Introducing Character Strengthening and Practical Wisdom Through Project Development in Medical School

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Introducing Character Strengthening and Practical Wisdom through Project Development in Medical School

by

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Abstract

We have been teaching character integration in an innovation project development program for 5 years. Participants learn and apply ten innovative skillsets, including character strengthening exercises, in developing their projects. Two years ago, 76% of past team members reported using the techniques they learned on character strength integration in other parts of their work or study. This last year, we used the cardinal virtues to explore further how team members were developing their own character strengths during their year-long projects. Using relatable language to communicate these virtues, we summarize the impactful stories of their journeys to becoming the "good physician."

Introduction

The Transformational Ideas Initiative (TI^2) program, started in January 2018, is an annual incubator seed grant program that was co-developed and co-directed until October 2022 by M. Chris Decker, MD and Julia A. Schmitt of the Medical College of Wisconsin's Robert D. and Patricia E. Kern Institute for the

Transformation of Medical Education. The TI^2 program, now maintained by the Kern Institute's HumanCentered Design Lab (HCD Lab), has completed four full academic year cycles. The purpose of this paper is to describe the TI^2 program development, including the goals, learning objectives and processes, and to provide insights into the iterative journey of character strength integration and reflection through the four years.

TI^2 Program Summary

The purpose of the TI^2 program is to train innovative skillsets and integrate character strengths through project development at the Medical College of Wisconsin (MCW). This is accomplished through an iterative, human-centered training process that guides participants through the development of their project using a new set of skills. The program training methodology is a blend of the Kern Family

Foundation's KEEN Entrepreneurial Mindset (The Framework for Entrepreneurially Minded Learning,

2022), the National Science Foundation's Innovation-Corp Program (https://beta.nsf.gov/funding/initiatives/i-corps), Stanford University's Hasso Plattner Institute's Design Thinking Method (https://dschool.stanford.edu/resources/getting-started-with-design-thinking), and the VIA Institute on Character's survey and definitions (https://www.viacharacter.org/characterstrengths-via). TI^2 participants are trained in developing curiosity, creating diverse connections, relentlessly pursuing value creation, and integrating

character strengthening experiences. We developed a 6-point Innovative Mindset Rubric (Appendix A) to assess these skillsets and map participants'

progress along a learning progression continuum based on Bloom's Taxonomy

(https://bloomstaxonomy.net/). It is our belief that students, faculty, and staff are the most important resources of our college and health system. Our intention is to train them to think like innovators, and in doing so we will create a community of innovators who will continue to innovate and integrate character strengths throughout their professional careers across our college and health system.

TI^2 Program Learning Progression and Goals

The Learning Progression of the Innovative Mindset is:

1. No Knowledge — Novice — 2. Knowledge & Understanding — Informed Novice
3. Application of Knowledge with Analysis, Synthesis, and Iteration — Beginner
4. Applies Skills in Other Areas — Advanced
5. Others Seek Your Knowledge and You Teach — Expert

The goal of the TI^2 program is for participants to achieve a "Beginner" level of Innovative Mindset on the Learning Progression Rubric (Appendix A) by the end of the year-long training program by displaying the following abilities:

1. Apply concepts outlined in the rubric of curiosity, connections, and creating value within their own project development (defined by a minimum score of 4 on the Innovative Mindset Rubric
2. Intentionally think about and include tactics to demonstrate and measure key character strengths defined in the VIA character strengths website (defined by a minimum score of 4 on the Innovative Mindset Rubric)
3. Share the innovative journey through effective communication methods and storytelling (defined by a minimum score of 4 on the Innovative Mindset Rubric))

Application for Participation in the TI^2 Program

Students, faculty, and staff of the Medical College of Wisconsin are invited to submit a proposal to the

TI^2 program once a year. The application process opens each year in early January and closes in midFebruary. Each proposal is scored in a blinded fashion by a minimum of three reviewers using a scoring rubric. Accepted projects are notified in early April, and teams prepare to begin the first stage of the TI^2 experience in early June. The TI^2 experience is divided into two stages: the Training Journey and the Piloting Journey. (Figure 1)

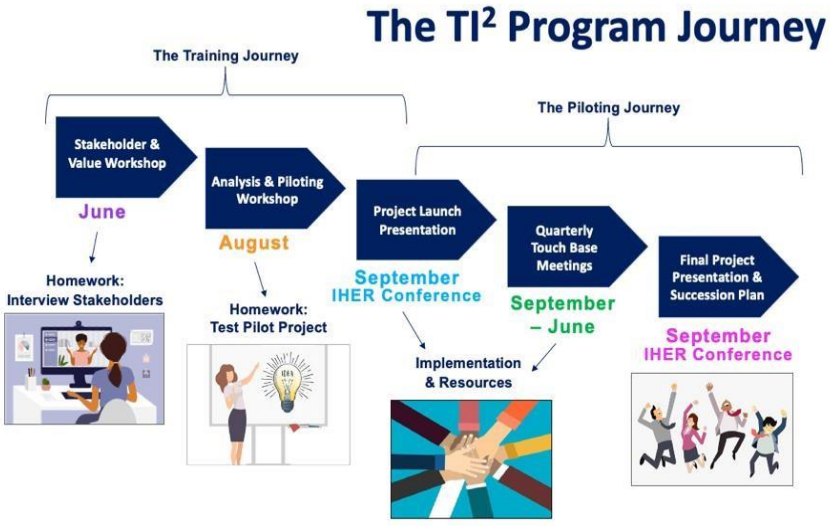

Figure 1

The TI² Program Training Journey

The TI² program begins with two training workshops led by M. Chris Decker, MD and Julia A. Schmitt, trained facilitators in human-centered design, project development and change management. These workshops allow participants to develop their ideas into projects that provide value to their learners and other stakeholders. Workshops are held in June and August each year, with the goal of having teams ready to implement their pilot projects early in the academic year, which starts in September.

The first training workshop focuses on the importance of stakeholders in the design process. The workshop introduces the skillsets of creating a stakeholder map for their project, developing personas for their key stakeholders, inferencing hypotheses for each of their stakeholder groups, and preparing to conduct interviews using effective communication skills. At the end of the first workshop, teams are assigned to interview thirty stakeholders before the next workshop. This is a critical step in the innovative journey as it operationalizes humility and empathy, and almost always influences teams to pivot their projects to better meet the needs and values of their stakeholders, while holding true to the best evidence of their project.

The second training workshop begins by analyzing stakeholder interview data and iterating projects based on stakeholder needs and values. Teams also design a minimum viable pilot (MVP) to test their newly refined idea, which includes character-strengthening opportunities they want their participants to experience. The workshop project teams then test their MVP with a small group of their stakeholders. Data collected during the MVP provides further insight into the character strengthening experience and the stakeholder's program experience, sparking further iteration of the project.

The training journey described above spans 10-12 weeks each summer and is evaluated against the following Innovative Mindset Rubric (Appendix A) dimensions:

1. Curiosity
   Stakeholder Mapping, Personas, Inferences & Hypothesis Generation, and Interviewing
2. Connections
   Seeking Diverse Points of View

3. Creating Value
   Learning Stakeholder Needs & Values, and Development of Pilot/Prototype Project
4. Character
   Incorporation of Character Strength Development
5. Communication
   Storytelling and Interviewing

The training journey concludes when each team presents the story of their project development and their implementation plan for the upcoming academic year at MCW's annual Innovations in Healthcare Education Research Conference (IHER) in September. Teams are encouraged to use this presentation not only as a debut of their project to the MCW community, but also as a venue to gather support and influencers to assist and participate in their pilot.

Following the IHER conference, teams submit their budget requests, which are aligned with their implementation plan for their piloting journey. Budgets are accessible to teams through the end of the MCW's fiscal year, ending on June 30 the following year.

The TI^2 Program Piloting Journey

The TI^2 pilot journey spans the academic year, when teams implement their projects along with support and coaching from the program directors, M. Chris Decker, MD and Julia A. Schmitt. Coaching consists of support on how to manage team budgets, manage timelines, and encouragement to continuously iterate their project design to provide the most value to their learners. Teams are also coached on keeping character integration front and center in their project implementation. The coaching program was developed and refined year to year in an iterative way, which will be described later in this paper. The piloting journey's goal is for teams to end the academic year with a successfully vetted pilot program that is valuable to stakeholders and viable to continue at MCW for years to come.

The pilot journey is evaluated against the following Innovative Mindset Rubric (Appendix D) dimensions:

1. Curiosity
   Inferences & Hypothesis Generation, and Interviewing
2. Connections
   Seeking Diverse Points of View
3. Creating Value
   Delivering on Stakeholder Needs & Values, Iteration of Pilot/Prototype Project
4. Character
   Measurement of Character Strength Development
5. Communication
   Storytelling

We will summarize the program results, and then for this audience we will describe our journey of character strength and practical wisdom integration within the TI^2 program.

TI² Program Results Summary

There were 210 applications to the TI² program over the first four years, and of those we advanced 47 projects (23% acceptance rate). Of the 47 accepted projects, 43 teams completed the full TI² program. Twenty-two were faculty-led teams, 19 were student-led teams and 6 were staff-led teams, which included a total of 237 MCW personnel who have completed the TI² program to date. In the first four years, 31 projects continued to be implemented within MCW after completing the TI² program (72% succession rate) in more than 12 MCW academic areas.

The 47 TI² projects accepted into the program during the first four years fall within four main thematic categories: Cultural Humility (36%), Professional Identity Formation (PIF) (36%), Well-Being (18%), and Medical Education Innovation (10%). 50% of projects in the PIF category focused on character strength development.

Twenty-nine team leaders who completed the yearlong TI² program in the first four years responded to our surveys (67% response rate). All 29 team leaders reported they are applying the Innovative Mindset skills learned in the TI² program in other parts of their work and study, with 15/29 reporting they are using the skills monthly, and the remaining 14/29 reporting they are using the skills more than once per week. In year four, we expanded our survey to include all team members. We asked them what specific innovative skills they were using from their training in TI². Of note, 76% of respondents shared they were using character strength integration in other parts of their professional work.

As of the writing of this paper, participant teams have disseminated their TI² projects in numerous ways, including 16 peer-reviewed conference posters and oral presentations (6 local, 1 regional, 8 national, and 2 international), as well as three peer-reviewed journal publications. Additionally, Dr. Decker and Ms. Schmitt have disseminated their work on the TI² program development in six peer-reviewed presentations, (2 national and 2 international) and one peer-reviewed journal publication. Further, the work of three TI² teams was cited in MCW receiving the 2021 Health Professions Higher Education Excellence in Diversity (HEED) National Award, and two TI² team leaders received the 2021 MCW President's Diversity and Inclusion Award.

2018-19 (Year 1) TI² Program Summary

In the training sessions, we chose to use the VIA Institute on Character's website survey and character strength definitions as a reference for the teams to use for the following reasons: 1.) it was easily accessible online, 2.) it had easy to read definitions, and 3.) it provided a survey which stimulated a personal reflection of each team member. This plan was supported by our MCW colleague philosophers and bioethicists. We also invited these colleagues to serve as "character coaches" to advise the teams in the training phase of the second workshop. During training, we prompted each team to reflect by asking: "What character strengths do you want to impart to your learners in the project you are developing?"

During the academic year, when teams were piloting their projects, we met three times as a whole group (all teams) to have each team report on the progress of their project iterations, what they had learned, and what their next steps were. The "character coaches" were also present to engage with teams on how they were incorporating character strengths in their project. The hope was that the community of teams would learn from each other by sharing their challenges and next steps. We discovered, however, that teams were not candid in their report-outs to the large group. We

hypothesized that there was not enough psychological safety for teams to share information that may reflect vulnerabilities in their project development journey (i.e., they did not see failed iterations as learnings and opportunities to make important adjustments). We also learned that character integration was not taken as seriously as we had hoped. We hypothesized this occurred because character coaching was only accessible on-demand (e.g., coaches were accessible if needed but not all teams took advantage, and the coaching role was not clearly defined).

To be honest, we were not sure how or what to coach in the character integration space in an experiential context. The result of year one was a need to increase the intentionality of the character coaching and switch to meeting with teams individually to create psychological safety and more individualized opportunities to coach innovative skills and character integration.

2019-20 and 2020-21 (Years 2 and 3) TI^2 Program Summaries

For the next two years, each team had an assigned character coach to help them incorporate character strengthening experiences into their project. Like in the first year, we used the VIA Institute on Character's website survey and definitions as a resource for participants. During the training journey, character coaches were more active and integrated with their assigned teams, and they also had scheduled meetings with each team two or three times during the project piloting phase. Additionally, the program directors also met with each team individually to learn how their project was progressing, what their challenges and learnings had been so far, and what their next steps were to complete their project. This offered a more intimate coaching and mentor relationship.

After training in year two, our survey revealed that participants were feeling more comfortable in how to incorporate character strengths into their project (average score of 3.6 on 5-point Likert scale | 1=completely uncomfortable, 2=uncomfortable, 3=somewhat comfortable, 4=comfortable, 5=completely comfortable).

In year three, we developed a prototype rubric to assess all the skills participants were learning in the program. Our data showed that on a 5-point Likert scale, participants increased their perception of knowledge in how to incorporate character strengths in their projects from 3.5 after the first workshop to 4.5 after the second workshop. In that same survey after the second workshop, we were intrigued to learn that all the participants who responded to the survey reported they were using the Innovative Mindset methodologies learned in the TI^2 program in other parts of their work and study, with 63% indicating they use the skillsets more than once a week.

We thought, at the time, that this was exciting as it may imply the transference of the skills to other parts of their professional practice. At the end of the year-long program, we surveyed the team leaders. Of the nine team leaders who responded, seven leaders (78%) reported they were using the Innovative Mindset skillsets they learned in the TI^2 program at least once a week. Next, we were interested to learn exactly what skills they were transferring, and if it included the integration of character strengths. **2021-22 (Year 4) TI^2 Program Summary**

This year, we made several changes to the program's character integration tactics. First, we added a more intentional process and toolkit for teams to use during the planning of their pilot. The process included, as in previous years, taking the VIA survey, and asking teams to pick up to three character strengths they planned to integrate into their program for learners to experience. We additionally provided a list of examples for each of the character strengths and how they might integrate them in their project (Appendix B). The intent was to stimulate teams to apply tactics in an intentional way. Additionally, we provided a tool that asked them to identify the character strength, how they would apply it, and how they would measure it (Figure 2).

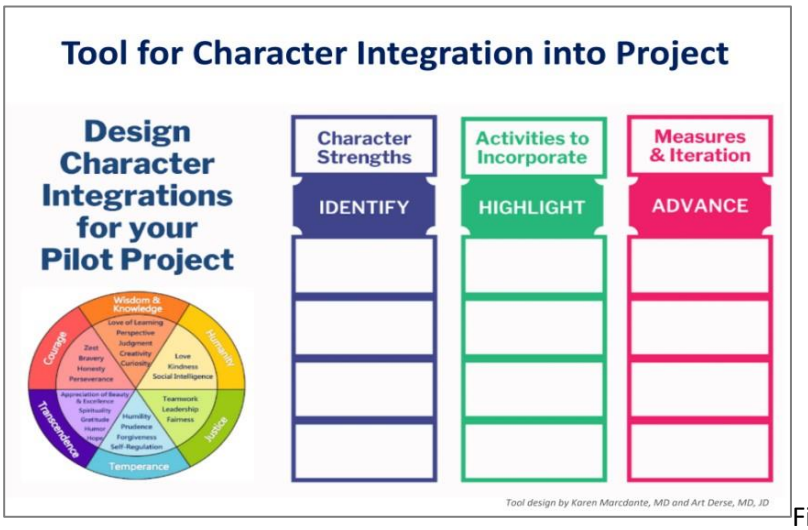

Figure 2

After the second training workshop, our survey revealed that 76% of participants were using what they learned about character strength integration in other parts of their work or study. Quotes from respondents included the following: "I liked learning how to be deliberate about thinking about character strengths" and "I thought it was a good construct to be intentional about character strengths in our project - as it seems the "why" and "how" are really what keeps us rooted in all of this. I hold ideas like this near and dear to me." The high percentage of participants who were applying this skill in other areas of their work caused us to think deeply about how and where this new knowledge was being leveraged in other areas.

During the pilot journey, we had the teams meet with us and the character coaches at the same time. This allowed us to learn together in each meeting. At these meetings, we became curious to explore the leadership skills and character strengths team members were activating during the implementation of their projects. We started asking teams about their own experiences using a practical wisdom construct outlined by Lauris Kaldjian MD, PhD (2010). We chose to start with practical wisdom and the other three cardinal virtues, which we referred to as courage, poise, fairness, and prudence, to develop the dialogue within the construct. The construct and related questions we asked of each team member are depicted below in Figure 3.

Figure 3

Previously, we had only been asking how teams would integrate character strengths in their project for their learners to experience. We hypothesized that teams were developing character strengths within themselves and as a team, but we had never collected that information before. In each year previously, we noticed that teams were experiencing learning through partial failures in their iterative journey, and we were coaching them to learn from those experiences. This required humility, curiosity, courage, and poise, at the very least. Now, we set out to intentionally ask and record their reflections, and we were curious how they negotiated the virtue conflicts they experienced during their project development and implementation.

TI^2 Program Development Summary

The TI^2 program was developed and refined each year using the same iterative, human-centered methodology taught to the program participants. The program was improved each year based on feedback interviews and surveys, and adjusted to create value for all stakeholders, including the participants, the Kern Institute, and MCW. Through this process, we increased the resolution of the program each year based on our learnings, including the development of program objectives that include character integration, self-assessment learning rubrics, observed assessment rubrics, increasingly effective surveys, succession planning, and scholarly production. The TI^2 program is very popular at MCW and continues as a marquee program of the Kern Institute, where MCW students, faculty and staff can innovate and co-create their shared medical school environment. The learning target is for participants to achieve the ability to apply innovative skills, including character integration, to their project (and now themselves) and to iterate their work based on their stakeholder's feedback. The long-term objective of the TI^2 program is to inspire participants to apply the Innovative Mindset and character integration to other parts of their work and study, and thus create a community of innovators.

Discussion

Aligned with our program development, our journey of integrating character into the TI^2 program has been highly iterative. Many team participants struggled with how to integrate character strengthening experiences into their project, but still found it valuable knowledge to apply in other areas of their work and study. As program directors, we learned along the way how to support, coach and mentor the teams in character education.

Year four was an important turning point for us in the character space. With our rubric, we showed that teams in year four were thinking and analyzing how to incorporate character strengths, and some were actively iterating in character integration. We saw at the end of the piloting journey, their confidence in integrating character had dropped a bit, which shows how challenging this work is. Despite that dip in confidence, 76% of participants reported they were using character strengths in other parts of their study or work. This was consistent with other skillset domains as well. In connecting to our Innovative Mindset rubric, this is represented as Level 5, which teams did not select. This may reflect a flaw in the rubric and represents an opportunity for future iterations. In retrospect, participants may be integrating character strengths to some degree without fully understanding the concepts.

Also in year four, adding the practical wisdom construct brought to light the character strength development that was happening within individuals and among teams during the TI^2 program journey. Using this construct led to much richer discussions during coaching meetings, as each question was a trigger into narratives that illustrated conflicts and the need for reflection on how the integration of character helped lead to the resolution of those conflicts. The practical wisdom construct created increased focus in the discussions with team participants, which illuminated opportunities for participants to reflect more intentionally on their learnings and growth.

Future steps for program development could be to intentionally teach and integrate a practical wisdom construct into the TI^2 program in both the training and pilot journeys. While we currently use the VIA character strength structure, we could use any character integration framework that is appropriate. For example, we could use the Jubilee Center's framework (*The Jubilee Centre Framework for Character Education in Schools*, 2022, p. 10). This could connect practical wisdom, character strength integration and flourishing. By intentionally teaching an integrated structure during training, coaches and teams would have a shared lexicon and definitions needed to have robust practical wisdom construct discussions throughout the year. Additionally, developing a rubric may be a way to measure competency in using this skill.

Introducing the practical wisdom construct into an innovative project development seed grant program was novel, and it proved to be a natural fit. The program provided the key elements needed to develop practical wisdom: 1.) a focus on concrete circumstances and goals, 2.) a focus on discernment or deliberation, 3.) the presence of a mentor or coach, and 4) the opportunity to include virtues in the discussions surrounding project development, execution, and evaluation. This provided a natural opportunity to have a discussion of ethical values that form a meaningful context for a virtues-based perspective on practical wisdom. The innovative skills taught in the program are founded, at least, in prudence, empathy, humility, curiosity, and courage. Participants apply these strengths to create value for the learners who are experiencing their projects. In the pilot journey, or the iterative phase of the project development, injecting the discussion of ethical values in problem solving and team development provided a holistic and inclusive approach into the context of the project development journey. This parallels the idea of teaching clinical judgment as practical wisdom in medicine (Kaldijan, 2010). Integrating goals of innovative project development with

ethical values or virtues is not something that had previously been explicitly and systematically done at our medical school and we suspect has not been done at other U.S. medical schools. It has largely been the realm of medical ethicists and philosophers.

Reading and learning about practical wisdom is a lot like going through the first two years of medical school. The information is important, dense, and challenging. Transitioning to the clinical environment in year three of medical school inverts the learning, as you are re-learning the concepts in a highly experiential context. We recognize that both ways of learning are critical. The TI^2 program started in the experiential space, but in doing so we may not have taught the principles as succinctly as one can in a classroom. As such, this method requires ongoing mentorship and coaching.

In September 2022, we experimented with using the practical wisdom construct as a reflective exercise outside of the TI^2 program. During our presentation at a national conference convened by the Kern National Network for Caring and Character in Medicine, we prompted our audience through the construct in a pair-share exercise by asking participants to recall a project they had done in the past that required a lot of thought and planning. The project could be personal (getting married, moving to a new state/country, etc.) or professional (completing a dissertation, launching a new program, etc.). As they reflected on their growth through that past project, participants were highly activated throughout the room, and it was difficult to end the exercise. We found this very exciting, as it validated for us that this construct could be taught as a standalone where participants apply it into whatever context is important to them (e.g., project development, clinical training, leadership, mentorship, friendship, etc.) and it can be done experientially (in the moment) or reflectively (afterwards).

Pellegrino and Thomasma describe in their 1993 book *The Virtues in Medical Practice* that practical wisdom helps physicians determine the right action and the good action, where right action is determined by what is scientifically appropriate, and good action is determined by what is in the patient's interest. It unites the intellectual and moral aspects of being a physician (8 1993, 84-90). As such, practical wisdom links physicians to what many consider to be the most important commitment in their medical oath, which if true to the tradition of the Hippocratic Oath, would include some statement of dedication to the primacy of the patient's benefit, such as: "*I will follow that system or regimen which according to my ability and judgment I consider for the benefit of my patient and abstain from whatever is deleterious and mischievous.*" This helps reconcile the complexities of science and technology in medicine, with what the patient perceives as good, what is good for humans in general, and the patient's spiritual good (Pellegrino 1990). It extends medicine from a technical profession focused on bodies, to a healing profession devoted to persons.

There are authors, such as Pellegrino, and Schwartz and Sharpe (2010), who assert that the medical profession is under attack by the principles of the marketplace and self-interest. A physician's ethical obligation to the sick, Pellegrino asserts, "*is irreconcilable with that position and we will have to choose*."

The authors of this paper recognize and acknowledge the challenge of such forces. But we would

suggest that training physicians in practical wisdom, in a way that demonstrates the inseparability of biomedicine and ethics and the centrality of the patient as a person, may offer a way help manage the complexities of today's medicine and lessen the likelihood that external forces will dehumanize the practice of medicine.

This approach to training may also have positive implications for the well-being of persons in the medical profession, since practical wisdom is part of the flourishing of the physician as a person. Schwartz and Sharpe share Aristotle's perspective that practical wisdom provides the will and skill for human flourishing. The wiser we are in what we do, the more joy we have in our lives. They further share that current research shows what is necessary (not sufficient) for flourishing is connected to close, personal relationships with people and with finding meaning in one's work. Ironically, meaning is connecting what we do to the lives of others in the medical profession. The construct of practical wisdom seeks to integrate the real circumstances of our professional work and the ethical values that guide it, and this kind of integration is essential for flourishing.

In conclusion, utilizing the practical wisdom construct creates space for character strength and virtue development, reflections, and conversations. With mentorship we can help adjudicate between character strength or virtue conflicts experienced during participants' project development and implementation. As we are learning, these skills seem to be translating into other parts of the participants' professional work. Practicing this reflective exercise helps build awareness that with time and habituation in multiple contexts will develop into the practical wisdom necessary for personal and professional flourishing.

Limitations

The data collected from TI^2 project leaders and team participants was non-validated and self-reported, the survey questions and scoring scales varied as the program progressed in resolution, and there were variations as the rubric was developed and refined. Many of the surveys received a relatively low response rate, and some of the survey data was split between participants and team leaders, which may be confusing. Training in TI^2 takes skilled facilitators knowledgeable in human-centered design, innovation, project development, and change management. Of equal importance is learning how to partner effectively between experience-based experts and more philosophical contexts as an underpinning for success.

When questioning teams using the practical wisdom construct, we did not share definitions of the cardinal virtues, so it is possible that their answers could have meant something different than what we interpreted them to mean. We intentionally left the interpretation of the virtues open because we wanted to test the construct as a pilot without over-engineering the process. Additionally, we felt this promoted open conversation and found it to be a deeply formative discussion. We did not want to give the impression that this was a summative discussion on virtues. A next iteration of this pilot would ideally include succinct definitions of the cardinal virtues throughout the span of the program journey, while maintaining a psychologically safe environment to have the discussion.

We did not differentiate whether members were virtuous or acting in a virtuous way. In fact, we assumed that they were acting in a way that they were on a spectrum of ethical reasoning, even if not virtuous. The ease of answers that team members provided signaled to us that they were acting in an ethical way, and perhaps also in a virtuous way. We chose to approach it this way due to the time constraints of the meetings. Additionally, answers provided by teams included reflections on many other virtues, like humility and curiosity for example. This often led to a dialogue on those virtues. While we started with the cardinal virtues, we learned that they were a "door" into discussions about other virtues and their personal growth in the context of their project development.

Scaling work like this requires skilled coaching. We recognize we were not as steeped in the knowledge of character education as we could have been when we began our journey. Additionally, our focus was leveraging curiosity, empathy, humility, and iterative problem-solving. What we missed early on is that we could have incorporated character strengths into the problem-solving construct. In retrospect, we were doing this but without the clear intention of calling out that we were doing it. We were using process improvement constructs, which ironically is a practical wisdom construct without explicitly adding virtues or ethical reasoning. Adding the discussion of ethical reasoning was a short gap to fill and enriched the experience for coaches and project team members.

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Appendix

Appendix A:

Curiosity	0	1	2	3	4	5	6
Stakeholder Mapping	Not Applicable to Project	Understands and explains the concepts of stakeholder mapping	Applies stakeholder mapping to their TI2 project development	Considers a diverse group of stakeholders for their TI2 project	Develops TI2 project based on stakeholder information	Applies stakeholder mapping to other projects	Teaches stakeholder mapping to others
Exploration of Personas	Not Applicable to Project	Understands and explains the concepts of personas	Applies concept of personas in their TI2 project development	Compares development of personas with findings from interviews	Sharpens the personas in a way that shows where value can be achieved in their TI2 project	Utilizes the principles of personas in other projects	Teaches the principles of personas to others
Exploration of Inferences & Hypothesis Generation	Not Applicable to Project	Understands and explains concept of hypothesis generation in the innovative process	Uses hypothesis generation when think-ing about assumptions of stakeholders and personas	Reflects on interview data in a way that accepts, modifies or rejects the hypothesis generated for the interview	Iterates project based on hypothesis findings	Utilizes hypothesis generation in other projects	Teaches the skill of hypothesis generation to others
Stakeholder Interviewing	Not Applicable to Project	Understands and explains the importance of stakeholder interviewing in the innovative process	Engages in stakeholder interviews for their TI2 project development	Synthesizes the learnings from a diverse group of stakeholder interviews in a way that develops value in their TI2 project	Utilizes the interview process to influence or iterate their TI2 project	Incorporates stakeholder interviewing in other projects	Teaches the skill of stakeholder interviewing in project development to others
Connections	NA	1	2	3	4	5	6
Diverse Points of View	Not Applicable to Project	Understands and explains the importance of diverse points of view and can list different types of connections	Utilizes diverse connections in their TI2 project development	Synthesizes information from diverse connections in a way that improves their TI2 pro-ject develop-ment	Incorporates diverse points of view in their TI2 project	Utilizes diverse connections to develop other projects	Teaches why and how the use of diverse connections is important to project development to others

Creating Value	NA	1	2	3	4	5	6
Stakeholder Needs and Values	Not Applicable to Project	Understands and explains the value of learning the needs and values of key stakeholders in TI2 project development	Uses learnings from interviews about what stakeholders value in TI2 project development	Analyzes and synthesizes data from diverse stakeholder groups on the value in their TI2 project	Utilizes data about value to iterate their TI2 project to match the needs of their stakehoders	Uses learnings from interviews about what stakeholders value in other projects	Teaches the why and how to use the concept of stakeholder value in project development to others
Pilot/Prototype Project	Not Applicable to Project	Understands and explains piloting and how to use user-experience data	Uses piloting and user-experience data in their TI2 project development	Assesses experience-based data in a way that increases stakeholder value in their TI2 project	Incorporates experience-based data in iterating their TI2 project	Utilizes minimum viable piloting in other projects	Teaches piloting in project development to others
Iteration	Not Applicable to Project	Understands what iteration is and how it is used in project development	Engages stakeholders as a way to consider iteration of their TI2 project	Assesses the experience of those who take part in the pilot of their TI2 project	Incorporates iterative, data in-formed solutions into their TI2 project	Utilizes data informed iterative development of other projects	Teaches the why and how to iterate a project in a meaningful way to create value for stakeholders

Character	NA	1	2	3	4	5	6
Character Strengths	Not Applicable to Project	Is familiar with and navigates the VIA website on character strengths	Intentionally incorporates character strengths in their TI2 project development	Develops and analyzes measure-ment to assess how the learners experience the intended character strengths in their TI2 project	Iterates the experience of their TI2 project to more deeply incorporate the intended character strengths	Includes character strengthen-ing experiences and measure-ment in other projects	Teaches the why and how to include character strengths in projects to others
Communication Storytelling	NA	1	2	3	4	5	6
Storytelling	Not Applicable to Project	Understands the concept of storytell-ing and it's importance in sharing the journey of a project	Incorporates storytelling concepts when sharing their TI2 project development	Utilizes story-telling as a key component to engaging stakeholders and others in their TI2 project	Practices sto-rytelling as a tactic to pitch their TI2 program or project to succession beyond the TI2 program	Includes storytelling as a component of effective communica-tion in other projects	Teaches the skill of storytelling and how to include it in sharing project development to others

Appendix B

Virtue	Character Trait	How it might be built into your TI2 project	How you might measure it during your pilot
Wisdom	Creativity	Insert opportunities for your participants to share their ideas in helping you refine and iterate your project (e.g., teaching methods, wellness strategies, solutions to cases, communications). Encourage "Yes, and…" brainstorming during activities.	Collect ideas shared (via post-its, Mural, etc.) that demonstrate building on the ideas of others Hold "Yes, and" sessions in Mural or similar platform and record the building of ideas
	Curiosity	Build in time for your participants to ask lots of questions and suggest new ways of doing things. Seek solutions used in other fields.	Collect reporting forms and count ideas/questions, etc., especially for any suggestions on how you might improve your pilot project; document pivots
	Judgement	Create space so participants can speak-up and all voices are heard; use critical thinking; investigate perspectives instead of jumping to conclusions; think deeply about implicit and explicit biases.	Review tools to ensure that all get a voice; explicitly use and document all steps of critical thinking; obtain reflections on biases and impact on project
	Perspective	Incorporate methods that require intentionally looking at things from others' perspective; get a clear view of the big picture so you can address/solve the right problem; seek the input of those with practical wisdom.	Document "ah-ha" moments that caused you to see a new side of your project from another's' perspective; Record the types/numbers of stakeholders from whom you seek information and review to ensure you aren't omitting anyone
	Love of Learning	Create activities that promote the pursuit of new knowledge/skills; create a systematic plan to develop participant's expertise and use of resources.	Document the number of resources/references you use; document action plans for individuals and the team; document any gains in knowledge/skills or attitudes
Courage	Bravery	Build opportunities for your participants to try something different (piloting/prototype phase) of intimidating (asking experts); ask participants for honest feedback on your project; approach stakeholders who have authority to get their input; hold true to what is right as you design your project.	Document number of prototypes and results of testing; document feedback (where you sought it/what it was) and your responses; document which experts you sought out; obtain reflections on what was scary about project and how each dealt with it.
	Perseverance	Promote your participants' deliberate practice to master new knowledge/skills; acceptance of missteps/failure as opportunities to pivot; and plan for ongoing activities and completion of goals.	Document number of pivots/iterations; completion of goals (even if not according to timeline);
	Zest	Create opportunities for all to demonstrate and encourage enthusiasm.	Measures of positive environment; feedback on teaching specific to zest
	Honesty	Create a psychologically safe work environment; Build in enough time during your project for participants to be authentic in all activities/interactions; give honest feedback; saying what they mean and mean what they say.	Measures of psychological safety; 360 evaluations; measure quality of feedback
Humanity	Social Intelligence	Build in time so participants can voice values while respecting those of others; create opportunities for team member to ask questions to about values/needs/wants; and for all to allow others to safely share their opinions.	Document discussion of values etc., perhaps with a mission/vision statement that is approved by all; obtain 360 evaluations; team measures of mattering/engagement; measures of psychological safety.
	Kindness	Offer your assistance when someone is struggling; be generous you're your time/attention; and demonstrate compassion for others.	Reflections on kind acts (members of team about others; time spent serving others); feedback from those being served; collect reflections on kindness (planned and random) that occurred during project
	Love	Create opportunities where participants value relationships with others (especially those with different viewpoints), and all demonstrate genuine warmth during discussions.	Collect reflection on how each team members values impacted project; perform a network analysis with assessment for diversity before and after project; 360 evaluations
Justice	Leadership	Create an environment guided by activities that progress your project, while being aware of and addressing the needs/issues of others; be a positive role model; and make sure everyone's voice is heard.	Use validated leadership measures; document progress on project with attribution; number of people impacted by project;
	Fairness	Create an environment where personal feelings don't bias decisions/actions, ensuring that actions and behaviors are just; allow others to demonstrate their skills; and the work and attribution is distributed proportionately.	Obtain measures of inclusivity; reflections on justice; document alignment of skills and activities; celebrate accomplishment of workload with attribution measures
	Teamwork	Create an environment where all hold themselves and others accountable for project responsibilities; and all willingly contribute to the completion of the project.	Measures of teamwork output and flow; accountability measures and adherence to timelines;

	Character Trait	How it might appear as you are creating your TI2 project	How you might measure it during your pilot
Temperance	Forgiveness	Encourage teammates to demonstrate tolerance of contrary opinions; encourage yourself and others to move past mistakes or perceived shortcomings.	Number of ideas discussed (civilly); Number of pivots; reflection on what could have gone better
	Humility	Create ways to allow teammates to acknowledge limitations and mistakes; generously say "I don't know;" apologize when wrong; and avoid being aggressive or domineering.	Number of mistakes acknowledged; number of times "I don't know" is said; number of apologies; number of interruptions; percentage of people who have input
	Prudence	Encourage teammates to plan ahead for meetings; actively listen and gather multiple perspectives; help others balance their work and life commitments; help others weigh risks/benefits of decisions.	Number of meaningful agendas; number of people who are well prepared for meetings/activities; number of questions asked to gain other perspectives; assessment of work/life integration and/or burnout; reflections on risks/benefits of decisions and/or activities.
	Self-Regulation	Incorporate ways to pursue learning opportunities; demonstrate follow-through; encourage perspective-taking in complex situations and avoid sarcastic remarks.	Reflection on adequacy of self-preparation; completion of tasks assigned in timely fashion; number of questions directed at guiding team/person through complexities
Transcendence	Gratitude	Model and encourage teammates to say "thank you;" praise others' accomplishments; be specific as to how the project brings value; mention the "little things" that often get overlooked; and send a thank you emails/notes when others contribute.	Measures of appreciative inquiry; number of acknowledgments/thank yous; measures of mattering/ psychological safety; documentation of team accomplishments
	Spirituality	Incorporate ways to help the team identify others' beliefs and value; encourage others to integrate core values in decision making; and discuss meaning and purpose with each other.	Discussion about beliefs/values; creation of mission/purpose statements; alignment of values with tasks assigned;
	Appreciation of Beauty/ Excellence	Take advantage of opportunities to recognize the expertise and talents of the team; direct others towards excellence or beauty; introduce appreciative inquiry into interactions; and encourage others to take a break when stressed.	Number of thank you's; burnout measures; reflections on excellence and/or beauty
	Hope	Implement ways to guide the team through multiple strategies; encourage others to set goals and reasonable action plans; and show confidence in others.	Reflections at start of hopes for project and throughout to monitor changes/progress; Alignment of goals and action plans; assessment of team function and psychological safety
	Humor	Incorporate activities that make the whole team smile; promote humor/playfulness in appropriate situations; and encourage fun during project development.	Assessment of well-being; number of laughter episodes;