

**SOFT SKILLS, HARD
SCIENCE: A
PROGRAM FOR STEM
STUDENTS WITH
DISABILITIES**

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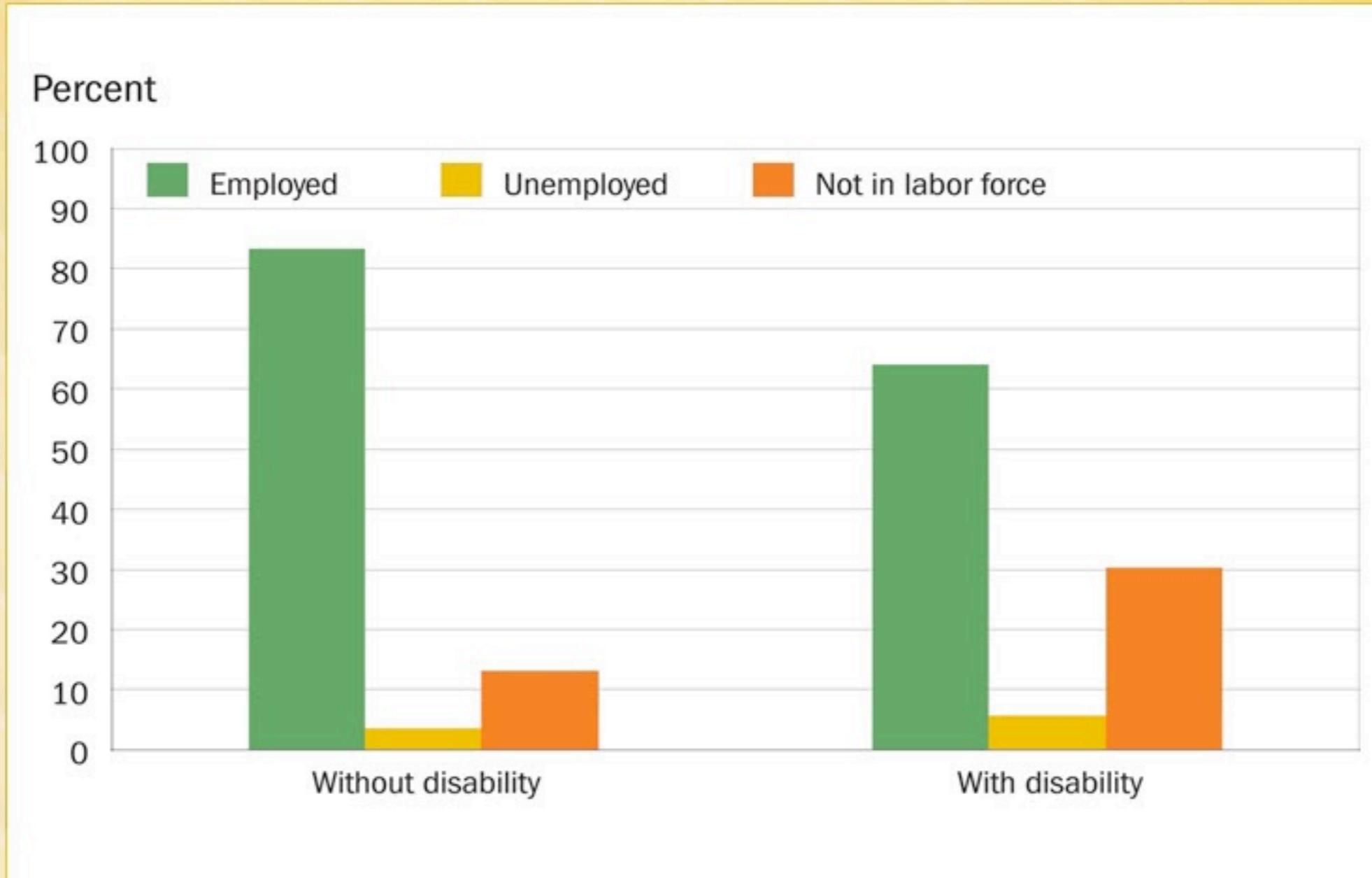
HELPING STUDENTS SUCCEED

- **3-YEAR NSF GRANT FOCUSED ON IMPROVING JOB PLACEMENT RATES FOR STEM STUDENTS WITH DISABILITIES**

EMPLOYMENT GAP

- **STEM MAJORS WITH DISABILITIES ARE LESS LIKELY TO GAIN EMPLOYMENT THAN THEIR COUNTERPARTS WITHOUT DISABILITIES**
- **2013 NSF DATA SHOWS 6.5% OF EMPLOYED SCIENTISTS & ENGINEERS HAVE A DISABILITY**

Employment status of scientists and engineers, by disability status: 2010



WHY SOFT SKILLS?

- **GROWING AWARENESS AND EVIDENCE FOR SOFT SKILLS AS KEY TO SUCCESS IN THE WORKPLACE**

WHAT ARE SOFT SKILLS?

- **WHAT ARE EXAMPLES OF SOFT SKILLS THAT ARE VALUABLE IN THE STEM WORKPLACE?**

OUR PROGRAM

- STUDENTS RECRUITED FROM SPRING TO FALL
- BEGINNING IN FALL, STUDENTS PARTICIPATE FOR 1 YEAR IN THE PROGRAM
- PARTICIPANTS WHO COMPLETE THE PROGRAM GET AN IPAD TO KEEP
- PARTICIPANTS USE IPAD DURING THE YEAR
- THREE STAGES IN THE PROGRAM:
 - CURRICULAR INTERVENTION
 - MENTORING
 - WORK-BASED LEARNING

FOUR F2F MEETINGS

- MEETING 1: INTRODUCTION
- MEETING 2: DISCUSS WORK & PERSONALITY
- MEETING 3: DISCUSS SOCIAL MEDIA
- MEETING 4: MEET WITH INDUSTRY MENTORS

FACEBOOK GROUP

- **IPADS FOR EVERY STUDENT**
- **DROPBOX, LINKEDIN, FACEBOOK**
- **ADD TO PRIVATE FACEBOOK GROUP (NEED TO PROTECT IDENTITIES OF STUDENT PARTICIPANTS)**
- **MUCH COMMUNICATION VIA FACEBOOK**
- **EASIER ACROSS TWO CAMPUSES**
- **STUDENTS COMFORTABLE WITH FB**

CURRICULAR INTERVENTION

- **MODULE 1: PERSONAL AWARENESS (ONLINE)**
- **MODULE 2: WORK & PERSONALITY (HYBRID)**
- **MODULE 3: CRITICAL THINKING (ONLINE)**
- **MODULE 4: USE OF SOCIAL MEDIA (HYBRID)**
- **MODULE 5: JOB SEEKING SKILLS (ONLINE)**

PERSONAL AWARENESS

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- SELF CONFIDENCE
- SELF ESTEEM
- SELF EFFICACY
- PERCEPTION AFFECTING OUTCOMES

ANSWER THE 10 QUESTIONS BELOW. WHEN YOU'RE DONE WITH THE QUESTIONS, ADD UP YOUR POINTS TO FIND YOUR SCORE.

1 = NOT AT ALL TRUE 2 = HARDLY TRUE 3 = MODERATELY TRUE 4 = EXACTLY TRUE

1. I CAN ALWAYS MANAGE TO SOLVE DIFFICULT PROBLEMS IF I TRY HARD ENOUGH.

2. IF SOMEONE OPPOSES ME, I CAN FIND THE MEANS AND WAYS TO GET WHAT I WANT.

3. IT IS EASY FOR ME TO STICK TO MY AIMS AND ACCOMPLISH MY GOALS.

4. I AM CONFIDENT THAT I COULD DEAL EFFICIENTLY WITH UNEXPECTED EVENTS.

5. THANKS TO MY RESOURCEFULNESS, I KNOW HOW TO HANDLE UNFORESEEN SITUATIONS.

1 = NOT AT ALL TRUE 2 = HARDLY TRUE 3 = MODERATELY TRUE 4 = EXACTLY TRUE

6. I CAN SOLVE MOST PROBLEMS IF I INVEST THE NECESSARY EFFORT.

7. I CAN REMAIN CALM WHEN FACING DIFFICULTIES BECAUSE I CAN RELY ON MY COPING ABILITIES.

8. WHEN I AM CONFRONTED WITH A PROBLEM, I CAN USUALLY FIND SEVERAL SOLUTIONS.

9. IF I AM IN TROUBLE, I CAN USUALLY THINK OF A SOLUTION.

10. I CAN USUALLY HANDLE WHATEVER COMES MY WAY.

WORK & PERSONALITY

WORK & PERSONALITY

- THE “LUNCH BREAK” TEST
- MYERS-BRIGGS AND CONNECTING TO WORK
- WORDLE ACTIVITY ON 10-15 SELF DESCRIPTORS
- EMOTIONAL INTELLIGENCE

CRITICAL THINKING

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- **PROBLEM SOLVING STEPS**
- **CREATIVE PROBLEM SOLVING/THINKING OUTSIDE THE BOX**
- **PRIORITIZING TASKS**
- **TASK ORDER/MULTIPLE SOLUTIONS**

- YOU RETURN FROM A ONE-WEEK VACATION AND OF COURSE YOUR EMAIL IS FULL OF TASKS. BELOW ARE SEVERAL REQUESTS; HOW DO YOU FIGURE OUT WHICH TO DO FIRST? COME UP WITH AN ORDER IN WHICH YOU WOULD DO THESE TASKS.

- TECHNICAL SPECIFICATIONS REQUIRED FOR A REQUEST-FOR-BIDS THAT IS GOING OUT IN TWO DAYS.

- MANAGER IS REQUESTING A TIME TO MEET ABOUT AN UPCOMING MEETING WITH CLIENTS.

- PROJECT UPDATE FOR A LONG-TERM PROJECT YOU'VE BEEN WORKING ON. THE PROJECT UPDATE WAS DUE WHILE YOU WERE OUT.

- HR IS REMINDING YOU THAT YOUR BENEFITS ENROLLMENT CHOICES ARE DUE IN THREE WEEKS.

- A CUSTOMER REQUESTS A PHONE MEETING TO DISCUSS SOME PROBLEMS WITH A PRODUCT THAT WENT OUT RECENTLY.

- **NOW THINK ABOUT HOW YOU DECIDED WHAT TO DO FIRST. DID YOU CONSIDER ANY OF THE FOLLOWING?**
- **COULD YOU ASK FOR A DELAY/EXTENSION?**
- **IS THE CUSTOMER OR THE MANAGER MORE IMPORTANT?**
- **DUE DATES/DEADLINES: WHAT IS DUE SOONEST?**
- **PLAN AHEAD NEXT TIME SO YOU GET STUFF DONE THAT YOU KNOW IS COMING UP DURING OR RIGHT AFTER VACATION?**
- **HOW QUICKLY CAN TASKS GET DONE?**
- **BEING AWARE OF HOW YOU MAKE DECISIONS CAN MAKE YOU A BETTER AND MORE EFFICIENT PROBLEM SOLVER.**

SOCIAL NETWORKING

SOCIAL NETWORKING

- SOCIAL MEDIA'S PREVALENCE
- GOOD USES OF SOCIAL MEDIA (YOU CAN STILL BE ON FACEBOOK!)
- PROFESSIONAL PROFILE PICTURE
- GET LINKEDIN
- SCRUBBING YOUR ONLINE PRESENCE

JOB SEARCH SKILLS

JOB SEARCH SKILLS

- RESUME CLEANUP
- MOCK INTERVIEWING
- NETWORKING (IN PERSON & ONLINE)
- PROFESSIONAL APPEARANCE

MENTORSHIP

- **STUDENTS ASSIGNED INDUSTRY MENTOR FOR SEVERAL MONTHS CONVERSATION, MOSTLY ONLINE**
- **ONE IN-PERSON MEETING WITH ALL STUDENTS AND MENTORS**

WHAT ABOUT THE DISABILITY PIECE?

- EACH MODULE WE DISCUSS CONNECTIONS TO
DISABILITY
- AS STUDENTS GET MORE COMFORTABLE, THEY
HELP EACH OTHER OUT BY SHARING STORIES
- HAVING DIFFERENT DISABILITIES IN ONE COHORT
EXPOSES STUDENTS TO DIFFERENT ISSUES

- **STUDENT WITH ASD HAD “MY LITTLE PONY” PROFILE PICTURE ON LINKEDIN**
- **STUDENT WITH SPEECH IMPEDIMENT SLOW IN ASKING QUESTIONS; STUDENTS WITH ADD/ADHD LEARN TO FOCUS**
- **EVERYONE WORKS WITH STUDENT USING WHEELCHAIR TO MAKE SURE HE HAS ROOM AT THE TABLE**

YEAR ONE RESULTS

- MAJORITY OF GRADUATES HAVE JOBS, MOST IN FIELD
- STUDENTS VERY HAPPY WITH PARTICIPATION IN PROJECT
- WANTED MORE FACE TO FACE TIME
- WANTED MORE MENTOR CONTACT BUT RECOGNIZED IT WAS THEIR JOB TO INITIATE
- WILLING TO PUT MORE TIME IN TO GET MORE OUT OF THE PROJECT

STUDENT “DAN”

- CONSTRUCTION MAJOR, VETERAN, NON-TRADITIONAL AGE, PHYSICAL DISABILITY
- STARTED OUT VERY NEGATIVE ABOUT EMPLOYMENT
- UNAWARE OF SOME SOCIAL CUES
- SPENT TIME 1-1 WITH PROJECT STAFF THROUGHOUT THE YEAR
- BY END OF YEAR, AWARE OF EFFECTS OF HIS LANGUAGE & ATTITUDE, LOST 30+ POUNDS, GOT GOOD INTERNSHIP AND HAS GOOD JOB IN INDUSTRY

STUDENT “ETHAN”

- GAME DESIGN AND DEVELOPMENT MAJOR, AUTISM
- STARTED YEAR TYPICAL ASD BEHAVIORS (EYE CONTACT, INAPPROPRIATE CONVERSATION) BUT REASONABLE AT MIMICKING OTHER MORE SOCIALLY ACCEPTABLE BEHAVIOR
- TROUBLE WITH SOCIAL MEDIA
- BY END OF YEAR, HUGE LEAPS IN AWARENESS OF HIS ISSUES AND EXPECTATIONS OF HIM
- CONVERSATION WITH HIS ART TEACHER

YEAR TWO

- RECRUITMENT TROUBLES (NOT JUST OUR PROJECT)
- STAFFING CHANGES
- REFINING CURRICULAR MODULES
- WORKING TO GET MORE F2F TIME
- SHORTER INTERVENTION?
- MENTORSHIP WORKED WELL--NOT CHANGING
- WORK-BASED LEARNING
- POST-INTERVENTION ASSESSMENT FOR STUDENTS

WEBSITE DEVELOPMENT

- WHAT WOULD YOU WANT TO SEE ON OUR WEBSITE?

THOUGHTS ON TIMING?

- COMMENTS ON CATCHING STUDENTS EARLIER

LAST THOUGHTS

- **PROJECT FEELS AMAZINGLY SUCCESSFUL**
- **CONTACTED BY PEOPLE ACROSS US**
- **PROBABLY SHOULD START EARLIER**
- **DEFINITE NEED IN SOCIETY; NOW WE SHOULD PRODUCE GOOD RESULTS IN EMPLOYMENT**

■ **THANK YOU!**