📖 Remind participants that unfortunately, problems don't generally solve themselves without someone taking action and doing something. Then direct them to think about whether they know someone who complains a lot when there are problems in their lives.

🗣️ Ask: Do they do anything to make the situation better or just talk about how someone else should? How does that make you feel? Answers will vary depending on whether participants know someone like that (most people do). Dealing with them often makes people feel frustrated, fed up, annoyed, or even guilty if they feel like they should solve the problem for this other person. Discuss these different reactions, and ask participants what it is about the other person's behaviour that makes them feel that way.

📖 Let the group know that we recognize sometimes we can't solve the problem – it's beyond our control. But we are capable of amazing things if we assume we *can* change things. Blue sky thinking / brainstorming are amazing ways to find creative solutions to problems that seem unsolvable. Tell them we're going to test that theory right now.

Estimated time to complete: 5 minutes

Brainstorm a Solution to a Complex Problem



✎ Have the group vote to choose one of the problems from the list provided below (also included in the participant playbook). Write the “winning” problem on a whiteboard or flipchart so the group can see it.

- Homelessness in our City/Town
- Single-use plastics ending up in oceans and lakes
- Not enough young people are entering the skilled trades to replace retiring tradespeople

✎ Before you begin, stress that when brainstorming there is no such thing as an answer that’s too outside-the-box, and that we’re spending this time generating ideas not poking holes in them. Then, lead a brainstorming session to generate solutions to the problem chosen by the group, and record the solutions they generate. Ask who-what-where-when-why-how questions to expand on their ideas and flesh out how they could be accomplished.

? Debrief: When the activity is done, point out how the ideas near the beginning are often simpler or “smaller” compared to those near the end, and that later ideas often took elements of earlier ideas and expanded on them.

Point out that working as a team to problem-solve generated real, actionable and creative solutions to the selected problem, and that the ability to work together to problem solve is a very valuable skill employers are looking for.

Estimated time to complete: 20 minutes

The Problem-Solving Process

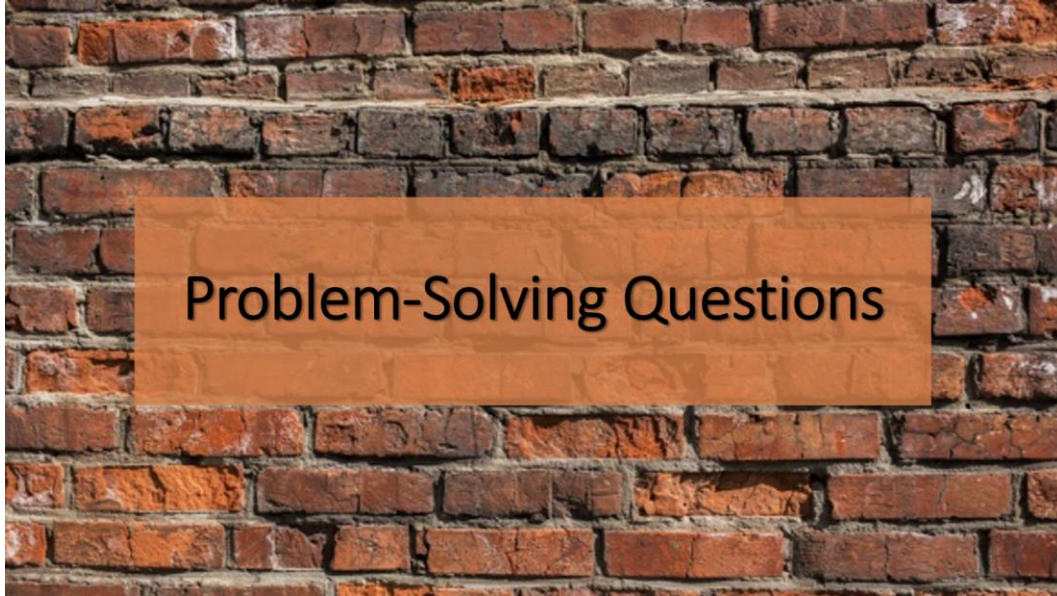
🗨️ Facilitate the lesson “Problem Solving Questions.” Facilitator instructions and scripting are both included in this Facilitator Guide, and also in the “notes” section of the PowerPoint presentation.

📖 If you are comfortable with this material, the scripting does not need to be used word-for-word. It is there as a guide and to be referenced to assist you in this lesson as needed.

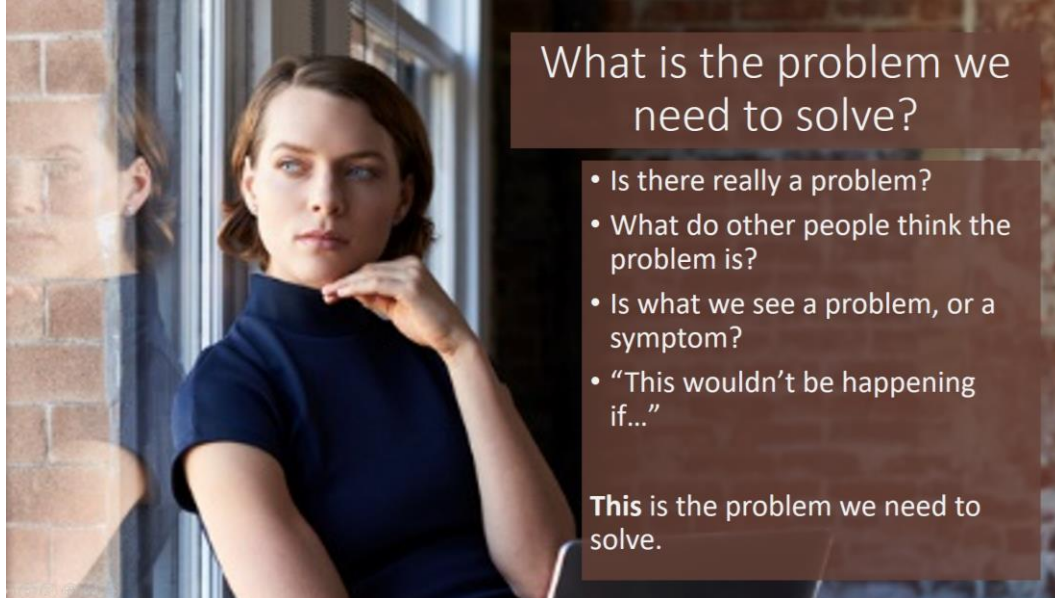
📖 The participant playbook contains accompanying information and places to record notes for this lesson.

Estimated time to complete: 15 minutes





There are four key questions we can ask ourselves when we're faced with a problem we need to solve – whether it's big or small. They go a bit deeper than the four actions of observing, thinking, decision-making and acting we talked about earlier, but they are very well aligned. We're going to look at each of them, and then figure out how you go about getting the answers you need to reach a solution to the problem.



First, what problem do you need to solve? That’s a great place to start! It sounds like a simple question, but it’s kind of deceptive.

For example, we need to make sure that what we think is a problem *is really a problem*. Is it just something that we don’t like personally, or do we think it’s a problem because we resent or dislike where it’s coming from? What seems like a problem to one person may not be a problem to anyone else – so sometimes we have to separate personal opinion from the mix.

To make sure the problem is more than just an opinion, look at it from different points of view – and that means involving anyone impacted by it. Find out what they think the problem is, so you can make sure everyone’s on the same page and agrees that there’s a problem to solve. If there’s been a workplace injury, for example, it’s not just the injured person who would be consulted to figure out what went wrong. A Health and Safety representative, anyone involved in the incident where the injury occurred, on-site recordings, other workers who’ve been injured – they would all come together to identify the true cause of the problem.

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And maybe there is really a problem – but are we looking at the right one? We might actually be looking at the symptom of a completely different problem we hadn't realized was happening. It's a bit like giving someone an aspirin for a headache, when the cause of the headache is actually a head injury. You've treated what seems to be the problem, but the source of that problem remains.

A great way to get at the root cause of a problem is to come up with different ways to finish the statement "this wouldn't be happening if..." A caution though: it's a statement that can lead us away from problem solving if it ends in an accusation. "This wouldn't be happening if... Frank wasn't such an idiot" is not actually going to help – in fact, Frank's angry, emotional reaction is likely to get in the way of moving forward at all. Instead, get at the issue directly with a statement like "this wouldn't be happening if... the safety lock was put in place any time the machinery isn't in use."

With everyone's perspectives in mind, and some digging to find the root cause of the problem, we can come up with a clear statement ((CLICK)) **this is the problem we need to solve.**

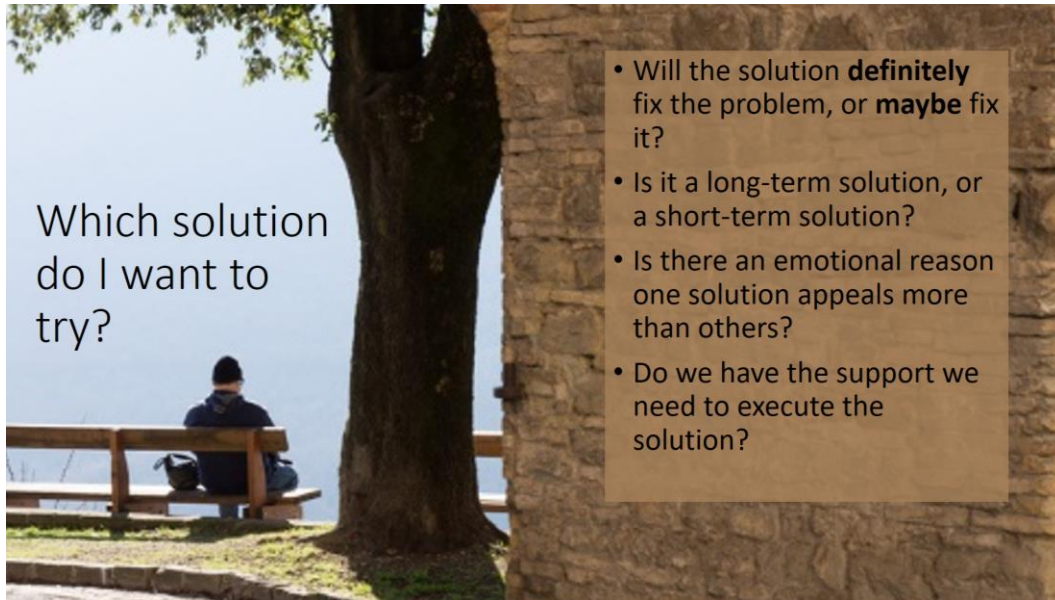


Once we are very clear about what the problem is, we can look at different ways we could fix it.

While it might be tempting to just go with the first potential solution, it's important that we think of several different ways we could possibly solve the problem, even when we just want to get it over with quickly.

It's equally important that we include the people impacted by the problem in coming up with a solution. Everyone looks at problems a different way, and the same problem can affect people in different ways. That can change what solutions would and wouldn't work, so there's incredible value in getting those different perspectives when trying to solve a problem. This is an excellent opportunity to practice brainstorming, and building on each others ideas like we did in our last activity.

Once we have several different options, we need to think about the consequences of each possible solution – not just how it will (hopefully) solve the issue right now, but what will happen as a result of making that decision in the long-run? Are there implications on anyone else? Could there be a “down side” to this solution that's worse than the problem we're trying to solve in the first place? Make sure you keep solutions on the list that you can live with, and that don't inadvertently make things worse. The problem with the safety latch not being used on the machinery – technically, getting rid of the machinery altogether would ensure that no one gets injured by it – but it also might put the entire company out of business and everyone who works there out of a job. Not a solution we should probably keep on the list.



Once you have a list of possible solutions, you have to decide which one you're going to try.

Consider how likely it is for each solution to result in the problem being solved. Some solutions that came from your brainstorming session might be guaranteed to fix the problem, while others only "might" fix it. While something that might fix it could be the quickest and most attractive choice, how willing are you to face this problem again – and possibly again after that, if your bet doesn't pay off?

Weigh whether the solutions you're considering will solve the problem not just short-term, but permanently. Remember our friend with the headache earlier? From a long-term perspective, their problem needs a bigger solution than an aspirin.

It's also important to look at each of the possible solutions analytically – not turning them down because they're difficult, or we don't like the person who suggested them. Taking our emotions out of the mix when problem solving is a good way to make decisions that really work.

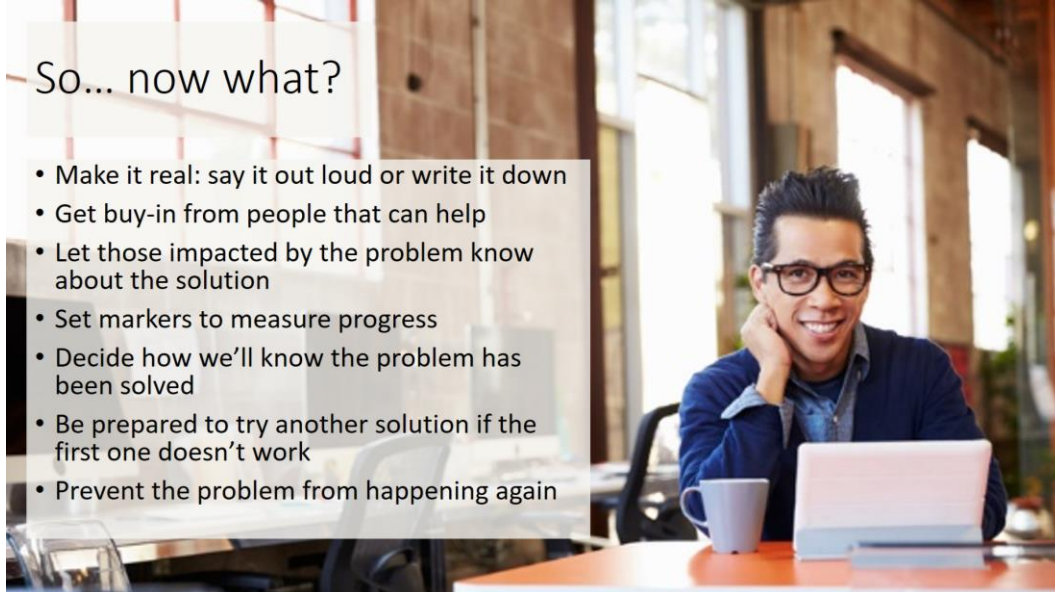
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We also have to keep in mind that if other people need to be involved for the solution to work, we need to get them on board – make sure they’re willing to do the work involved. If we don’t confirm that ahead of time, we could shoot ourselves in the foot by deciding to try a solution we can’t actually make work.

Once we’ve weighed our options, we can decide what solution we’re going to try.

✍ If you have facilitated the Decision Making module with this group, mention the idea of making pro and con lists, ranked pro and con lists, and decision matrixes to help make this process easier.

✍ If you haven’t facilitated the Decision Making module and plan to run additional modules from the Game Changer course, suggest that for additional tips and tricks on making good decisions the group may want to vote for the Decision Making module when they choose the next session’s topic.



We've made a decision, which is great! The next part can sometimes be the hardest – and that's actually working on the solution.

First, deciding what solution we think will work is a good first step, but we have to make it real – say it out loud, write it down on paper – heck, even post it to the front of the fridge. Don't keep it just in our heads, but do something so that solution is visible as a reminder. That way we're less likely to let the habits or behaviours that caused the problem in the first place happen again.

We need to be clear about what the solution is not only for our own sakes, but for everyone else impacted by the problem. Again, we all have to be on the same page, so let's talk to them – make sure they understand the solution and get their buy-in that they're going to act on it along with us. Even if they don't have a role to play in executing the solution, anyone impacted by the problem should know that we're working on it and how.

Executing a solution is rarely a quick, one-step process. We'll need to keep at it – keep focused on the decision we made and see if it's making a difference. And that's a big question – how do we know if the solution is working? For some big problems, it might be obvious – if a house is on fire and our solution is to aim a firehose at it, we'll know pretty quickly if it's helped or not. But lots of problems aren't that clear cut.

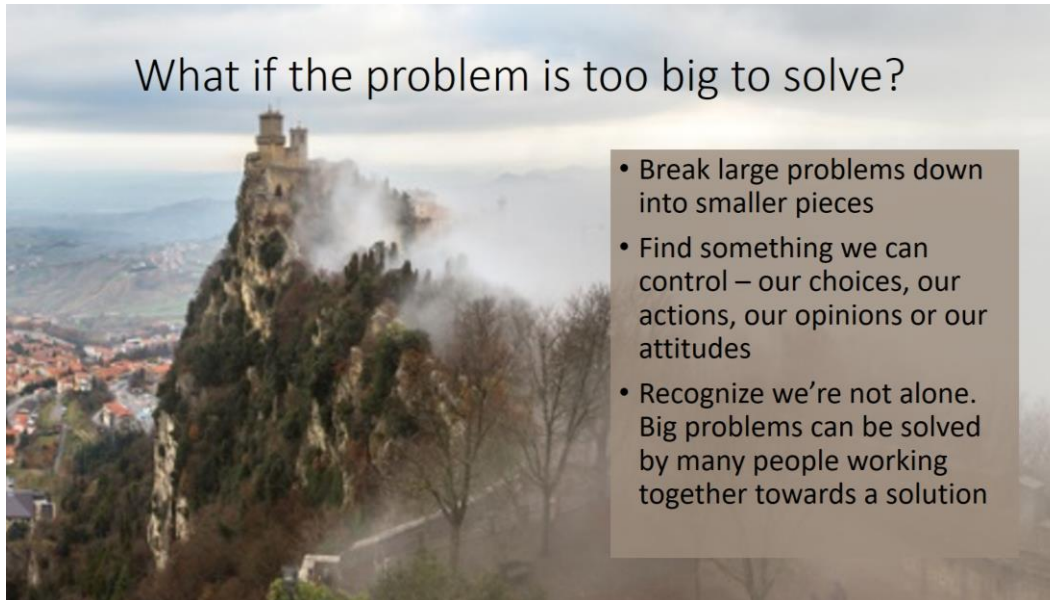
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Are there any markers we can set to know we're making progress? Consider the statement "I will know that things are getting better when..." and come up with not just one, but several different ways to finish the sentence. Then, consider how to end the statement "I will know this problem has been solved when..." Much like the solution we chose, we need to write these statements down. That's not only so we don't forget them, but so we can celebrate progress with a checkmark next to each statement that comes true.


And don't forget to talk to the people who were impacted by the problem – do they think the solution helped? Are they finding the situation better? When both we and they agree that the solution is working we can start to relax – and when we all agree on that final "this problem has been solved" statement, we can celebrate.

I wish it were simple, and that the first solution we try will fix our problems every time. Using the techniques we discussed there's a better chance, but that's not a guarantee. We have to be prepared that we may not hit those markers, and will need to go back and pick what we thought was the second-best solution to try instead. That can be frustrating, but we will have learned something from what didn't work in the first solution we tried – let's use that for our next try.

Finally, once the problem is solved, it's worth taking some time to consider how we can make sure the same problem doesn't happen again. Think about the solutions we put in place, and whether there's anything we or anyone else could do proactively to prevent the problem from coming back.



It can be hard to start the problem solving process when some problems seem so large, or when we feel like we don't have the power to actually execute a solution. That's a good opportunity to reframe the problem into something that we can impact – even if it's our own choices, attitudes, or opinions. Big problems like poverty, racism, environmental crises and health pandemics do feel like things we can't find a solution to on our own – but in each and every one of these situations there's something we can do to be part of the solution – and if enough other people do it too, even big overwhelming problems can be impacted.

 This concludes the lesson.

Skills for Problem Solving

✍️ Let participants know that problem solving is something we often see listed as a required skill in job postings. As a result, there are lots of great resources on job posting websites to help people see how problem solving relates to work, and how to highlight your skills to potential employers.



Direct participants to computers, and ask them to pull up the article “Problem-Solving Skills: Definitions and Examples” on Indeed.com. The link for the article appears below, and in the Participant Playbook.

<https://www.indeed.com/career-advice/resumes-cover-letters/problem-solving-skills>

📖 Ask participants to answer the questions in their Playbook, and let them know that you’ll take the answers up when they are done. The questions and answers appear below and on the following page.

Estimated time to complete: 10 minutes

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1. Although problem solving is often identified as its own separate skill, this article suggests that there are lots of other related skills that go into effective problem solving. List them below:
 - 1) Active listening
 - 2) Analysis
 - 3) Research
 - 4) Creativity
 - 5) Communication
 - 6) Dependability
 - 7) Decision making
 - 8) Team-building

2. Review the examples of problem-solving skills provided and fill in the blanks or answer the questions below.

When identifying possible solutions, you will need to know how to **communicate** the problem to others. You will also need to know what **communication channels** are the most appropriate when seeking assistance.

What skill involves gathering information about a problem by brainstorming with other team members, consulting more experienced colleagues or acquiring knowledge online?

Research

Employers highly value individuals they can trust to both identify and then implement solutions as fast and effectively as possible. What skill is this associated with?

Dependability

The first step to solving any problem to **analyze** the situation. Your **analytical skills** will help you understand problems and effectively develop solutions.

3. Review the suggestions under how to improve your problem-solving skills. Choose one, and describe how you could practice it in your life – either at home, in school, at work, or with friends.

Answers will vary by participant, but the four suggestions in the article are:

1. **Acquire more technical knowledge in your field**
2. **Seek out opportunities to problem solve**
3. **Do practice problems**
4. **Observe how others problem solve**

4. Where can you highlight your problem-solving skills on your resume? **In the “skills” section, the “achievements” section, or by giving specific examples of problem solving in your “experience” section.**
5. Can you also reference problem-solving skills in your cover letter? **Yes**

Dr. Johnson's Lab / Zombie Apocalypse

Note: this game takes some time, and some privacy, to set up. If you haven't done the setup prior to the start of the session, you will need to schedule a break before starting this game. The full set of instructions for setting up and executing this game are available in the document "Dr. Johnson's Lab Game Play."

📖 Remind participants that we just talked about the importance of research and analysis, good communication, teamwork and decision-making when solving problems. Let them know we're going to play a very different kind of game – not a board game or video game – that will let them demonstrate all of those problem solving skills.

🗣️ Ask: has anyone in the group ever done an escape room before? If they have, ask them to describe it in general terms, focusing on the types of challenges they faced, not the storyline of the game. Pick out specific challenges or tools they used (like locks, black lights / UV lights, etc.) as they speak, so you can draw a parallel to the game they're going to play.

📖 Let them know that while escape rooms require you to go into them and try to get out, a lot of the same concepts can be used in reverse. That's where "break in boxes" came from.

🗣️ Ask: has anyone in the group heard of or done a "break in box" before? If they have, ask them to describe what that experience was like.

📖 Set the stage for the game by reading the story out loud to participants. It appears both on the following page, and in the participant playbook. Let them know that components of the game appear around the room, and that they will have to use their resources to figure out how to get the antidote. Tell the group how long you are going to give them to complete the challenge (between 30 and 40 minutes is suggested) and start the timer.




The story:

You are attending a series of professional development workshops, and your facilitator has called in sick. But don't worry – a colleague of theirs named Dr. Johnson agreed to step in for them. Something is a bit strange about Dr. Johnson though – he spends more time looking at his files than teaching, seems distracted and anxious, and keeps leaving the room unexpectedly.

When he's out of the room, you and the rest of the group decide to take a peek at the files that have Dr. Johnson so worked up. You discover that Dr. Johnson has plans to unleash a deadly airborne virus that would turn anyone who came into contact with it into a zombie. However, you also learn that the doctor has created an antidote that can reverse the symptoms. He plans to save it for himself and family.

You have a limited amount of time to use Dr. Johnson's files and clues in the room to find the antidote and save yourselves (and the world!)

 Observe as the group attempts to break into the three boxes and get the antidote that will stop the zombie apocalypse. As it progresses, make notes about who did a great job of communicating with others. Did any natural leaders appear? Who demonstrated good observation skills? Who was effective when faced with a challenge they had to figure out? What else do you notice?

? Debrief: If the group successfully breaks into the third (largest) box and gets the antidote, they will find three reflection cards. Ask three different participants to each take a card, and both read out loud and answer the question that's on it. The questions appear below, and can still be used if the group was unsuccessful in the challenge:


- Describe how solving a puzzle in the game relates to solving a problem in the real world
- Describe how another member of your team exemplified critical thinking
- Describe how this game relates to what you were learning about

Continue the debrief by asking the group about the experience of playing the game. What problem did they face that was the hardest? How did they approach it? What skills did they have to use to be successful? If they weren't successful, what do they think they could do differently next time?

Estimated time to provide instructions and complete the game, including the debrief: 45 to 55 minutes.

Selecting the next session's topic

📖 Thank the group for choosing today's topic, and let them know it's time to pick the focus for the next session. Share the list of remaining topics as shown below.

- 
1. Verbal communication
 2. Non-verbal communication
 3. Observation skills
 4. Decision making
 5. Problem solving
 6. Teamwork
 7. Flexibility and adaptability
 8. Work ethic
 9. Conflict resolution
 10. Resiliency

✂ Take a poll: which of these topics would the group like to look at next? This poll should be done in the same format as the poll completed in the first session. A full list of possible polling options can be found in the Game Changers Course Facilitator Guide if needed.

📖 When the poll results are in, prepare for the topic chosen by reviewing that module.

Estimated time to complete: 5 minutes

Wrap-up and take-away

📌 Remind participants that we looked at lots of different techniques we can use to solve problems today, and let the group know that before the next session, you would like them to practice problem solving by working through the activity below. Let them know you'll be asking them to summarize their experience at the start of the next session.

Think of a problem you have in your life, and then ask someone else for their opinion of the problem.

Do they see it the same way you do? Yes No

Thinking of that problem, finish the sentence "this wouldn't be happening if..." as many times as necessary to confirm it's really a problem, and not just a symptom.

Have you confirmed what the actual problem is? Yes No

Brainstorm possible solutions to the problem. Get other people's input if possible.

Will you act on one of those solutions? Yes No

📌 Ask for questions or comments about today's session. Thank the group for participating, and remind them of the date and time of the next session. Please make a note of the homework assigned during this session, so you can review it during the session that follows.

Estimated time to complete: 5 minutes

📌 This concludes the module "Problem Solving".