



# MAKER matic

## Workbook for Coaches

Beta V.052719

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## ACKNOWLEDGEMENTS

Accomplishments in makerspaces most often are the result of a collaborative effort. Creating Makermatic was similarly a collaborative effort by the CCC Maker Advisory Committee, the CCC Maker team, and the inspiring work of the vanguard makerspaces that led the first Makermatic sessions. The CCC Maker team—led by Carol Pepper-Kittredge and staffed by Karen Fraser-Middleton, Deborah Bird, Toni Edgerton, Jennifer Ulrich, Salomon Davila, and Paul DeVoe—wish to acknowledge the contributions of:

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A MAKERSPACE IS  
A NATURAL BRIDGE  
CONNECTING  
STUDENTS WHO  
ARE EXPLORING  
FUTURE CAREER  
OPTIONS WITH  
BUSINESSES WHO  
NEED TALENTED  
WORKERS.





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# MAKERMATIC BACKGROUND & OBJECTIVES

CCC Maker, Makermatic's parent program, is a three-year 17-million-dollar initiative funded by the California Community College Chancellor's Office (CCCCO) Doing What Matters framework to build a network of maker communities and makerspaces at 24 California community colleges. An integral function of CCC (California Community College) makerspaces is serving as a bridge between students and the business community.

Makerspaces are uniquely positioned to bring together access to tools, technologies, social connections, and instruction in a supportive environment. Makerspace students often seek inspiration, skills, and opportunities to pursue a vocation that fits their interests. Makermatic is an internship program model born out of the desire to meet these student needs.

There are three key roles in Makermatic: student interns, business leaders (from a local company or industry), and the makerspace coaches. Working as Makermatic paid interns in the makerspace, students connect with local business leaders to help solve a real-world problem, building skills in problem solving, deep ideation, teamwork, and communication in the process. These are skills that students can use throughout their careers, regardless of work setting.

The ideas behind Makermatic were developed from a CCC Maker Advisory Committee meeting in April 2018. The CCC Maker Advisors, some of the Maker Movement's leading movers and shakers, suggested that 1) the potential of the community college student was under-imagined and 2) the business community had real business problems that it would gladly share with students as topics for learning and a source of creative solutions.

Following this guidance, the CCC Maker team developed a 20-hour internship that connects students to real-world business problems. As of this writing, the team has led six full Makermatic pilot programs at five colleges.

Our early findings shows Makermatic is an effective way to connect the student interns, makerspace, and business community and to benefit the entire ecosystem. Matching students to employers in a traditional one-on-one model is extremely time-consuming. The Makermatic model is a much more efficient way to run internships, connecting 20–25 students in a real-world business experience with one employer.



The program can be hosted at any college makerspace. Guided by a community business leader and a makerspace coach, the student interns practice the skills of business problem understanding, ideation, and solution identification. Through its seven sessions, Makermatic follows a prescribed pathway for engaging interns in skill building.

Soft skills that are intentionally encouraged include teamwork, personal responsibility, and creativity. Emphasis is placed on the sense that all student interns have important contributions they're capable of making. Fostering interest and connections to potential jobs and careers are also key goals woven into the fabric of the program.

The material in this workbook, which served as the framework for the Makermatic pilot programs, is being shared so that other colleges and makerspaces can adopt and adapt this internship model for their own use.



# WHAT HAPPENS AT MAKERMATIC?

The program is divided into seven sessions: two of the days are 2½ hours each, and the rest are 3 hours each. For each session, the program has guided topics and exercises that are meant to be engaging and challenging for the interns. There are instances of whole group work, but much of the activity is done in small four- or five-person teams. The interns are expected to participate (be present and engaged) and act respectfully to their fellow interns, coaches, and business leaders.

## **MAKERMATIC AS A JOURNEY**

The business leaders and coaches can use the metaphor of a “hero’s journey” to describe the Makermatic process. The program begins with interns who are called to a great challenge and guided by mentors. Learning about the business leader’s challenge, the interns explore the problems and needed changes that are barriers to achieving the business challenge. Finding good problems to solve, the interns move on to exploring ideas that might lead to useful solutions. Once found, these solutions are refined and presented to the business leader’s panel on the final day of Makermatic.

## **INTENDED OUTCOMES**

### **1. Learning About the Business**

During several Makermatic sessions, the business leader gives interns insight into their business and what they do to create commerce. They then present a real-world business challenge to tackle, answer questions about the business, and give a perspective on careers that might be of interest to the interns.

### **2. Skill Practices**

Developing useful career skills takes practice. Throughout the Makermatic journey, interns get hands-on experience exercising some of these career skill muscles with business leaders and coaches as mentors. By focusing on a real-world challenge, interns practice problem identification, ideation, teamwork, and communication skills. The Makermatic premise is built on the idea that working with business leaders and coaches helps develop skills that can be used regardless of their career aspirations—whether self-employed or as an employee.



## **WHAT KIND OF MAKERSPACE CAN HOST MAKERMATIC?**

Any size of makerspace program can host a Makermatic program; it just takes a willingness by the college, coaches, student interns, and business community to work together. Makermatic thrives in a makerspace environment of exploration, collaboration, and supportive learning, but this doesn't mean that the makerspace needs to have specific equipment or be of a certain size to host Makermatic.

Makermatic was designed to facilitate paid internships, so colleges that don't have internship funding available to them need to reimagine the way that Makermatic might be delivered. For CCC Maker colleges, the internships were funded by the initiative. Employers may find that sponsoring Makermatic programs is a cost-effective way to build relationships with prospective students, the makerspace, and the community, while working on real business problems.





# KEY ROLES IN MAKERMATIC

## STUDENT INTERNS

Students who apply and are accepted into the Makermatic program have experience working in the makerspace and show an interest in connecting to a program that builds career skills. The intern cohort must have at least 12 students because teamwork is an integral part of the program.

A unique feature of Makermatic is that all of the intern work is done on the college campus with a business leader and coach as guides. In our model, the interns were paid through CCC Maker Initiative funding.

### QUALITIES OF A GREAT INTERN

The number of internships may be limited, so you may consider some of these qualities in selecting participants. In addition, these expectations should be communicated with interns so they can get the most out of the Makermatic experience.

A qualified Makermatic intern:

- Shows interest in the Makermatic program by attending the information session and any other pre-Makermatic events
- Completes the application and provides needed documentation
- Can come from any discipline, working background, or interest (There were interns from six different majors at one of the first Makermetics, which supported our belief that diversity of applicants adds significant value to Makermatic program participants.)
- Is willing to commit to the attendance requirements
- Tracks their hours and completes group and individual tasks
- Chooses to be a good team member who actively participates in team activities
- Engages in the sessions by listening, asking questions, and completing their assignments
- Follows the rules of the program
- Seeks to engage the business leader and the coach

## BUSINESS LEADER

The business leader serves as the vital connection for the interns to the business world. More than one person from the business can serve in this unpaid role. The business leader has a key role in setting up the business challenge and participating in three of the sessions. Prior to the first session, the business leader works with the coach to create a business challenge—defined as an interesting real-world business problem or social-cause challenge to solve.



During the sessions, the business leader shares insight and details about the problem sufficient for designing solutions. As a mentor, the business leader gives constructive, positive feedback to the interns. On the final day of Makermatic, several others from the business can be asked to serve on a panel to assess the interns' plans that they'll present.

### QUALITIES OF A GREAT BUSINESS PARTNER

Choosing a good business partner is an important step in setting up Makermatic. Sometimes the business partner will already be engaged with your makerspace community, and other times you may need to reach out into the college's network to find a suitable business partner.

What makes a great business partner?

- Desire to commit to being a business partner with the Makermatic program
- Willingness to discuss real-world business problems and environment, as well as to share an overview of the business, industry, and the context of the business challenge being presented
- One or more business leaders at the business who are willing to commit to sharing insights about the business with the interns (The business leaders don't need to answer proprietary or confidential information with the interns. Some companies may ask the interns and coaches to sign non-disclosure agreements.)
- Business leader willing to dependably attend the three required sessions and be available for communication with the coach
- Business leader projects a true interest in engaging the Makermatic interns (It would be great to hear the business leader say something like, "We would love to hire students from this college with these skill sets.")
- Bonus: Business is in an industry that is growing and projects increasing employment needs.

### MAKERSPACE COACH

From the hosting college makerspace, this person (or persons) is the key resource to ensuring a successful internship program. The coach coordinates the program startup, recruits interns, coordinates with the business leader, and acts as an intern guide during the internship sessions. The pre-Makermatic startup duties begin with organizing for the program and sharing the program's purpose and value within the college. A keystone to a successful program is finding a local business with a business leader who can serve as a mentor to the interns and attend the three required sessions.

Marketing and holding at least one information meeting are key to gaining student interest. Onboarding the students into a CCC Maker-funded employment program (or other program relevant to the college) is the final important step leading up to the first Makermatic session. This workbook has sections on Getting Started and Onboarding Interns that guide the coach through these pre-Makermatic steps. More information about the role of the Makermatic coach can also be found in the Getting Started section.



### QUALITIES OF A GREAT COACH

The makerspace coach is, among other things, the liaison between the makerspace and the business partner, all while helping to facilitate and guide the student interns. Here are some considerations when choosing your college's Makermatic coach.

A great coach:

- Handles the logistics of getting Makermatic set up, including working with the college, business, students, and CCC Maker
- Understands that they're role models (While interns are encouraged to look at their own ideas about work and careers, the coach's role is to encourage the interns to actively participate.)
- Encourages all students to participate, regardless of their majors, gender, backgrounds, or other biases
- Understands that the interns are employed and must follow the Makermatic requirement for behavior, attendance, and employment processing
- Nurtures a positive and affirming atmosphere with the interns and helps them understand that they have potential and that the business world needs them
- Prepares for each session and accomplishes key agenda tasks on time
- Targets potential sources of students and inspires interest in being part of the Makermatic program

### CCC MAKER TEAM

In delivering our incarnation of Makermatic, the CCC Maker team supports the content and delivery of the program. They also monitor and serve as liaisons to the Foundation for California Community Colleges, Career Catalyst Program, which administers the intern payroll and liability program.

The CCC Maker team supports Makermatic by organizing and providing the content, checklists, templates, and associated collateral material. In some cases, CCC Maker may make coaching assistance available from coaches who have experienced Makermatic at their own colleges. They can answer questions about delivering the Makermatic program and foster coach-to-coach connections to share questions and experiences with the program.

Importantly, CCC Maker collects useful data about the program, including intern, business leader, and coach recommendations for program improvement. Finally, the team makes Makermatic resources available on the CCC Maker website.



# GETTING STARTED

## OVERVIEW

This section outlines helpful requirements and recommendations to undertake prior to initiating a Makermatic program at a college site. Preparation and negotiation with the business partner and institution are critical to success and help lay the foundation for community involvement, especially for future events.

## SAMPLE CALENDAR

Below are critical dates that need to be determined, scheduled within the school calendar, and communicated out as soon as possible to secure interested students who can commit to the dates. Topics covered in each date are detailed in the sections below.

---

***Informational Meeting: <date & time>***

***Onboarding: (Job Application/Processing) <date & time>***

- Participants fill out all paperwork
- Attend Makerspace Orientation and Training (<multiple dates & times available>)
- Charrette: <date & time>

***Makermatic Program: <Start date to end date (# hours per session)>***

***Debrief: <date & time>***



<Month>

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		Informational Meeting		Informational Meeting		
				Charette		
		Application Due		Participant Selection		
				Onboarding		
		Onboarding		Onboarding		

<Month>

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		Onboarding		Makermatic 1		
		Makermatic 2		Makermatic 3		
		Makermatic 4		Makermatic 5		
		Makermatic 6		Makermatic 7		
		Debrief				

<Room, building, college, address & website>

**CHECKLISTS**

Below are checklists for getting ready to start a Makermatic program. These lists aren't exhaustive but rather are meant to help facilitate the startup process.

**Checklist for Coaches**

- Check in with the CCC Maker team or website and get the latest Makermatic materials, forms, and templates.
- Attend a Makermatic orientation if one is available. (There's a [Makermatic Introduction webinar](#) plus [slides](#) available online that provide an overview of the Makermatic program.)
- Get college approvals to hold a Makermatic session, if needed.
- Engage in finding and connecting with potential business leaders. Meet with them and establish their vital role and the requirements for participation.
- Begin the process of determining the business challenge in collaboration with the business leader.
- Review the calendar requirements and establish dates that will work.
- Field your team. We recommend two coaches. We also recommend having several assistant student coaches to help with logistics and team exercises.



- Make a plan to document and share the Makermatic sessions through videos, photos, campus articles, and community press releases.
- Figure out your space needs. You'll need to have room for meeting as a group and breakout spaces for teams of 4–5 interns. (Please note that meeting in the makerspace isn't required for Makermatic, but it's highly recommended.)
- Review the process of onboarding students.
- Create a budget for Makermatic expenses that may include staffing, operating costs, marketing and collateral material, and session snacks. (We don't recommend paying the business leader.)
- Create a plan to market the Makermatic program to potential interns. We've provided a sample Makermatic flyer later in this manual. (You may want to speak with past coaches to find out how they spread the word across campus and into the community. Don't forget to engage campus clubs.)
- Determine your attendance and behavior rules for the interns. Understand the process and responsibilities of enrolling the students as interns and tracking their hours for compensation.

### ***Checklist for Orienting the Business Leader***

- Share the overall goals of Makermatic.
- Convey the role of the business leader, coach, and interns.
- Seek commitment to attend the three required sessions and be available to the coach throughout the Makermatic program.
- Determine if the business leader(s) need to complete volunteer forms.
- Provide campus orientation to the Makermatic location and parking.
- Establish best communication methods (email, phone, meetings).
- Guide the business leader through the process of understanding what makes a good business challenge, and create a draft that can be reviewed.
- Discuss sensitivity to nondisclosure and the intellectual property needs of the business (if any).
- Share the student application, drawing particular attention to the disclaimer on ownership of intellectual property.
- Convey the business leader's role and value of engaging the interns, listening, asking probing and challenging questions, and having an overall positive approach to the sessions.
- Encourage the business leader to invite other leaders from the same business to participate in Session 7 as panelists.
- Discuss publicity options, which may include press releases, interviews, video, and photography.
- Plan on recognizing the business leader at a college board of trustees meeting to share the results.



# ONBOARDING INTERNS

## OUTREACH AND RECRUITMENT

Promotion of the Makermatic program is necessary to secure diverse student participation and to communicate the opportunity to talented students so the Makermatic internship delivers the best solution to the business leader. Take this opportunity to do outreach and discuss what the makerspace and Makermatic provide to the campus community. There may be opportunity to recruit a future coach in the process of talking to faculty around campus.

Use traditional flyer distribution as well as your campus notification systems to promote Makermatic enrollment. Because the Makermatic experience is rooted in process and transferable skill sets to arrive at a collaborative solution, recruitment of students from a specific discipline isn't required. Even if students may not have any makerspace skills, the process of recruitment may be used to promote orientation sessions or trainings that are undertaken at the makerspace prior to Makermatic. Below is a sample flyer.

Develop an outreach campaign through your college, reaching out to student groups, counselors, and departments to announce the internship to their students. This will help ensure that a diverse student population with a broad range of majors are represented in the makespace programming, adding value to the college as a whole versus just a small group of programs.

## INFORMATION SESSION

Following campus-wide outreach and recruitment, information sessions should be used to describe the Makermatic program to interested students. Topics for the sessions may include skills gained and how real-world problems are addressed by employers. Selection criteria, deadlines, the Makermatic application, and job requirements for the internship should also be discussed. Sample items to consider are listed in the table below.

LOGISTICS	SKILLS	JOB READINESS
Schedule/Hours	Job Application	Career Exploration
Selection Process	Team Collaboration	Professional Evaluation
Rate of Pay	Problem Definition	Resume Development
Evaluation	Solution Deduction	Professional Presentation



## CHARETTE

An optional charette (collaborative session) can serve to introduce a variety of skills represented in problem solving, team building, and design thinking. This activity may be hosted before or after the selection of students. If done before, the activity may provide a method to recruit students to the makerspace and provide insight into final selection. If performed after the selection of students, it may help to orient students and prepare them as a group.

The length of the charette can vary, and the objective can change; however, there should be an expectation set that the forthcoming seven sessions of Makermatic will follow a similar format and process as the charette. Encourage students to interact with their teammates and learn from how students with diverse backgrounds approach problem solving. This activity may bring out interpersonal problems and can help coaches to balance team members for a successful Makermatic.

After the charette, encourage students to continue engaging in the makerspace to develop the skills employers are seeking through other makerspace programming, especially if there's a potential that some of the students may not be selected for Makermatic. Consider using coach assistants to distribute materials, name tags, and keep time while coaches focus on leading the Makermatic program and encouraging the interns to do their best work.



| <\$<sub>amount</sub>> PAID

# INTERNSHIP

CREATIVITY  
COLLABORATION  
EXPLORATION  
PROBLEM SOLVING  
STORYTELLING  
CRITICAL THINKING  
NETWORKING  
ENTREPRENEURIAL

Makermatic is a **20-hour** <total dollar amount> **paid internship** in the <college> makerspace that offers career pathways by taking participants through a real-world business challenge. Find out more by attending an information meeting on <date> in the <college> at <time>.

<room, building, college makerspace, address & website>

Funding provided by Innovation Maker 3 (CCC Maker) grant # 16-203-001, awarded by the California Community College Chancellor's Office, Workforce and Economic Development Division, to Sierra Joint Community College District.



SAMPLE APPLICATION

[Sample Application]
<Insert college logo>



Makermatic Internship Application

Time commitment is mandatory.
\*PLEASE PRINT CLEARLY

INTERN INFORMATION

Name (Last, First)
Phone email W#
Address (Street/City/State/Zip)

PERSONAL STATEMENTS

How did you learn about Makermatic (faculty, friend, etc.)?

Why are you curious about the Makermatic internship?

List any career goals you may have.

List any life goals you may have.

MAKING AND/OR MAKERSPACE EXPERIENCE

- Complete Makerspace Orientation (required)
Complete Makerspace Training (required)
Attended workshop(s) at the college Makerspace or another makerspace.
Which ones?
External training (i.e., welding, shop, jewelry, surfboard shaping, ceramics, software, equipment, etc.): Please list your experience(s) with making.



SAMPLE APPLICATION

[Sample Application page 2]
<Insert college logo>



MAKERMATIC INTERNSHIP APPLICATION

TIME COMMITMENT IS MANDATORY

\*PLEASE PRINT CLEARLY

SKILL SETS

Soft skills are defined as interpersonal (people) skills, including communication skills, listening skills, and empathy. Please list your experience with soft skills.

\_\_\_\_\_

Design thinking is a process for creative problem solving. List any experience you have with this type of thinking/process.

\_\_\_\_\_

What is your superpower? What are you great at and/or what do you love to do?

\_\_\_\_\_

COURSES, EDUCATION & PROGRAMS

List any maker-related courses you have taken (i.e. graphics, animation, engineering, electronics, etc.)

\_\_\_\_\_

What is your major or course of study? \_\_\_\_\_

What certificates or degrees have you earned (highest level of education completed)?

\_\_\_\_\_

JUST FOR FUN

List five words that best describe who you are. \_\_\_\_\_



SAMPLE APPLICATION

[Sample Application page 3]
<Insert college logo>



Makermatic Internship Application

Time commitment is mandatory.
\*PLEASE PRINT CLEARLY

WORK AND/OR INTERNSHIP EXPERIENCE

Please list work and/or internship experience.

Workplace \_\_\_\_\_

Position/Title \_\_\_\_\_ Start Date/End Date \_\_\_\_\_

Duties \_\_\_\_\_

Workplace \_\_\_\_\_

Position/Title \_\_\_\_\_ Start Date/End Date \_\_\_\_\_

Duties \_\_\_\_\_

Workplace \_\_\_\_\_

Position/Title \_\_\_\_\_ Start Date/End Date \_\_\_\_\_

Duties \_\_\_\_\_

REFERENCES

Please list at least three (3) references.

Name/Relationship \_\_\_\_\_

Title/Company or Organization \_\_\_\_\_

Phone \_\_\_\_\_ Email \_\_\_\_\_ [ ] Check box if we may contact this person.

Name/Relationship \_\_\_\_\_

Title/Company or Organization \_\_\_\_\_

Phone \_\_\_\_\_ Email \_\_\_\_\_ [ ] Check box if we may contact this person.

Name/Relationship \_\_\_\_\_

Title/Company or Organization \_\_\_\_\_

Phone \_\_\_\_\_ Email \_\_\_\_\_ [ ] Check box if we may contact this person.



**SAMPLE APPLICATION**

[Sample Application page 4]  
 <Insert college logo>



## Makermatic Internship Application

**Time commitment is mandatory.**

**\*PLEASE PRINT CLEARLY**

**SCHEDULE**

Informational Meeting: <date & time>

Onboarding (Job Application/Processing): <date & time>

- Fill out all paperwork
- Attend Makerspace Orientation and Training (<multiple dates & times available>)
- Attend charrette: <date & time>

Makermatic Program: <Start date to end date (# hrs per session)>

Debrief: <date & time>

<Month>

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday

<Month>

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday



SAMPLE APPLICATION

[Sample Application page 5]
<Insert college logo>



Makermatic Internship Application

Time commitment is mandatory.

\*PLEASE PRINT CLEARLY

DISCLAIMER

Makermatic interns are employed by the Foundation for California Community Colleges, Career Catalyst Program.

Makermatic interns must commit to the 20 hours of the Makermatic schedule, which includes all sessions, pre- and post surveys, journaling after each session, and evaluations, in addition to the pre-Makermatic sessions of the charette, payroll set up, orientation, and training. If any of these hours are missed, for whatever reason, the internship/job will be terminated immediately. Interns will be paid for hours completed up to this date.

Intellectual property (ideas) created, made, or originated by a Makermatic intern during this internship/job shall be the sole and exclusive property of said intern. He or she may voluntarily choose to transfer such property, in full, or in part. The participating Makermatic business partner has first rights of refusal to purchase/accept ownership of said property.

All physical manufactured models, prototypes, digital media, and/or any recordings created/manifested during the Makermatic internship will be owned solely by the <college district>.

By signing this document (below), the Makermatic intern agrees to comply with the above statements.

Name (Printed)

Signature \_\_\_\_\_ Date \_\_\_\_\_



## APPLICANT SELECTION

Final selection of the Makermatic student interns should take place after the information session and optional charette session and be based on factors to successfully complete the internship. Observations in the charette can provide context when selecting final students. A student disqualifier would be inability to attend the scheduled sessions or any negative feedback in the charette or application process. This is recommended in order to provide a positive experience for the selected students.

A diverse team of interns is recommended, one that is representative of the college student body from various disciplines, ages, ethnicities, genders, work experience, technical skills, etc. We also recommended that colleges offer makerspace programming for any students not selected. Such workshops or project development opportunities can spark their interest and preparedness for upcoming Makermatic sessions.

## MAKERMATIC JOURNALS

The use of journal writing during the Makermatic experience adds reflection to the fast pace of activities during the sessions. After each session, student are prompted with a couple of questions regarding their experience. We recommend that coaches reserve 15 minutes at the end of each session to provide the time and focus to obtain authentic responses. This metacognitive activity assists in internalizing the professional modeling while considering the opportunities and challenges in collaboration with other students. One special interest students may consider in journaling is the approach to problem solving used during the sessions and how this may affect how individuals approach real-world challenges.

## EVALUATION

Effective evaluation of students taking part in Makermatic is divided into three parts:

- Evaluation of the Makermatic program's effectiveness on the student
- Evaluation of the implementation of the Makermatic program
- Evaluation of the students on the last day of the program by the business lead and designated panelists

A pre-survey is sent to the students prior to commencing Makermatic to capture general demographic information and self-reported attitudes about their preparation. To measure effectiveness of the Makermatic program on student learning, a post-survey is administered to be able to identify any changes.

A coach's journal is also used to keep a record of the implementation of Makermatic in order to assist the coach, who may repeat the program in the future. Notes of each session and how students respond may help in adjusting future sessions per the college or student population.

Lastly, the business leaders and panelists during Session 7 will evaluate the students on general soft skills. A rubric is presented as a sample to help provide feedback to the student. One evaluator, who is on the panel listening to the presentations, will be assigned a group of students. The evaluator should meet before the presentation to help coach each student and build rapport. The coach collects the evaluation of each student to share at a future time with each student.



# MAKERMATIC PROGRAM: SESSIONS 1–7

The core of the Makermatic program is the main seven sessions, outlined in detail below, along with their respective assets.

## RESOURCES

- [Downloadable Makermatic session slides, handouts, and exercises](#)
- [Makermatic Project Video](#)
- [CCC Maker Blog of Sacramento City College Makermatic](#)
- [Makermatic Promotional Video](#)

### COACH TIPS:

- Carefully watch agenda time for intern hours. Let a timekeeper help the group stay on task.
- Remember to wear name tags to build community among the interns, coaches, and business leaders.
- Look for interns who aren't engaging and address it with them privately.
- Providing positive feedback along the way is always useful in motivating interns.
- Manage the group as you see fit, but don't let the interns jump to solutions or get off topic.
- Keep the energy upbeat and positive. Help the interns if they get stuck by asking guiding questions.
- Document it! Pictures, videos, and stories about your Makermatic program, interns, college, and business leader's company provide excellent community relations opportunities.
- Create a process to track intern hours (needs to total 20 at the end).
- Saving the work product and being able to look at it in future sessions is essential in this program. Consider assigning this role to a student assistant coach.



# SESSION 1

## WELCOME TO AN AMAZING JOURNEY

### TIME

180 Minutes

### BUSINESS LEADER ATTENDS?

Yes

### WHAT YOU'LL NEED

Ability to project slides

Intern journals

Easels and easel pads

Room arranged for group size

Sticky notes

Name tags

*Optional:* Symbol of mentors and heroes, prizes, and fishnet

### SLIDES

Welcome to Makermatic

Hero's Journey

What's In It for Me?

Business Leader

Skill Builder on Symptoms

Journal Questions

### POSTERS/HANDOUTS/EXERCISES

Welcome Handout

Challenge Poster on 14"x 24"

4 Researched Problems

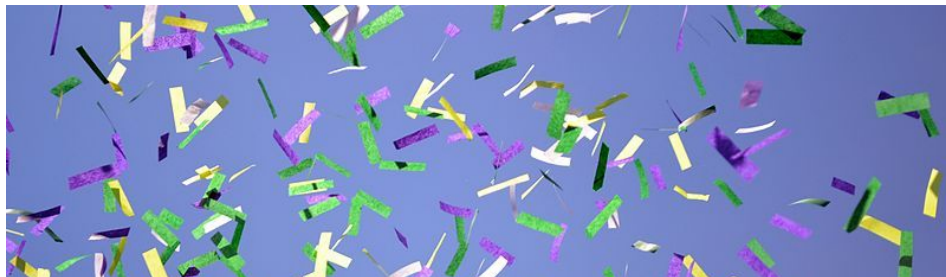
Capturing Problems Exercise

### TIME STEPS

- 0 Before the session begins, hand out name tags and ask interns, coaches, and business leaders to wear them to every session. Hand out the "Welcome to Makermatic" page, if you haven't already. Assign a timekeeper.
- 20 Begin the session with the "Welcome" slide and introduce everyone.
- 15 Use the "Hero's Journey" slide to show what the 20-hour Makermatic journey is about and what will be covered during the seven sessions. Talk about the final presentation as a destination.
- 10 Show the "What's In It for Me?" slide.
- 15 Introduce the business leader, who provides background on the company and their employees. Show their slides, if applicable.
- 15 Present and display the "Business Challenge Poster." Have the business leader talk about how they chose this challenge and why it's important.
- 10 Break.
- 5 Present the skill builder slides "Don't Waste Time!" and "Get Good Solutions."
- 75 Present the "Catching Problems" exercise. Let's begin the next step of this journey!
- 15 Journal.
- 0 Save the work products, physically and digitally.

# Welcome to Makermatic!

## You're kind of a big deal around here.



First date, first car, first job, first Makermatic. Each is a big deal and so are you. We designed Makermatic as a journey that connects you with an awesome business leader and amazing coaches. It's a good place to focus on important working world skills like teamwork, identifying important problems, and digging in to find good solutions for them. Like most things in life, you'll get as much out of Makermatic as you put into it. So we invite you to dive in, do your best, and see your skills grow.

### **How to Be Particularly Awesome**

*Don't miss any sessions* . We have a lot going on that all ties together, so we don't want you to miss anything!

*Be present* . The schedule is fast-paced. It's not like rocket fast, but it's quick, more like galloping horse fast maybe. So being in the moment, connecting with what's going on, and contributing to the work we're doing will take effort and attention.

*Take some time to get to know your business leader* . And maybe tell her or him thanks. The business leaders and their companies are only here because they care about what Makermatic means for you, which is pretty cool. They might just be a good networking connection for you, too.

*Be a good team member* . Perhaps you already figured this out, but people working well together are important in life, and it's a skill that employers look for in the working world.

SESSION 1 | SLIDE: WELCOME



SESSION 1 | SLIDE: HERO'S JOURNEY

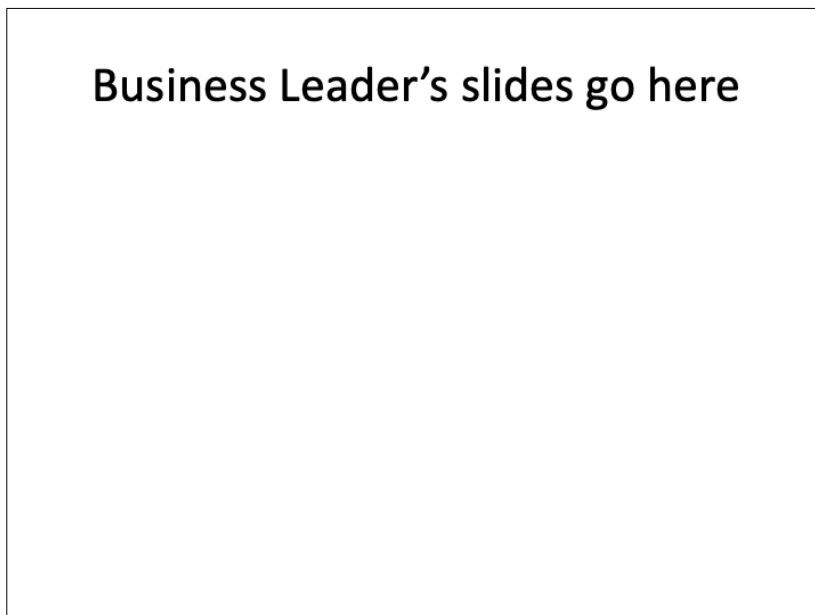


Back to Session 1 Steps

SESSION 1 | **SLIDE: WHAT'S IN IT FOR ME?**



SESSION 1 | **BUSINESS LEADER'S SLIDES**



# MOUNTAIN BEER COMPANY BUSINESS CHALLENGE

For the past three years, we've been focusing on producing the best small batch craft beer in Northern California. We know how to make great beer, but we don't know how to engage new customers. When people come to our brewery to try our beer, we want them to have a meaningful experience. We want them to FEEL our commitment to quality craft beer, our sense of community, and our deep concern for our environment.

## ***Business Challenge:***

**How might we redesign our brewery's retail experience to build on these ideals?**

*Makermatic Target Customer:* Adults of any age range, live within 50 miles of our brewery, novice craft beer drinkers, have never tried Mountain Beer.

### **Ask:**

1. What change are we trying to make?
2. Who is it for (if known)? Finding and using an actual photo can give the target customer a more real feel.

SESSION 1 | SLIDE: DON'T WASTE TIME

**Skill Builder**

## Don't waste time solving symptoms

Symptoms:	Real Problem Might Be:
Computer Problems at work	>> Understaffed support team.
Sore knee	>> Wrong shoes
Decrease in sales	>> Poor training by supervisors

SOLVE BUSINESS CHALLENGES

SESSION 1 | SLIDE: GET GOOD SOLUTIONS

**“**

*The way to get good solutions is to not think about solutions.*

*It is better to look for problems, preferably problems you have.*

Paul Graham 2012

**”**

SOLVE BUSINESS CHALLENGES



## SESSION 1 | **EXERCISE: CATCHING PROBLEMS**

### ***Background:***

In this exercise, interns come up with problems, pitfalls, and barriers that get in the way of accomplishing the business challenge objective. They'll be posting these problems on stickies to poster paper along with everyone else's. It's one big group, so think through how to move the group along with questions that elicit thought and problems to be posted.

When it comes time to find problems, it's useful to remind the interns that it's not ONE problem they're looking to solve. Difficult business problems, including this business challenge, are almost always made up of many subproblems that can be identified and tackled with creative solutions. We want to find as many of these subproblems to explore as we can. In our first pilot, the group came up with over 300 problems. At the end of the exercise, the problems can often be organized into themes for evaluation and ranking, so don't worry about overlap.

Problems can be found by asking questions like the ones on the slide below. We're looking for problems from four places:

1. Intern's experience: "I went to the eye doctor and this is a problem that should be addressed."
2. Inference from the interns: "It seems like eyewear would be hard to look at if your eyes are dilated."
3. Research: "This article says that patients think glasses from the eye doctor are too expensive."
4. Expert opinion: "What does the business leader think?"

SESSION 1 | (OPTIONAL) SLIDE: CATCHING PROBLEMS

**Skill Builder**

## Where Do You Find Good Problems to Solve?

1. **Your own experience:** “I experienced a problem that ties to this challenge.”
2. **Inference:** “It seems like this would be a problem.”
3. **Research:** “I did some research, and it showed these problems were important.”
4. **Expert Opinion:** “What does the subject matter expert think?”

SOLVE BUSINESS CHALLENGES

**Setup:**

Use several boards for posting sticky notes. If you wish, use a fishing net as a prop for “capturing” problems. Each of the boards may end up looking like the example below.

**MAKER matic**

**PROBLEMS**

Barriers to making the challenge happen

Ideas for good problems to solve

Don't try to address the whole business challenge, break it down to manageable parts.

Research says these are problems

Changes that could be made (expressed as a problem)





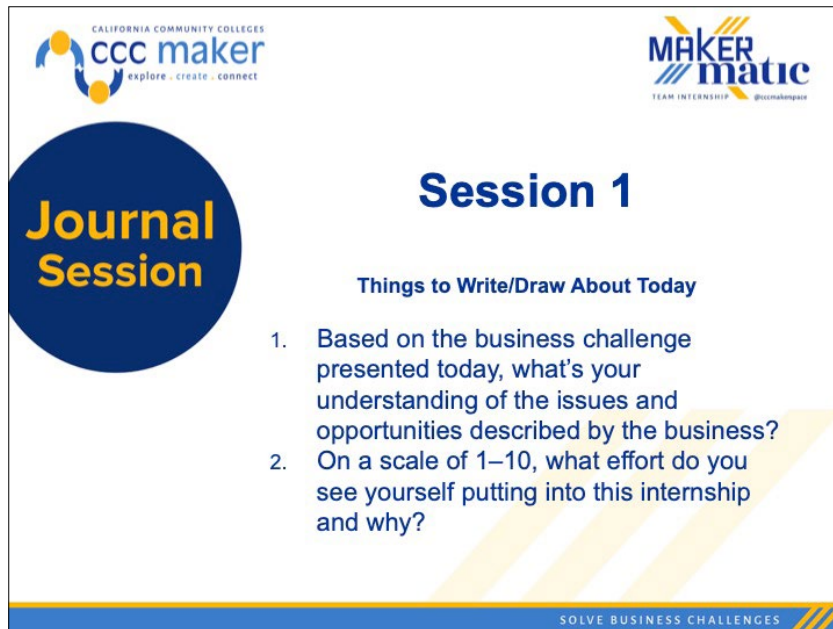
### Steps:

- Tell the interns that we're trying to capture problems to solve.
- Show them the poster boards where they can post their problems.
- Encourage them to only post in the form of a problem. Remember that we're seeking problems, not solutions at this point.
- Allow them to post anytime they come up with a problem. Remind them that everyone has experiences that will help us find problems, so everyone should participate.
- Have the business leader explain what the main problems are to the business challenge that their company has identified (expert opinion). Probe the business leader's problems that they present by asking them WHY this is a problem. Interns can use this process to find problems hiding underneath symptoms. This is called a "5 Why" technique if you wish to learn more about this.
- Preferably done ahead of the meeting, have a researcher post about six (6) key problems that research suggests as the problems behind the business challenge. This is the research approach.
- Using a way you're comfortable with, get each intern's thoughts based on experience or inference. Sample techniques include going around the room and asking for each intern's problem idea, or having them work silently for 10 minutes and post their problems, or perhaps the conversation is just organically throwing out good problems. It's up to you. Remember, let them know ahead of time that diatribes and solutions aren't needed right now, so the leader will need to cut them off.
- Gamify the exercise if possible with prizes for the first intern-generated problem or the best one in each period of time (around 10 minutes). Perhaps let the business leader pick each one. The timekeeper can orchestrate. Don't let this gamification, however, slow down the group.

### Who does what:

- **Coach:** Leads the exercise and explains how it works. She or he also needs to keep the group on track and moving along.
- **Interns:** Work collaboratively as a group. Two separate groups would be OK if it's a large group.
- **Business leader:** Answers questions and clarifies.
- **Timekeeper:** Keeps the group informed on the remaining time and may be assigned prize duties.

## SESSION 1 | JOURNAL



The slide features a blue circle on the left with the text "Journal Session" in yellow. At the top left is the "ccc maker" logo with the tagline "explore . create . connect". At the top right is the "MAKER matic" logo with "TEAM INTERNSHIP @cccmakermatic" below it. The main title "Session 1" is in large blue font. Below it is the heading "Things to Write/Draw About Today" followed by a numbered list of two questions. A yellow diagonal graphic is in the bottom right. A blue footer bar at the bottom contains the text "SOLVE BUSINESS CHALLENGES" with yellow diagonal lines.

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MAKER  
matic  
TEAM INTERNSHIP @cccmakermatic

# Journal Session

## Session 1

### Things to Write/Draw About Today

1. Based on the business challenge presented today, what's your understanding of the issues and opportunities described by the business?
2. On a scale of 1–10, what effort do you see yourself putting into this internship and why?

SOLVE BUSINESS CHALLENGES

# SESSION 2

## NARROW THE PROBLEM LIST WHO IS IT FOR?

### TIME

180 Minutes

### BUSINESS LEADER ATTENDS?

Yes

### WHAT YOU'LL NEED

Ability to project slides

Intern journals

Work product from Session 1

Sticky notes

Dots for voting

Easels and easel pads

Room arranged for group size

### SLIDES

Skill Builder: Empathy

Journal Questions

Bus. Leader "What We Look..."

### POSTERS/HANDOUTS/EXERCISES

Challenge Poster on 14"x 24"

Sort and Rank Exercise

Empathy Diagram Exercise

Empathy Keywords Handout

### TIME STEPS

- 5 Recap what was done in the past meeting. Talk about the intended outcome of Session 2.
- 45 Present the "Sort and Rank" exercise.
- 10 Present the two "Superpowers" skill builder slides.
- 30 Discuss the main characters who are affected by each of these problems. Do the "Who Is It For?" exercise.
- 10 Break.
- 45 Present the "Empathy" exercise. Distribute the "Feelings/Emotions" keyword handout. The "Empathy Map" slide can also be used.
- 5 Acknowledge the work that has been done by the group so far: the problem(s) addressed and who they affect. Thank the business leader, who will return for Session 7.
- 15 Business leader leads discussion on traits the company looks for in recruits.
- 15 Journal.



## SESSION 2 | EXERCISE: SORT AND RANK

### **Background:**

The age-old problem of businesses, new and old alike, is to know which problems to focus on. Businesses ask: Do we try to find solutions to a short-term problem? Or do we focus on a larger issue that will take a longer amount of time to develop? And in either case, which problems do we choose? A list of groundbreaking companies that have changed the world is also a list of businesses that picked the right problems to solve.

The work done in Session 1 helped create a large list of potential problems to solve. Now how do we find the best problems to work on from this extensive list of possibilities? First, ask the business leader to choose the top 4 or 5 problems that are feasible, impactful, and inspiring from their perspective. This is done before the interns choose their top problems, but don't show the results to the interns until they make their picks. We're trying to triangulate on good problems by looking at them from two different perspectives, but there's also a subtle message that in business, you don't always get to pick the work you get to work on.

The next step is to winnow the list down to a few problems by having the interns rank the problems with dots. Then we can find the problems that the interns feel best fit our three basic criteria:

- Is it feasible?
- Would it make a real impact?
- Does it seem inspiring for you to work on?

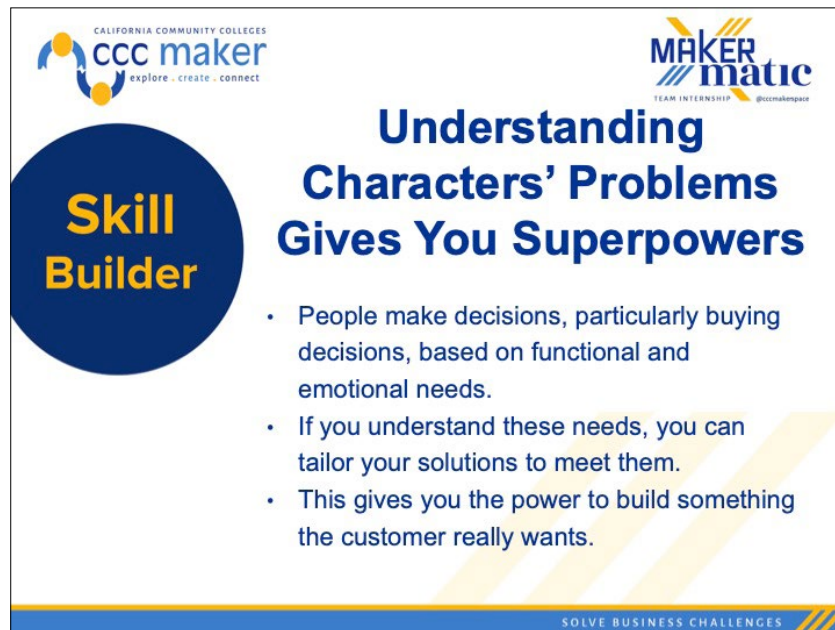
Keep in mind: There are many other ways to define good problem criteria, but these three are ours for this session.

### **Steps:**

1. Organize the problems list from the last session by digitizing them and combining similar problems. Display the problems on a large printout in a way that everyone can see them and access them for the exercise. Display these as large posters for discussion and voting.
2. Even though the intern teams can choose to work on the same problem, narrow the problem list to one for each team. i.e., four teams, four problems.
3. Have the business leader pick what they see as the top problems to work on, based on their experience and preferences. As criteria for picking good problems, have the business leader consider feasibility, impact, and inspiration. Do this ahead of time to not influence the intern ranking process. The business leader won't show their preferences until the interns are done with their part.
4. Have each intern put a dot on the top six problems that fit their own filters for feasibility, impact, and inspiration. Have the business leader post their dots and briefly explain why they picked those ones.
5. This process should lead to an interactive conversation about the best problems for a short list of possibilities. Some of the best problems may be self-evident: They were preferred by the business leader and the interns. Others will need to be negotiated out, with the heaviest vote going to the business leader. The exact

number of problems is not important—it just needs to be a small number, say 5 or less. This is a time for rich discussion about understanding problems. Encourage the business leader to ask probing questions regarding the interns’ opinions.

SESSION 2 | **SLIDE: SUPERPOWERS (1 OF 2)**



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**Skill Builder**

## Understanding Characters' Problems Gives You Superpowers

- People make decisions, particularly buying decisions, based on functional and emotional needs.
- If you understand these needs, you can tailor your solutions to meet them.
- This gives you the power to build something the customer really wants.

SOLVE BUSINESS CHALLENGES

SESSION 2 | **SLIDE: SUPERPOWERS (2 OF 2)**



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## How I Buy a Car

<p><b>Functional Needs</b></p> <ul style="list-style-type: none"> <li>• Mileage</li> <li>• Cost</li> <li>• Useful life</li> </ul>	<p><b>Emotional Needs</b></p> <ul style="list-style-type: none"> <li>• Color</li> <li>• My partner likes it</li> <li>• Brand reputation</li> </ul>
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California Community Colleges | Doing What MATTERS

SOLVE BUSINESS CHALLENGES

[Back to Session 2 Steps](#)



## SESSION 2 | EXERCISE: WHO IS IT FOR?

### **Background:**

Most problems worth solving involve people who are affected by the problem. Remember, at the end of the day, good solution proposals will answer two main questions:

- What is the change you're trying to make?
- Who is it for?

In this exercise, it's important to show that who we're solving the problem for is extraordinarily important. The same problem can require completely different solutions based on the characteristics of those facing the problem. For example, the solutions meant to redesign a grocery store delivery service might be completely different for a single 30-something executive than for a family of four with two children under 5 years of age.

There are lots of ways that businesses define their customers: target markets, avatars, customer phenotypes, or business-defined customers, to name a few. In Makermatic, we call them *avatars*, which we define as a representation of a customer type with characteristics that are an amalgamation of people in that customer type.

### **Steps:**

1. Look at the problems that were selected, one by one, and identify the main characters that could be used as avatars. If the business leader has an avatar they prefer, focus on those characteristics and discuss. No need to make the list exhaustive—the top 4 to 6 characters are oftentimes enough.
2. It's possible to have more than one avatar, but try to keep it simple.
3. Once the customer type has been identified and described, give it a descriptive name and a picture. That's your avatar!
4. Good work! Now it's time to move on to filling out the Empathy Maps.

## SESSION 2 | SLIDE: EMPATHY MAP



## SESSION 2 | EXERCISE: EMPATHY

The idea here is to get the interns to create a robust mental picture of their avatar (their customer example) by recognizing its functional and emotional needs. The slide shown above can be used to write down these needs. The purpose of the functional/emotional needs map is to serve as a reference or idea generator to find solutions that address the needs of the avatar.

**Functional needs:** These are nonemotional needs that the avatar requires to be met in order to be satisfied. Examples might include:

- The house needs to have three bedrooms.
- The store needs to be open during hours that fit my work schedule.
- The inventory needs to carry the sizes I need.

**Emotional needs:** These are based on feelings, which many marketers believe are the key elements to customer decision-making. Examples of feelings may be:

- I'm embarrassed to ask for help with this product.
- I tend to choose this option when I'm feeling stressed out.
- The avatar behaves this way because they are lonely.

### Steps:

1. Break the group into teams. Ask each team to collaborate on one Empathy Map and fill in the functional and emotional needs. If there's more than one avatar, split the avatars up and assign teams to different ones.
2. Encourage team discussion about these characteristics.
3. Bring the groups back together and have someone from each team explain the team's work.

## SESSION 2 | EMPATHY HANDOUTS (3 PAGES)

### Feelings/Emotions – Partial List

(internal sensations, without reference to thoughts, interpretations)

The following are words we use when we want to express a combination of mental states and physical sensations. This list is neither exhaustive nor definitive. It is meant as a starting place to support anyone who wishes to engage in a process of deepening self-discovery and to facilitate greater understanding and connection between people.

#### A. Feelings we may experience when our needs are being met

<b>AFFECTIONATE</b> compassionate friendly loving openhearted sympathetic tender warm	<b>EXCITED</b> amazed animated ardent aroused dazzled eager energetic enthusiastic giddy invigorated lively passionate surprised vibrant	<b>GRATEFUL</b> appreciative moved thankful touched  <b>HOPEFUL</b> expectant encouraged optimistic  <b>JOYFUL</b> amused delighted glad happy jubilant pleased tickled	<b>PEACEFUL</b> calm clearheaded comfortable centered content equanimity fulfilled mellow quiet relaxed relieved satisfied serene still tranquil trusting
<b>CONFIDENT</b> empowered open proud safe secure	<b>EXHILARATED</b> blissful ecstatic elated enthralled exuberant radiant rapturous thrilled	<b>INSPIRED</b> amazed awed wonder	<b>REFRESHED</b> enlivened rejuvenated renewed rested restored revived
<b>ENGAGED</b> absorbed alert curious engrossed enchanted entranced fascinated interested intrigued involved spellbound stimulated			

(This list is a collaborative effort of many, and adapted from Marshall Rosenberg's original list)



**B. Feelings we may experience when our needs are not being met**

**AFRAID**  
 apprehensive  
 dread  
 foreboding  
 frightened  
 mistrustful  
 panicked  
 petrified  
 scared  
 suspicious  
 terrified  
 wary  
 worried

**ANNOYED**  
 aggravated  
 dismayed  
 disgruntled  
 displeased  
 exasperated  
 frustrated  
 impatient  
 irritated  
 irked

**ANGRY**  
 angry  
 enraged  
 furious  
 incensed  
 indignant  
 irate  
 livid  
 outraged  
 resentful

**AVERSION**  
 Animosity  
 appalled  
 contempt  
 disgusted  
 dislike  
 hate  
 horrified  
 hostile  
 repulsed

**CONFUSED**  
 ambivalent  
 baffled  
 bewildered  
 dazed  
 hesitant  
 lost  
 mystified  
 perplexed  
 puzzled  
 torn

**DISCONNECTED**  
 alienated  
 aloof  
 apathetic  
 bored  
 cold  
 detached  
 distant  
 distracted  
 indifferent  
 numb  
 removed  
 withdrawn

**DISQUIET**  
 agitated  
 alarmed  
 discombobulated  
 disconcerted  
 disturbed  
 perturbed  
 rattled  
 restless  
 shocked  
 startled  
 surprised  
 troubled  
 turbulent  
 turmoil  
 uncomfortable  
 uneasy  
 unnerved  
 unsettled  
 upset

**EMBARRASSED**  
 ashamed  
 chagrined  
 flustered  
 mortified  
 self-conscious

**FATIGUE**  
 beat  
 burnt out  
 depleted  
 exhausted  
 lethargic  
 listless  
 sleepy  
 tired  
 weary  
 worn out

**PAIN**  
 agony  
 anguished  
 bereaved  
 devastated  
 grief  
 heartbroken  
 hurt  
 lonely  
 miserable  
 regretful  
 remorseful

**SAD**  
 depressed  
 dejected  
 despair  
 despondent  
 disappointed  
 discouraged  
 disheartened  
 forlorn  
 gloomy  
 heavy hearted  
 hopeless  
 melancholy  
 unhappy  
 wretched

**TENSE**  
 Anxious  
 cranky  
 distressed  
 distraught  
 edgy  
 fidgety  
 frazzled  
 irritable  
 jittery  
 nervous  
 overwhelmed  
 restless  
 stressed out

**VULNERABLE**  
 fragile  
 guarded  
 helpless  
 insecure  
 leery  
 reserved  
 sensitive  
 shaky

**YEARNING**  
 envious  
 jealous  
 longing  
 nostalgic  
 pining  
 wistful

(This list is a collaborative effort of many, and adapted from Marshall Rosenberg's original list)

<b>Universal Human Needs – Partial List</b>
---

(without reference to specific people, time, actions, things)

The following list is neither exhaustive nor definitive. It is meant as a starting place to support anyone who wishes to engage in a process of deepening self-discovery and to facilitate greater understanding and connection between people.

<p><b>CONNECTION</b></p> <ul style="list-style-type: none"> <li>Acceptance</li> <li>Affection</li> <li>Appreciation</li> <li>Belonging</li> <li>Cooperation</li> <li>Communication</li> <li>Closeness</li> <li>Community</li> <li>Companionship</li> <li>Compassion</li> <li>Consideration</li> <li>Consistency</li> <li>Empathy</li> <li>Inclusion</li> <li>Intimacy</li> <li>Love</li> <li>Mutuality</li> <li>Nurturing</li> <li>Respect</li> <li>Safety</li> <li>Security</li> <li>Stability</li> <li>Support</li> <li>To be known</li> <li>To be seen</li> <li>To be understood</li> <li>Trust</li> <li>Understanding</li> <li>Warmth</li> </ul>	<p><b>HONESTY</b></p> <ul style="list-style-type: none"> <li>Authenticity</li> <li>Integrity</li> <li>Presence</li> </ul> <p><b>PLAY</b></p> <ul style="list-style-type: none"> <li>Joy</li> <li>Humor</li> </ul> <p><b>PEACE</b></p> <ul style="list-style-type: none"> <li>Beauty</li> <li>Communion</li> <li>Ease</li> <li>Equality</li> <li>Harmony</li> <li>Inspiration</li> <li>Order</li> </ul> <p><b>PHYSICAL WELL-BEING</b></p> <ul style="list-style-type: none"> <li>Air</li> <li>Food</li> <li>Movement/exercise</li> <li>Rest / sleep</li> <li>Sexual expression</li> <li>Safety (protection from life threatening situations)</li> <li>Shelter</li> <li>Touch</li> <li>Water</li> </ul>	<p><b>MEANING</b></p> <ul style="list-style-type: none"> <li>Awareness</li> <li>Celebration of life</li> <li>Challenge</li> <li>Clarity</li> <li>Competence</li> <li>Consciousness</li> <li>Contribution</li> <li>Creativity</li> <li>Discovery</li> <li>Efficacy</li> <li>Effectiveness</li> <li>Growth</li> <li>Hope</li> <li>Learning</li> <li>Mourning</li> <li>Participation</li> <li>Purpose</li> <li>Self-expression</li> <li>Stimulation</li> <li>Understanding</li> </ul> <p><b>AUTONOMY</b></p> <ul style="list-style-type: none"> <li>Choice</li> <li>Freedom</li> <li>Independence</li> <li>Space</li> <li>Spontaneity</li> </ul>
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## SESSION 2 | BUSINESS LEADER DISCUSSION

Ask the business leader to make a short presentation about working at the business. The presentation should focus on three areas:

- What kinds of jobs/careers are currently available at the business?
- What kinds of jobs can people pursue at the business? What are the future employment needs (skills) of the business?
- What kinds of traits does the company look for in new hires? Examples may include: team oriented, experienced only, go-getter with no experience needed, friendly, able to work independently, etc.

## SESSION 2 | JOURNAL

The image is a slide titled 'Journal Session 2'. It features the 'ccc maker' logo in the top left and the 'MAKER matic' logo in the top right. A large blue circle on the left contains the text 'Journal Session' in yellow. The main title 'Session 2' is in large blue font. Below it, the text 'Things to Write/Draw About Today' is in a smaller blue font. There are two numbered questions: 1. Why does finding good problems to solve come first in a business challenge? 2. Give yourself a score from 1–10, with 10 being perfect. How well did you participate and share in today's session? The slide has a blue and yellow striped footer with the text 'SOLVE BUSINESS CHALLENGES'.

[Back to Session 2 Steps](#)

# SESSION 3

## GATHER IDEAS

### TIME

180 Minutes

### BUSINESS LEADER ATTENDS?

No

### WHAT YOU'LL NEED

Ability to project slides

Intern journals

Past work product for reference

Team assignments

Easels and easel pads

Room arranged for group size

### SLIDES

Skill Builder: Do You Work Well on Teams?

Selected Problems

Journal Questions

### POSTERS/HANDOUTS/EXERCISES

Challenge Poster on 14"x 24"

Recipe Exercise

Idea Question Displays

### TIME STEPS

- 5      Recap what was done in the past meeting, and talk about the intended outcome of Session 3.
  
- 10     Assign teams as you see fit: random or a mix of skills, personalities, or interests. It's up to you. Teams should have 4–5 members.
  
- 30     Ask the teams to do the "Pick Your Team's Problem Focus" exercise. Remind them that they're looking for a great problem (not a symptom) to solve while considering feasibility, impact, and interest to the team. Let them negotiate.
  
- 10     Present the skill builder slide "Do You Work Well on Teams?"
  
- 10     Do the "Recipe" exercise (a brief discussion with an important point).
  
- 10     Break.
  
- 90     Do the "Generate Ideas" exercise. Resist the temptation to pick one idea as your solution, but instead be open to new ideas that may be better. Use the exercise to encourage stretch thinking!
  
- 15     Journal.

## SESSION 3 | EXERCISE: PICK YOUR TEAM'S PROBLEM FOCUS

### **Background:**

The next step is to let the teams narrow their focus to one problem that they'd like to pursue with ideas and solutions. This is an unstructured exercise where the teams use their own methods to settle on their problem.

### **Steps:**

1. Have the interns gather into their teams.
2. Ask the teams to look at the short list of best problems available.
3. Their job is to land on a problem that they'd like to use as they develop ideas and solutions. Remind them that their problem needs to be able to lead to feasible, impactful, and interesting solutions.
4. Tell them how much time they have.

Note: It doesn't matter if more than one team picks the same problem.

## SESSION 3 | SLIDE: DO YOU WORK WELL ON TEAMS? (1 OF 2)



The slide features the following content:

- Logos:** Top left: "CALIFORNIA COMMUNITY COLLEGES ccc maker explore . create . connect". Top right: "MAKER matic TEAM INTERNSHIP @cccmakermatic".
- Circle:** A dark blue circle on the left contains the text "Skill Builder" in yellow.
- Title:** "Do You Work Well on Teams?" in large blue font.
- Text:** "Employers seek out people who can work as part of team, but it takes practice." in blue font.
- Decorative:** Three diagonal yellow stripes in the bottom right corner.
- Footer:** "SOLVE BUSINESS CHALLENGES" in white on a blue background at the bottom.

SESSION 3 | **SLIDE: DO YOU WORK WELL ON TEAMS?** (2 OF 2)



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**MAKER matic** TEAM INTERNSHIP @cccmakespac

**Team Members**

**Skill Builder**

**Good Team Habits:**

- Knows what they are to do
- Contributes and is present
- Adds on to others' ideas
- Shows respect for team
- Disagrees in an acceptable manner
- Gives positive feedback
- Follows through, does what they say
- Stays focused on team objectives

**Bad Team Habits:**

- Dominates team meetings
- Doesn't give input
- Gets off topic
- Talks over others
- Argues
- Shows disrespect
- Creates unneeded stress or drama
- Doesn't carry their fair share of work

SESSION 3 | **EXERCISE: RECIPE**

**Background:**


At this point of Makermatic, the interns have the key “ingredients” to look for ideas and possible solutions. There are several analogies you can make with a recipe. It’s a reminder that they all have the key ingredients for baking their cake (using the work components we’ve developed to come up with possible solutions). It’s a reminder that, even with the same ingredients, one cook’s cake will not look like the next cook’s cake (and that’s a good thing). The solutions may not work. Care in your work matters. Art is important. But most importantly here, the interns have all the tools they need to do great work. They have useful work products as ingredients, and they have unique thoughts and experiences to let them shape something remarkable.

**Steps:**

1. Hand out the recipe. The interns will look at it with amusement.
2. Share the points discussed above in the Background section.
3. Show interns the ingredients slide for Makermatic.

This is a time for the interns to be fired up! Creativity time!


## SESSION 3 | HANDOUT: RECIPE


« Back to Recipe
Print

### Ultimate Chocolate Chip Cookies

★★★★★

Prep	Total	Servings
45 MIN	45 MIN	48



#### Ingredients

- 3/4 cup granulated sugar
- 3/4 cup packed brown sugar
- 1 cup butter or margarine, softened
- 1 teaspoon vanilla
- 1 egg
- 2 1/4 cups Gold Medal™ all-purpose flour
- 1 teaspoon baking soda
- 1/2 teaspoon salt
- 1 cup coarsely chopped nuts
- 1 package (12 ounces) semisweet chocolate chips (2 cups)

#### Steps

- 1 Heat oven to 375°F.
- 2 Mix sugars, butter, vanilla and egg in large bowl. Stir in flour, baking soda and salt (dough will be stiff). Stir in nuts and chocolate chips.
- 3 Drop dough by rounded tablespoons about 2 inches apart onto ungreased cookie sheet.
- 4 Bake 8 to 10 minutes or until light brown (centers will be soft). Cool slightly; remove from cookie sheet. Cool on wire rack.

## SESSION 3 | SLIDE: INGREDIENTS






**Skill  
Builder**

## Ideas That Lead to Solutions

### YOU HAVE THE INGREDIENTS!

- A Clear Challenge from Business Leader
- You created a problem list and then narrowed it down
- Input and thoughts from the business leader
- Teammates
- Coaches
- Your own experiences, creativity & perspectives
- You know who the problems affect and their functional and emotional needs



## SESSION 3 | EXERCISE: GENERATE GREAT IDEAS!

### **Background:**

Let's get fired up to find some awesome ideas, the precursors to solutions for this Makermatic! This exercise will take the rest of Session 3 and is all about finding ideas. It's good to get as many ideas as each team can generate, all focused on tackling the problem they picked. This is a time to be unencumbered by convention, so encourage the teams to stretch their thinking. This exercise encourages a cadence of wide open ideation followed by pauses to review and reflect. This cycle will continue into Session



4 as well. Ideation is tiring, so feel free to acknowledge this and encourage them to hang in there.

### **Steps:**

1. Interns break into teams and spread out to begin their ideation work.
2. Provide them with flip charts and sticky notes to record their ideation.
3. Let each team know that they need to document (capture) their ideas.
4. Refer the teams to the “ingredients” they have available to them. Also, remind them that their ideas don’t need to solve the whole problem; ideas can address a specific part of the problem or could be an idea for a specific avatar in the problem.
5. Hand out the “Use Your Superpowers” prompt and give interns brief directions for this part of the exercise.
  - a. Ask teams to start the ideation with free-flowing idea-generating time. Use broad idea starters like “How might we solve this problem?”
  - b. Perhaps have each team member bring up an idea, explain it, and post it. Keep discussion down so that the flow of new ideas continues.
  - c. In about 25 minutes, ask the group to stop and look at their ideas.
  - d. Have the interns point out their best ideas (so far) and add to them. For example, “I like the idea of adding an event center to the hotel, and we could also add in programs for kids on the weekend.”
6. Hand out the “Become a Character” poster. Explain that each team member takes turns taking on the persona of one of the characters that they’ve developed. “As the parent of young children, I would like it if we could ... [idea, idea, idea].” This technique uses empathy maps to generate ideas. Continue for 30 minutes or so.
7. The last part of the exercise is simple. Follow the prompt, “Wouldn’t it be cool if...”. Ask the group to continue ideation by starting out their ideas with the words “Wouldn’t it be cool if...”. This exercise can bring out some great ideas. Time to stretch for great ideas!

### **SESSION 3 | CHALLENGE THE TEAMS WITH THESE PROMPTS**

**Use Your Superpowers!**

How might we solve this problem?

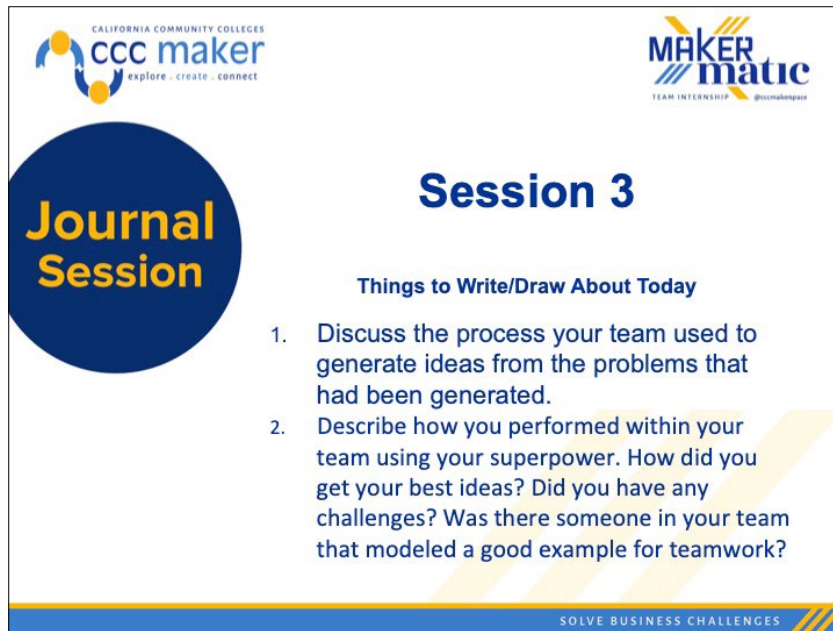
Become a character!

Wouldn’t it be cool if ...

[Back to Session 3 Steps](#)



## SESSION 3 | JOURNAL



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# Journal Session

## Session 3

**Things to Write/Draw About Today**

1. Discuss the process your team used to generate ideas from the problems that had been generated.
2. Describe how you performed within your team using your superpower. How did you get your best ideas? Did you have any challenges? Was there someone in your team that modeled a good example for teamwork?

SOLVE BUSINESS CHALLENGES

# SESSION 4

## DEVELOP WELL-FORMED IDEAS

### TIME

180 Minutes

### BUSINESS LEADER ATTENDS?

No

### WHAT YOU'LL NEED

Ability to project slides

Intern journals

Past work product for reference

Easels and easel pads

Room arranged for group

### SLIDES

Skill Builder: Negative Talk

Journal Questions

### POSTERS/HANDOUTS/EXERCISES

Challenge Poster on 14"x 24"

Place Your Bet Exercise

Six Star Exercise

Solution Summary Document

### TIME STEPS

10 Recap what was done in the past meeting, and talk about the intended outcome of Session 4. This may be a good session to adjust for overages on intern time. If you've been running late, go for a shorter time today.

10 Present the skill builder slide "Negative Self-Talk." You can do this skill builder at any time in the session.

135 Interns work in their teams and move through Steps 4–9 at their own team pace. Teams winnow down their ideas and select their best one. Do the "Place Your Bets" exercise.

Teams do the "Hash It Out" exercise by reviewing and discussing their best ideas. Again, ask them to use the "feasible, impactful, and interesting" filter as they consider their best solution.

10 Break.

Do the "Six Stars" exercise. This is one last chance to coax the interns into improving their solutions.

It's the home stretch! Teams now need to clarify and document their final solution and its description. Use the "Solution Summary" handout.

Point out that teams will need to create some kind of physical representation of their solution. This can be a storyboard, a low-fidelity mockup, pictures, or any other creative mode to show their solution.

15 Journal.

## SESSION 4 | SLIDE: NEGATIVE SELF-TALK



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**Skill Builder**

### Negative Self Talk

You probably have to endure negative self talk. It can get in the way of your career, your new business, or a new adventure.

Own this normal problem and find ways to overcome in a way that works for you.

SOLVE BUSINESS CHALLENGES

## SESSION 4 | EXERCISE: PLACE YOUR BETS!

### *Background:*

It's time to whittle the list of your team's best ideas down to the one that will be the solution the team will work on. The teams should have quite a list of solutions, and some no doubt are already favorites. This exercise lets everyone place their bets and put their pretend money on the idea they like best.

### *Steps:*

1. Display the list of ideas that the team has generated.
2. Each team member has a imaginary bankroll of \$100.
3. Ask the team members to "invest" their money on the ideas that they feel have the best combination of being feasible, impactful, and interesting for the team to build out into a solution.
4. Ask the interns to put their "money" beside their investments on the idea list. They can do this all at the same time. There will be discussion, but everyone gets to spend their \$100 as they wish.
5. Once done, have each team member explain their investment decisions. This exercise and discussion leads right into the next exercise and serves to create guideposts for picking their unified idea to pursue.

**Back to Session 4 Steps**



## SESSION 4 | EXERCISE: HASH IT OUT

### **Background:**

The teams now understand how each member feels about their favorite ideas. Here the teams can have an unstructured discussion that leads to their best idea. Let them “hash it out.” Look for dissention and team issues. If issues show up, coach the interns through them.

### **Steps:**

1. The team’s discussion from “Place Your Bets” can continue right into this exercise.
2. Let the teams know that they’re now at a place where they need to find the one idea that they can all get behind, the one idea that seems most feasible, impactful, and interesting to work on.
3. Ask them to discuss and make a decision as a team.

## SESSION 4 | EXERCISE: SIX STARS

### **Background:**

Businesses don’t need status quo solutions. And don’t get this wrong: Simple solutions are great. It’s the underdeveloped, low-effort solutions that are not generally acceptable. So here, we want to reinforce that understanding by asking the interns to look at their best idea one more time and see if they can step it up a notch by making the idea an even better solution.

### **Steps:**

1. Ask the teams to use the best idea that they’ve come up with and see if they can make it even better by having a Six Star discussion. Encourage them by saying, “Be extraordinary! Can you improve your best solution? Can you move it from a great idea to a super idea?”
2. Ask them to imagine their best idea as “three stars” on a scale of one to six.
3. One by one, ask the team members to write on a flip chart or put a sticky note on a flip chart that represents something about their idea that would make it a little (or a lot) better. They need to try to move their idea from a three-star idea into a six-star idea.
4. Each intern contributes, adding one idea one at a time. Do this for about 15 minutes.
5. Next, the interns consider if any of their six-star suggestions can be incorporated into their solution. Can they make it better? Allow them to settle on the final version of their solution.

[Back to Session 4 Steps](#)



## SESSION 4 | **HANDOUT: SOLUTION SUMMARY**

### ***Background:***

It's time to clarify and record the solution that the team has created. This also starts to form the basis of the final presentation. The Solution Summary will require discussion as the teams decide how to communicate their solution and physically represent it for their final presentation.

### ***Steps:***

1. The team works to collaboratively fill out the Solution Summary (shown on next page), discussing each question before documentation.
2. The team makes a copy of the Solution Summary and gives it to the coach for review.



SESSION 4 | **HANDOUT: SOLUTION SUMMARY**

**What's the problem you're trying to solve?**

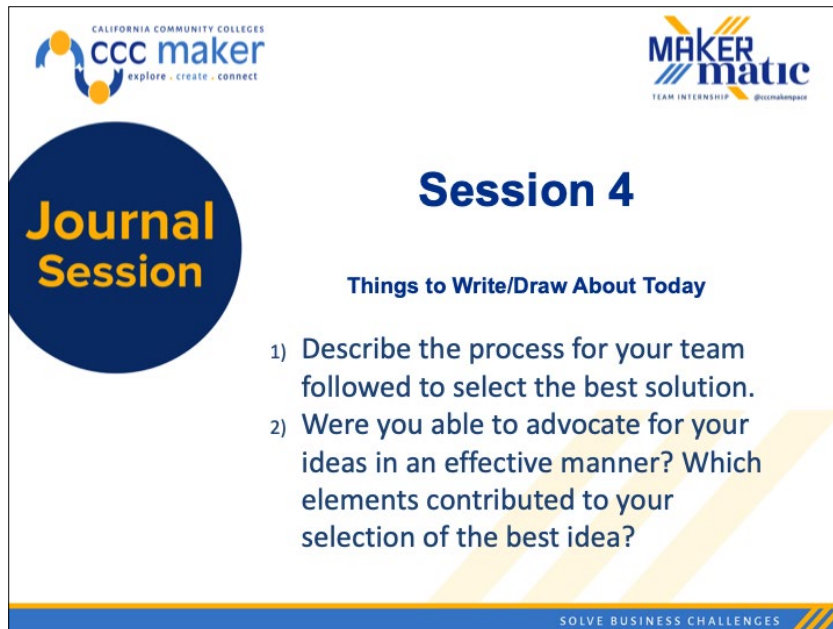
**What change are you trying to make and who's it for?**

**What's your solution?**

**What makes this an awesome solution that a business leader would value?**

**How do you intend to physically display your solution?**

## SESSION 4 | JOURNAL



The graphic is a white rectangular box with a blue border. In the top left corner is the 'ccc maker' logo with the tagline 'explore . create . connect'. In the top right corner is the 'MAKER matic' logo with 'TEAM INTERNSHIP' and '@cccmakermatic' below it. On the left side, there is a dark blue circle containing the text 'Journal Session' in yellow. In the center, the text 'Session 4' is written in a large, bold, dark blue font. Below this, the text 'Things to Write/Draw About Today' is written in a smaller, dark blue font. Underneath, there is a numbered list of two items. At the bottom of the box, there is a blue horizontal bar with the text 'SOLVE BUSINESS CHALLENGES' in white, followed by three yellow diagonal stripes.

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# Journal Session

## Session 4

Things to Write/Draw About Today

- 1) Describe the process for your team followed to select the best solution.
- 2) Were you able to advocate for your ideas in an effective manner? Which elements contributed to your selection of the best idea?

SOLVE BUSINESS CHALLENGES

# SESSION 5

## SHOW YOUR SOLUTION, TEST STRATEGIES, FORM A PLAN

### TIME

180 Minutes

### BUSINESS LEADER ATTENDS?

No

### WHAT YOU'LL NEED

Ability to project slides

Intern journals

Past work product for reference

Easels and easel pads

Room arranged for group size

### SLIDES

Skill Builder: Testing Strategies

Journal Questions

### POSTERS/HANDOUTS/EXERCISES

Challenge Poster on 14"x 24"

Final Presentation Outline

### TIME STEPS

10 Recap what was done in the past meeting, and talk about the intended outcome of Session 5.

30 Present the "Testing Strategies" skill builder slides.

15 Review the Final Presentation format. Go over the parts and roles.

95 Teams work on refining their solutions, testing strategies, physical solution display, presentations, and who does what.

15 Break somewhere during the previous step.

15 Journal.



SESSION 5 | **SLIDE: TESTING STRATEGIES** (1 OF 4)



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**Skill  
Builder**

**Low-fidelity testing is  
critical to new solution  
success.**

SOLVE BUSINESS CHALLENGES

SESSION 5 | **SLIDE: TESTING STRATEGIES** (2 OF 4)



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“  
*Start by asking yourself, “What insight do I need to move forward?” Then ask, “What’s the simplest test I can run to get it?”  
Finally, think about, “How do I design an experiment to run this simple test?”*  
—Steven Gary Blank  
*The Startup Owner’s Manual: The Step-By-Step Guide for Building a Great Company*  
”

SOLVE BUSINESS CHALLENGES

SESSION 5 | **SLIDE: TESTING STRATEGIES** (3 OF 4)



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“

*In a startup, no facts exist inside the building, only opinions.*

Steven Gary Blank  
The Four Steps to the Epiphany: Success Strategies

”

SOLVE BUSINESS CHALLENGES

SESSION 5 | **SLIDE: TESTING STRATEGIES** (4 OF 4)



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**Skill Builder**

**Test in the field. Always.**

- The first round of solution testing doesn't need to be fancy.
- Get with customers and design ways to observe their behaviors.
- Get with customers and design ways to get them to talk, to tell you what they think, need, or feel as it relates to your solutions.
- Flops are ok. You can always revise a bad solution.
- Don't bias the testing.
- Use the field time to continue using and revising the empathy maps.

SOLVE BUSINESS CHALLENGES



## SESSION 5 | **OVERVIEW: INTERN FINAL PRESENTATIONS**

### ***How it works:***

Every intern on every team will have a role in the final presentation to the business leader, which takes place in Session 7. Teams work on refining their solutions, testing strategies, physical solution display, presentations, and who does what.

There are four areas:

- One team member will present the problem, the solution, and who benefits. This is the overview (3 minutes).
- One team member will discuss the physical solution you've created and shows how the solution will work (3 minutes).
- One team member will make the team's recommendation to the business leader and include suggested testing strategies (2 minutes).
- The other team members will talk about what they got out of the Makermatic journey (1 minute each). Ask the last presenter to briefly thank the business leader on behalf of the team.

Each team will need to create a written outline of this presentation to give to both the business leader and the coach. It shouldn't be longer than two pages.

The outline should include:

- Problem, solution, and who benefits
- Description of the physical solution you've created
- Recommendation to the business
- Recommended testing strategies
- The value the intern got out of the Makermatic journey

### ***Time schedule:***

Each team presentation: 10 minutes

Each team discussion, led by the business leader: 10 minutes

4 teams of 5 = 80 minutes

5 teams of 5 = 100 minutes

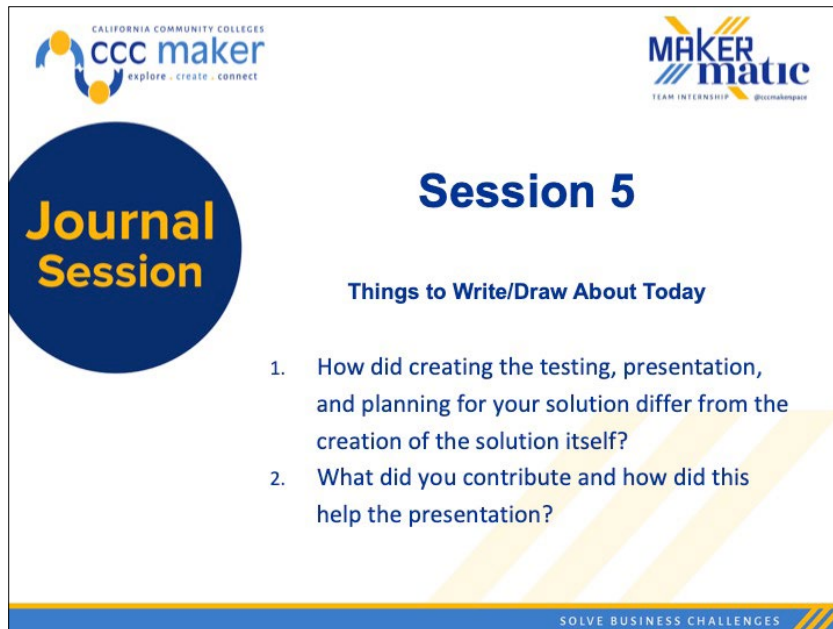
## **STUDENT EVALUATIONS**

In order to provide feedback to each individual student, we suggest the rubric below be filled out for each student during the presentations in Session 7.

Share the rubric with the students as they prepare the presentation in order to cross-check themselves as the group practices. Each panelist will adopt a team for the Session 7 presentations and should be able to evaluate each team member. Prepare a printout or electronic version of the evaluation rubric to be filled out for each student and to be reviewed by the student and coach at a later time.

Student Name:		Team Name:		Panelist Name:
	<b>1 – Developing</b>	<b>2 – Progressing</b>	<b>3 – Competent</b>	<b>4 – Proficient</b>
<b>Professionalism</b>	Often tardy Frequently distracted Limited respect for others' views Clothing inappropriate	Rarely tardy Generally focused Willing to listen to other viewpoints Issues with appearance but not disruptive	Usually on time Consistently on task Positive attitude and engaged Grooming is appropriate to the setting	Always on time Focused and attentive Demonstrates deep respect for others' views Professional grooming and attire
<b>Oral Communication</b>	Language choices often unclear Delivery may distract from understanding	Usually effective language choices Sometimes tentative vocal expression	Straightforward presentation Good eye contact Comfortable	Language choices enhance presentation Polished, confident delivery
<b>Teamwork</b>	Hesitant to engage with others Passively accepts others' ideas Shies away from conflict	Engages constructively Shares ideas but doesn't advance work Redirects focus	Values and facilitates others' contributions Takes responsibility to advance the work Acknowledges and engages with conflict	Fully engages with team to further goals Effectively contributes to decision-making Openly discusses to resolve conflicts
<b>Decision-making</b>	Presents options not relevant to the decision Identifies few relevant criteria Inaccurately assesses how well alternatives meet the criteria States an ambiguous conclusion	Presents at least one relevant option Identifies some relevant criteria May not completely address all the criteria Selects an option that may not conform to the team's assessment	Identifies several relevant alternatives Identifies criteria relevant to the decision task Accurately assesses how well options meet the criteria Can justify how option was selected	Details several of the most relevant options Criteria reflect good understanding of the decision task Compares and contrasts options to provide greater insights Presents a well-supported answer to the initial question

## SESSION 5 | JOURNAL



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**Journal Session**

### Session 5

**Things to Write/Draw About Today**

1. How did creating the testing, presentation, and planning for your solution differ from the creation of the solution itself?
2. What did you contribute and how did this help the presentation?

SOLVE BUSINESS CHALLENGES

# SESSION 6

## PRESENTATION PRACTICE: REFINE YOUR PLAN

### TIME

120 Minutes

### BUSINESS LEADER ATTENDS?

No

### WHAT YOU'LL NEED

Ability to project slides  
Intern journals  
Past work product for reference  
Easels and easel pads  
Room arranged for group

### SLIDES

Business Worries Slide  
Journal Questions

### POSTERS/HANDOUTS/EXERCISES

Challenge Poster on 14"x 24"  
Final Presentation Outline

### TIME STEPS

- |    |  |
|----|--|
| 10 | Recap what was done in the past meeting, and talk about the intended outcome of Session 6.   |
| 20 | Present and discuss the "Business Worries" slide.  |
| 60 | <p>Allot team time to work on solution and presentations.</p> <ul style="list-style-type: none"> <li>• Ask the teams to finish their physical solutions.</li> <li>• Teams should also finish up their written Final Presentation Outline, which will be turned in during Session 7.</li> <li>• Ask the teams to practice their presentations together as a team. Practice matters! Time and presentation flow should be included in their practice.</li> </ul> |
| 15 | <p>Break.</p> <p>Coaches listen in, offer feedback, and lead brief discussions. Don't allow it to get negative.</p> <p>Ask the interns to sign the Challenge Poster with a thank you. They can give this to the business leader during Session 7.</p>  |
| 15 | Journal.   |

SESSION 6 | SLIDE: BUSINESS WORRIES



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**Skill Builder**

## What do business people worry about?

**Small Business Worries:**

- The first nine have to do with health care costs, government regulation, and taxes.
- The #1 inside-the-business concern is finding **qualified** employees.

**Big Business Worries:**

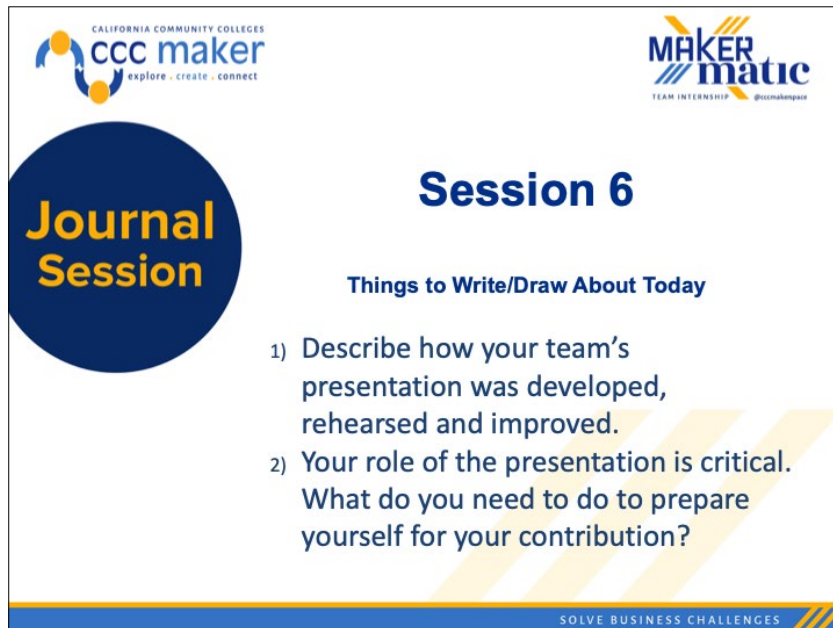
- Global volatility
- Talent with right skills
- Personalized customization and competition
- Innovation
- Regulation
- Brand

NFIB Small Business Problems and Priorities Survey

CEO Challenge 2017, Conference Board

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SESSION 6 | JOURNAL



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**Journal Session**

## Session 6

**Things to Write/Draw About Today**

- 1) Describe how your team's presentation was developed, rehearsed and improved.
- 2) Your role of the presentation is critical. What do you need to do to prepare yourself for your contribution?

SOLVE BUSINESS CHALLENGES

# SESSION 7

## BUSINESS LEADER WORK INSIGHTS: PRESENT PLANS AND GET FEEDBACK

### TIME

180 Minutes

### BUSINESS LEADER ATTENDS?

Yes

### WHAT YOU'LL NEED

Ability to project slides

Intern journals

Work product to show business leader's team

Room arranged for group size

### SLIDES

Hero's Journey

Journal Questions

### POSTERS/HANDOUTS/EXERCISES

Challenge Poster on 14"x 24"

Final Presentation: Physical Solutions

### TIME STEPS

- |     |  |
|-----|--|
| 10  | Introduce and welcome business leaders (title, role). Introduce today's session. Take a break as needed.   |
| 30  | Business leaders talk about: <ul style="list-style-type: none"> <li>• Additional information about their business</li> <li>• How prospective employees apply for work</li> <li>• How to stay connected to the business</li> </ul>  |
| 0   | Start breakout team discussions with business leaders (one per team if enough business leaders are available).   |
| 100 | Final Presentations  |
| 15  | Coaches present the Makermatic wrap-up: <ul style="list-style-type: none"> <li>• We believe in you.</li> <li>• Follow your passion; whatever it is, these skills are useful.</li> <li>• Take it easy on yourself. A Hero's Journey is never easy. Be aware of that and find the problems worth solving. You have the tools you need to solve them.</li> <li>• Give the signed challenge to the business leader.</li> </ul> |
| 25  | Use more time for journaling today. Make sure the logistics for recording and submitting the intern hours for payment are handled.   |



## SESSION 7 | JOURNAL

**Journal Session**

**Session 7**

Things to Write/Draw About Today

- 1) How well did your team’s proposal assist the desired outcome described by the business leader?
- 2) Describe the feedback to your group and how it will change your approach to future team work.
- 3) What was your most memorable take-away from Makermatic

SOLVE BUSINESS CHALLENGES

## SESSION 7 | SLIDE: A COMPLETED JOURNEY

**Intern's Journey**

1. Interns CALL TO ADVENTURE

2. Coaches

3. Business leader BUSINESS CHALLENGE

4. Find problems to solve

5. Brainstorm

6. Zero in on best Ideas and solutions

7. Make an amazing plan

8. Propose solution

9. Learn about business careers

Reference:  
 Hero with a 1000 Faces, Joseph Campbell  
 Gamestorming, Dave Gray, Sunni Brown, and James Macanufo

SOLVE BUSINESS CHALLENGES

[Back to Session 7 Steps](#)



# DEBRIEF

A week after the conclusion of Makermatic Session 7, we recommend hosting an optional meeting to capture reflection and feedback to help improve future Makermatic offerings. This meeting works best hosted in a relaxed environment with food. Included in the meeting would be students, coaches, assistant coaches, and business leaders to address some of the questions below.

Capturing the results of the debrief may require planning. We recommend filming the meeting for future reference and/or note taking by a neutral individual not associated with the Makermatic project in your college.

Here are suggested questions to socialize with your Makermatic team:

**Everyone:**

- In one brief sentence, what's the single-most important takeaway for you from this experience?

**Interns:**

- Has participation in this internship influenced your career goals? If so, how?
- What was it like for you working so intently on a team project?

**Business Leader:**

- How well do you think the Makermatic internship model prepares students to successful transition from college to the workplace?

**Coaches:**

- In the beginning, why did you want to participate in this internship project?
- What can you say about the experience now?

## **BUSINESS PARTNER POST-MAKERMATIC INTERVIEW QUESTIONS**

Part of the sustainability of Makermatic includes improving the value to the business leader. This can be a critical outreach and recruitment element for future local employers. Below are a series of guiding questions used for the evaluation and can prove effective with a third party neutral to the Makermatic college team.

1. What motivated you to participate in the Makermatic internship project?
2. Did you already have a relationship with the college?
3. If not, did this experience encourage you to remain engaged with the college?
4. If so, how do you envision that engagement?
5. From your perspective, how did the experience prepare the interns for work in your business environment?



6. What can you say about the interns' personal development over the three-week period? Did you notice a change in their ability to work as a team?
7. How well do the solutions they provided address your business need? Were the solutions useful to you?
8. Since Makermatic is still a pilot project, your thoughts on the model and the curriculum are important. What worked well, what can be improved, and what would you change?



# CONCLUSION

Makermatic is a team internship program that can be adapted to meet the needs of students, makerspaces, and employers. As we stated earlier, we share our methods here so that others may adopt the program and also adapt it to suit their own program needs. For instance, because of the time constraints and discipline-agnostic approach taken in developing the processes shared here, other discipline-specific processes—such as design thinking, decision-making matrices, or storyboarding—weren't included but can be to expand the solution-developing sessions prior to selection.

Similarly, the sessions for presentation preparation may be altered to include more time spent developing physical prototypes, portfolio-ready digital assets, or more structure in the communication during the presentation. These deeper and sometimes discipline-specific processes can be methods used to collaborate with other faculty on campus to introduce the Makermatic program and further propagate it across campus, bringing all students—regardless of discipline—closer to employers and real-world problems. We encourage you to adopt a system that works well for your institution and students, and we encourage you to add your voice and experience to this ongoing conversation so that we may all benefit.