Case Study

Employability: More than a Report Card

Intervention Management

Mr. Elmer
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Improving school culture, student character, and safety.

About this Study

In this study, we showcase an adult career and technical education program in the Midwest. To continue growing the success of their programs, the administration needed a way to assess and improve employability character aspects of their students. Having employability data alongside the existing grades and certification tracking gives holistic support for the employability of a student.

Some of the major values:

Continual Tracking	The student employability is assessed with simple micro-assessments at a frequent, ongoing schedule.
Employability Factors	Assessment factors are customized. Some employability factors are shared across all students, others are specific to a program or student.
Automatic Analysis	All assessment values are stored, processed, and re-presented to the users of the system immediately, in real-time.

Mr. Elmer is an education software company with the goal of "Improving school culture, student character, and safety". We are a team of educators, data scientists, and entrepreneurs delivering simplifications to the modern data driven school. Our web-based software complements a school's existing student information systems and student behavior programs.

Mr. Elmer's case studies are our opportunity to showcase best practices and highlight successes in the many ways our software can be applied. We are excited to share this particular study with you, and grateful for your interest in improving efficacy of educational programs for employability of students.

Sincerely,
Doug Mackay

Founder, Mr. Elmer

Setting

Our focus here is a Midwestern career and technical education school. This school serves roughly 200 adult students with 30 staff. Providing over 25 unique programs, we target 5 for the duration of the study.

Together with the school, we were able to identify the unique employability factors of the programs. Each student was given a common set of factors, unique set of factors, or a blend according to their career choice.

In a single grading period, we were able to capture a continual assessment trend of each student. We were able to analyze and share the trends with staff and students alike. Showing the changing nature of the factors allowed a new twist in the employment conversation between student and instructor.

Challenges

To meet the need of this school, we had to address three important challenges. We needed to understand what employability meant to the employer. We defined what factors to measure in order to get the most objective view of the data. Finally, we had to handle the human element of proper data collection and effective communication.

Our first challenge was with the definition of employability. Employability is not a universal metric for all students. **Frequently, we see a disconnect between employer expectations and employability characteristics the school delivers.** We had to align these expectations in order to benefit the students. In this case, we had 5 programs with a combination of common and unique employability factors representing market and regulatory needs.

All measurable factors of a career and technical program are the metrics of employability for a student. To truly capture and represent the changing trend for a student, **we had to design these factors such that we capture an objective view of mostly subjective data**. This ensured we have a valid representation of a student's employability.

> **As a consequence of the miscommunication, secondary school students often see little connection between what they do in school and how they expect to make a living.**
>
> - What Work Requires of Schools, US Department of Labor

Employers cannot be present in the classroom. We were challenged to communicate to the student, on a continual basis, the priorities for employability. The analysis was presented to the students in such a way they understood the importance of the factors, their current standing, and their ability to affect their own improvement. This reduced the difficulty of communicating employer priorities. **Giving full visibility of employers' needs and educators' methodologies allowed the student to see the connection.**

The Employer-School Relationship

Noted in the US Department of Labor's study 'What Work Requires of Schools', it is not enough to have the curriculum delivered to the student; important employability factors must be identified, clearly communicated, and tied to the real world. **Linkage of social and "workplace know-how" factors from school to employer are just as important as technical skills.** This common miscommunication must be addressed in two parts: making the student aware of the expected factors, and explaining the connection between their performance in these factors and employment.

A false dichotomy can trap us when pitting concerns of experiential on-the-job training vs. school classroom instruction. We see the 'soft' and 'social' skills being disregarded. In 'What are High Schools Offering as Preparation for Employment', it is shown that

schools fixate on applying only these two approaches to varying degrees of success. **While courses should have both technical and academic components, it was noted as 'critical that these courses include instruction and experiences that focus on general employability skills.'** This was recommend across all grade levels, with emphasis on late high school grades.

Social metrics are proven to be important, but also difficult to track in class and present to employers. In the 2014 study 'Employment Social Skills: What Skills Are Really Valued?' it is made clear these are readily identifiable factors, noting the difficulty within current systems to monitor them. **With Mr. Elmer, we have implemented a way to take these well-defined, researched factors and apply a consistent, practical mechanism to measure, communicate, and improve.**

Recent Employability Research

Comparing research from the 80s, 90s, 00s, and 10s, we see remarkably consistent points:

- Employers expect ever more from graduates
- Social skills are a common need
- Employability factors are generally similar (See Appendix C)
- Tracking the efficacy of the learning environment to student employability is prohibitively difficult

We see a common concern and conclusion – a need to learn skills outside of the technical and academic curriculum, thus these skills must be given shared emphasis with their academic and technical counterparts.

> **Employability skills have often been cited by employers as the skills most critical to workplace success in the 21st-century economy.**
> - What is "Career Ready", ACTE

Implementing processes to show each student's employability standing has proven cumbersome. Lengthy paper surveys, long running research, and impacts to instructional time are just a few issues. With a simple, web-based survey approach, we are able to reduce these burdens, create the employer-school connection, show information in real-time, and ensure student success.

Approach

We recognize each school has the need to customize the employability factors based on employers in their community. The assessment system was built with this in mind. **We were able to create 12 factors for 5 programs supporting the commonly shared and specifically unique needs exactly**. The table below shows each program and the related factors.

Program	Common Factors	Custom Factors
Natural Resources	6	None
Business, Management, and Technology	6	None
Industrial and Engineering Technology	6	6
Human Services	6	None
Health Services	6	None

Table 1*: Programs and factors. Note that the same common factors were used across the school, with a handful of specific custom factors also employed in the Industrial and Engineering Technology program. These factors were specifically for an automotive workplace standard.*

To ensure an objective view of the information, **we worked with the staff to attach understandable, plain language criteria for each factor**. Sharing this across the staff allowed for a common calibration for measurements. We were able to approach data collection with a common measurement starting point.

We started with regular, staggered schedules for assessment. **This sort of scheduling drives the most important value of data collection – continual assessment through time**. With staggering, we added a failsafe for any missed assessments. We can be sure more measurements came in on a regular basis. A schedule and example with missing measurements is given below.

Ultimately, our approach ensures:

- A better means of communicating
- Clear-cut standards
- Assessment of workplace readiness

Using the Data

We were able to track and show changes to the employability of any student. All relevant staff saw captured student data in real time. Students were presented with their recent trends and targets. **An environment is created where the student sees potential to improve their employability, with clear feedback on direction, driving engagement.**

When each sample was captured, the system automatically analyzed and made the new trends available. Staff with rights to the student could see the information immediately. This availability allowed all staff to stay on the same page with new trends for the student.

Students received print outs of their trends. These show the student both the progress and targets. Sharing of assessments allowed for students to recognize areas for improvement. **We were able to start conversations in ways we were not able to before – grounded with objective data and a continual feedback loop on employability.**

Results

Over the pilot period, 19 instructors supplied roughly 100 total samples per week for 12 students. This translates to about 2 assessments per week for each of our students by 2 focused staff. Over the course of a grading period we were able to establish:

- instructor calibration
- assessment scheduling
- a factor baseline
- directional trending
- sharing and guidance

As important as it is to collect the data, we cannot make real use of it until we share. Instructors were on the same page for their student employability factors, and students were personally aware of the changes in these factors to better effect their direction.

	Week 1	Week 2	Week 3	Week 4	Week 5
Assessor A	Supplied	*MISSED*	Supplied	Supplied	Supplied
Assessor B	Supplied	Supplied	*MISSED*	Supplied	Supplied
Just A, 75% Response	1 Sample	*MISSED*	1 Sample	1 Sample	1 Sample
All, 75% Response	2 Samples	1 Samples	1 Samples	2 Samples	2 Samples

Table 2*: Sample assessment response with failures to respond. Assuming an assessor (e.g. an instructor) forgets to assess a student on a regular schedule 25% of the time, we see how multiple assessors on staggered schedules may overlap to provide a continuous assessment among peers.*

Compared to previous processes and ongoing research methods, we were able to make two distinct changes. First, employability data was collected frequently and analyzed automatically. Second, this analysis was made available at all times for instructors to see and communicate to students.

This resulted in something more valuable than only a time improvement for data collection. The entire staff was able to see and communicate the goals of employability across the assessed population.

How This Can Work for You

This approach allows a school to impact the employability factors of their student body through time. Simply and easily, with little impact to teaching staff, the software enables data collection and automatic analysis.

The factors are custom tailored for the program's needs. For career and technical education, the school is able to self-manage any customization to the employability factors. Students are assigned factors across the school, across a program, or unique to only themselves. This applies to factors from school specific "codes of conduct", to factors for market driven industry standards, to factors derived from years of research.

Lastly, but most importantly, students are assigned changing targets and strategies. For the student, they are able to see and meet an expectation. Staff have common employability standards and can consistently use school-wide methodologies to achieve those standards. **This creates a stable, positive, and employment focused learning environment for the student and staff alike.**

Appendix A: Example Student Report

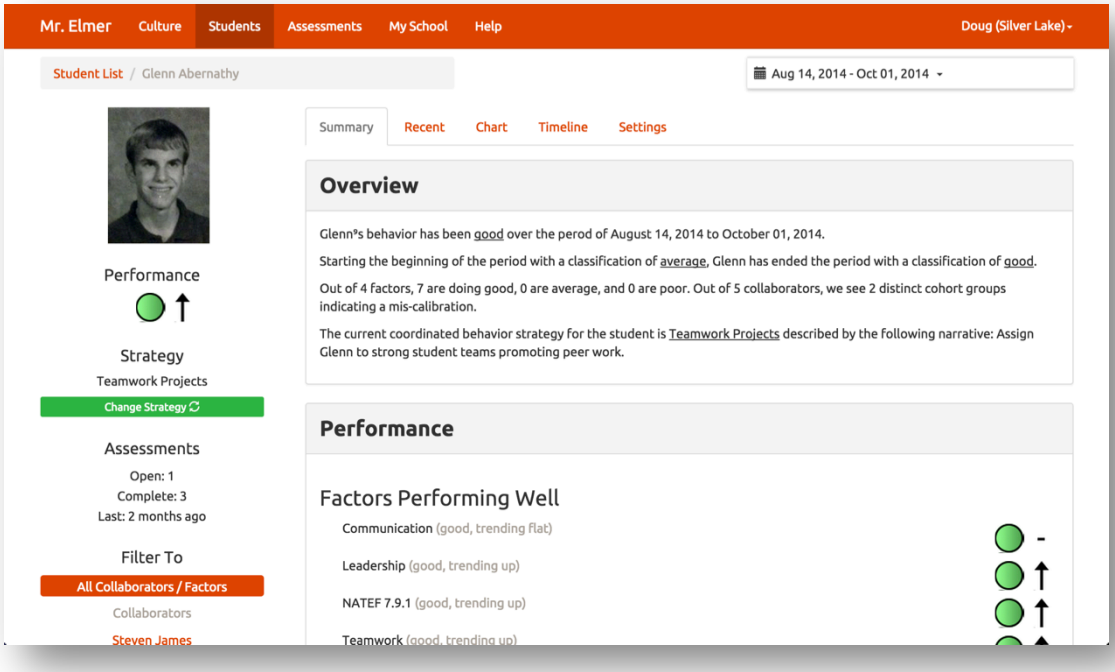

Figure 1: A student report cover page with overview and outline of factors.

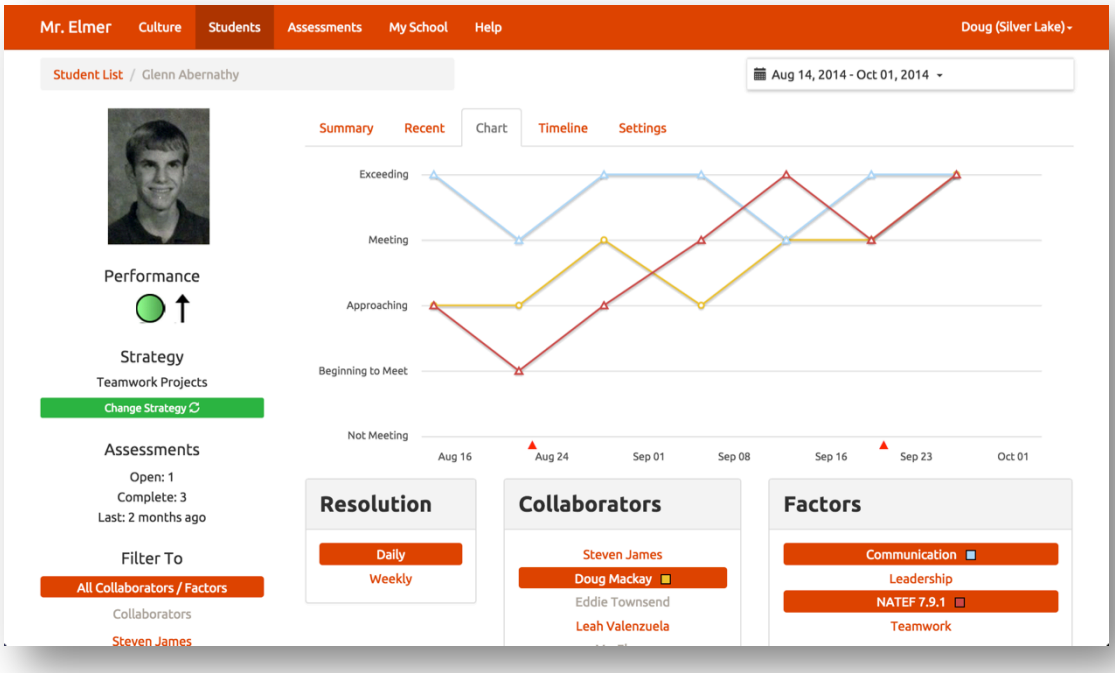

Figure 2: See all collaborators and factors on a student charted through time.

Appendix B: Example Student Assessment

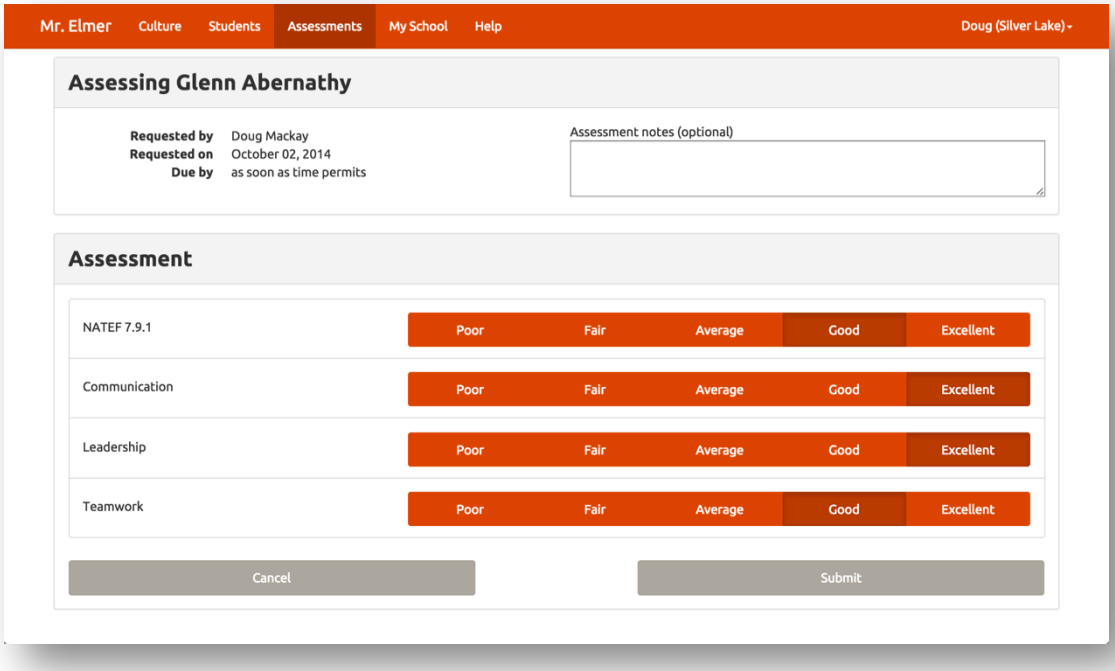

Figure 3: An example of a simple micro-assessment. Assessing four factors requires a total of five mouse clicks – four to choose assessment values, one to submit the assessment.

Appendix C: Sample Factors for Employability

Basic Skills: Reads, writes, performs arithmetic and mathematical operations, listens and speaks	
1. Reading	locates, understands, and interprets written information in prose and in documents such as manuals, graphs, and schedules
2. Writing	communicates thoughts, ideas, information, and messages in writing; and creates documents such as letters, directions, manuals, reports, graphs, and flow charts
3. Arithmetic/Mathematics	performs basic computations and approaches practical problems by choosing appropriately from a variety of mathematical techniques
4. Listening	receives, attends to, interprets, and responds to verbal messages and other cues
5. Speaking	organizes ideas and communicates orally

Figure 4: Three-part foundation (Basic Skills) from 'What Work Requires of School'.

Thinking Skills: Thinks creatively, makes decisions, solves problems, visualizes, knows how to learn, and reasons	
1. Creative Thinking	generates new ideas
2. Decision Making	specifies goals and constraints, generates alternatives, considers risks, and evaluates and chooses best alternative
3. Problem Solving	recognizes problems and devises and implements plan of action
4. Seeing Things in the Mind' s Eye	organizes, and processes symbols, pictures, graphs, objects, and other information
5. Knowing How to Learn	uses efficient learning techniques to acquire and apply new knowledge and skills
6. Reasoning	discovers a rule or principle underlying the relationship between two or more objects and applies it when solving a problem

Figure 5: Three-part foundation (Thinking Skills) from 'What Work Requires of School'.

Personal Qualities: Displays responsibility, self-esteem, sociability, self-management, and integrity and honesty	
1. Responsibility	exerts a high level of effort and perseveres towards goal attainment
2. Self-Esteem	believes in own self-worth and maintains a positive view of self
3. Sociability	demonstrates understanding, friendliness, adaptability, empathy, and politeness in group settings
4. Self-Management	assesses self accurately, sets personal goals, monitors progress, and exhibits self-control
5. Integrity/Honesty	chooses ethical courses of action

Figure 6: Three-part foundation (Personal Qualities) from 'What Work Requires of School'.

Appendix C: Sample Factors for Employability (cont)

Social Skills
Seeking clarification for unclear instructions
Arriving at work on time (punctual)
Refrains from inappropriate touching of others
Carrying out instructions needing immediate attention
Notifying supervisor when assistance is needed
Responding appropriately to critical feedback
Interacts well with customers/clients
Responding appropriately to job-related emergencies
Works as a member of a team, if appropriate
Finding necessary information prior to performing the job
Listening without interrupting
Working at job continuously without disruptions
Uses appropriate conversational skills (e.g., making eye contact, appropriate volume)
Shows initiative
Acknowledging what others are saying (eye contact, saying yes or right)

Figure 7: Top 15 social skills from 'Employment Social Skills: What Skills Are Really Valued?'.

Appendix D: References

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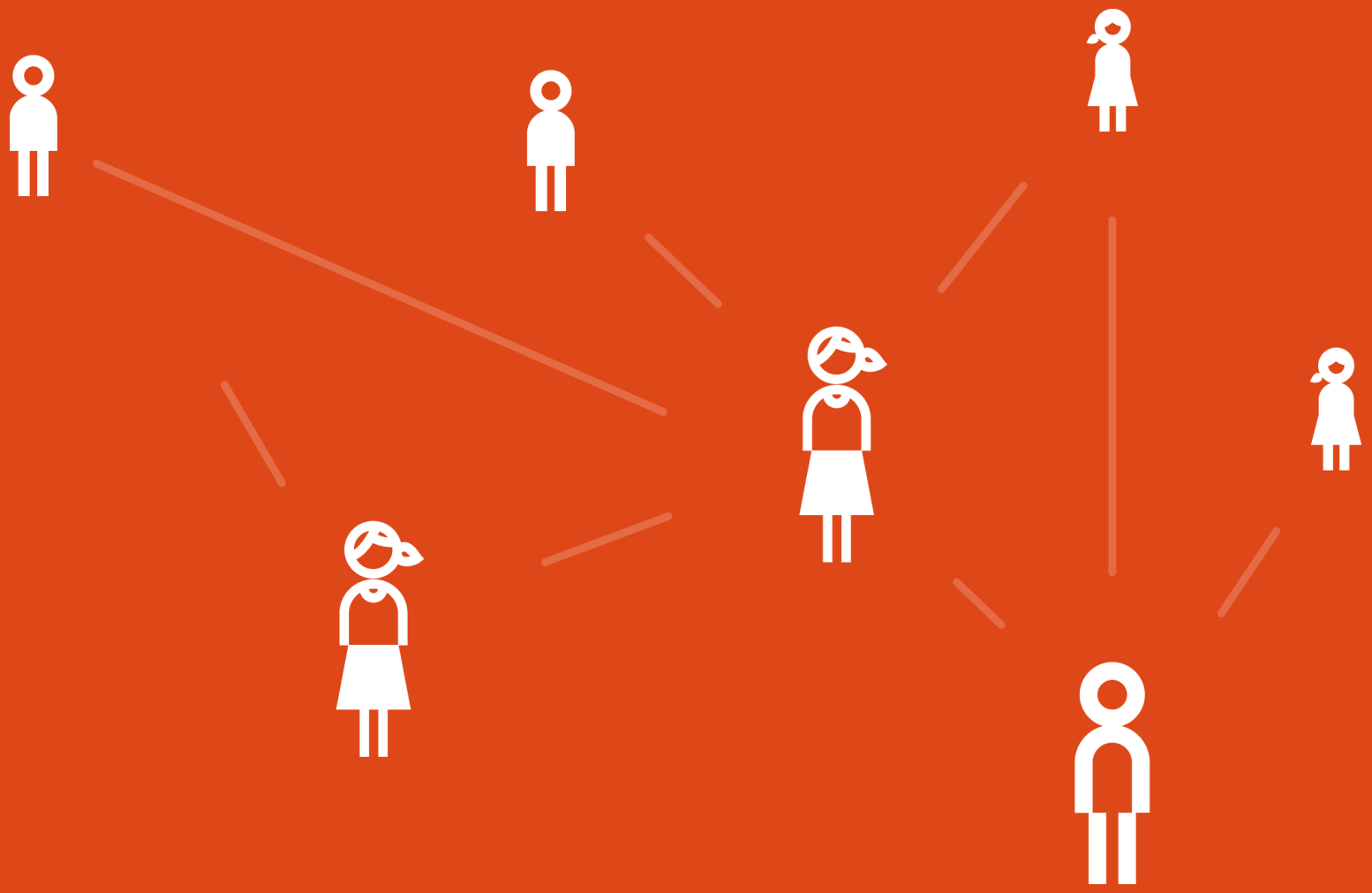

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