Tucker, C., & Stanny, C.J., (2021) Promising failure:
Driving innovation by exposing imperfection.
Intersection: A Journal at the Intersection of
Assessment and Learning, 2(3)

Promising Failure: Driving Innovation by Exposing Imperfection

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Intersection: A Journal at the Intersection of Assessment and Learning
Vol 2, Issue 3, 2021

Abstract: This article emerges as part of the Grand Challenges in Assessment Project and describes two approaches to driving innovation in assessment. Each approach can be used to drive innovation, promising failure, and equity in assessment, teaching, and learning. The first approach, the TRIZ exercise, focuses on an approach to drive innovation at a planning level. The second approach examines how to stimulate innovation through recognition of braver and safer spaces. The article concludes by reflecting on the implications of these approaches in the context of social justice and a pandemic.

Keywords: *triz, innovation, braver and safer spaces, promising failure, learning improvement*

"We will not be perfect. The space will not be perfect. It will not always be what we wish it to be...but we will work on it side by side" (Jones, 2017).

Background

As part of the Grand Challenges in Assessment Project innovation group, assessment professionals from across the nation were charged to create strategic plans that would address how assessment professionals could increase equity, drive innovation, improve pedagogy, and measure progress over time (Singer-Freeman & Robinson, 2020). The Grand Challenges' Driving Innovation working group discussed ideas about intentionality in goal setting, powerful and intentional visualization of data, meaningful engagement of stakeholders, professional development, implementing incremental change, and the avenues for facilitating safe reflection on failure (Australian Nursing & Midwifery Accreditation Council, 2017; Evergreen, 2017; Middendorf & Shopkow, 2018; Schön, 1984). This article focuses on the challenge to "produce visible and actionable findings that drive innovation and improvement" in an attempt to illuminate two assessment methodologies associated with innovative practice and equity.

Innovation in this article is defined as a solution or idea to a problem that is used in a new context or provides new content (Phillips, 2011). This paper describes how assessment professionals can drive innovation by providing assessment solutions in a new context. This new context involves approaching every day assessment problems through two frameworks: applying the theory of inventive problem solving and creating braver and safer spaces. When these frameworks are applied to assessment, innovation or promising failures are possible. For the purposes of this article, promising failures refer to quick failures experienced following an intelligent risk (Edmundson, 2011; Pile, 1979). Through reflective practice, promising failures provide rich lessons for practical applications in

multiple situations, including teaching, learning, assessment, scholarship, and professional development.

Theoretical Foundation

Theory of Inventive Problem Solving (TRIZ)

This paper explores the concept of "promising failures" by illuminating two methodologies associated with innovation and improvement. The first of these methodologies is an aspect of TRIZ. Genrich Altshuller developed TRIZ which is a Russian theory of problem solving, the goal of which is to use inventive or creative methods to come to a new solution for a problem and avoid roadblocks (Altshuller, 1984). At its most basic, TRIZ techniques can be simplified and applied to generalize both the problem and the solution. TRIZ makes implicit contradictions more evident through pre-mortem techniques that encourage reverse brainstorming (Klein, 2008; Hagen et al., 2016; Lipmanowicz & McCandless, 2019). For example, imagine an assessment editorial team that is interested in encouraging scholarship focused on innovation in assessment. A TRIZ approach would suggest the editorial team of a journal ask the following (counterfactual) questions to stimulate discussions:

1. How can we reliably stimulate scholarship on assessment that reinforces what is already known or reduces new ways of knowing?
2. Is there anything we currently do, or plan to do, that resembles strategies, or variations thereof, from the list created in number 1?
3. What is the first action that we could take to successfully avoid creating situations described in response to questions 1 and 2?

This application of TRIZ by journal editors can stimulate creativity and generate practical solutions to a complex problem. The transferability and use of TRIZ in assessment make room for new ways of thinking about assessment problems and their associated solutions, which we argue will be innovative. To date, the first author's experiences using aspects of TRIZ in assessment and faculty development illustrate how TRIZ highlights and reframes the challenges faculty encounter while simultaneously helping them generate solutions (Chung et al., 2017; Tucker & Kay, 2020). Other benefits of using elements of TRIZ to solve problems are: idea generation, innovation, speed, teamwork, and practical approaches to problems (Ilevbare et al, 2013).

Braver and Safer Spaces

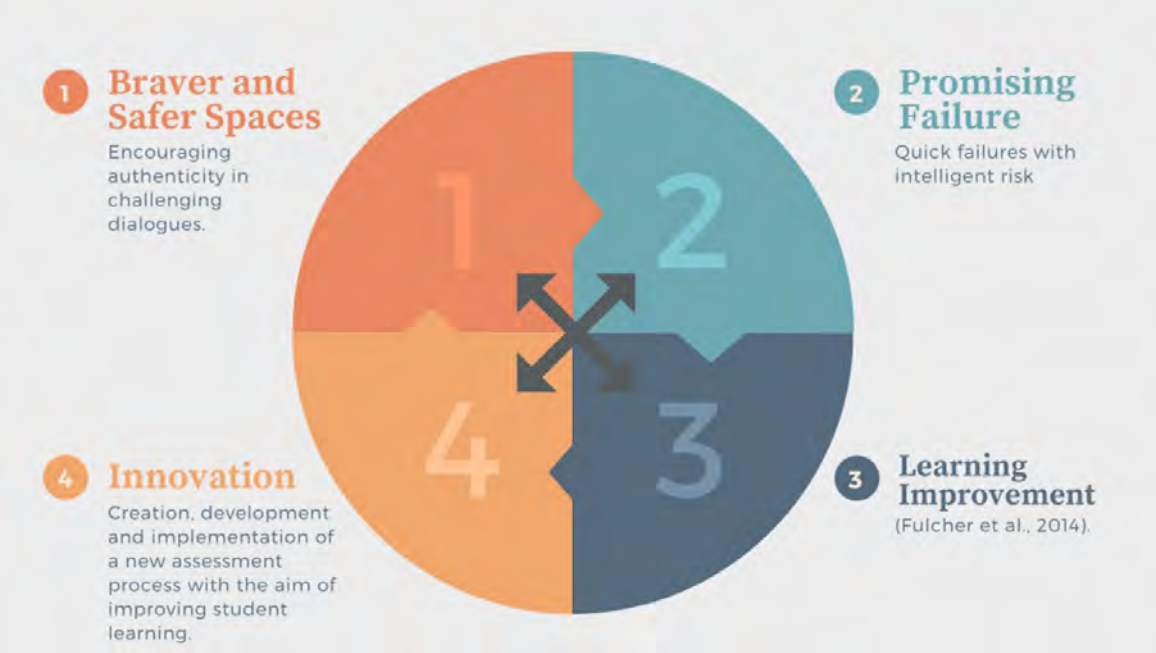
The second framework to drive innovation or promising failure in assessment is the development of braver and safer spaces. Driving innovation and improvement in assessment requires that assessment professionals think differently about traditional ways of doing work. To create space for innovation, we rely on unique perspectives and methods that inform how we drive innovation and create equitable outcomes. One such perspective is setting expectations that innovative assessment work requires us all to acknowledge, expand, and reward braver and safer spaces. These spaces enable educators and students to identify outcomes that matter for their core goals and fearlessly reflect on findings that might reveal gaps between aspirations and reality.

Moving from safe spaces to braver and safer spaces is adapted from a framework used in social justice facilitation to encourage authenticity in challenging dialogue (Arao & Clemons, 2013, Jones, 2017). Arao and Clemons note that "safe spaces" are often conflated with comfort, which discourages challenging conversation and engagement. Assessment

professionals know this challenge all too well. The culture of assessment can range from one of fear and perceived isolation to recognition and integration at all levels of the institution (Walker, 2020). Arao and Clemons suggest that brave spaces share a set of five common ground rules. First, *engage controversy with civility* creates an expectation for and valuing of disagreement in diverse groups. Second, *owning of one's intentions and impacts* acknowledges that despite one's best effort, well-meant intentions do not justify ignoring or minimizing the negative impact of our actions. Third, *challenge by choice* highlights the importance of autonomous engagement while reflecting on factors that influence one's engagement. Fourth, *respect* highlights the intention to support and maintain mindfulness of the different ways in which participants demonstrate respect for one another. Finally, the fifth rule, *no attacks* articulates a commitment to reject violence in any form and create safer spaces for discussion. The authors propose that assessment professionals adopt these ground rules to guide equitable and innovative assessment practice. The next section reviews these two frameworks as means to stimulating innovation in assessment by exploring real life applications of each approach (Figure 1).

Figure 1

Moving from Braver and Safer to Innovation



Note. Establishing braver and safer spaces is a prerequisite to effectively engaging in the work of promising failures, learning improvement, and innovation.

Using Braver and Safer Spaces to Drive Innovation or Promising Failures

The braver and safer spaces framework can drive innovation or promising failures because it promotes difficult conversations and provides opportunity to value conflict, acknowledge impact, support authentic engagement, and commit to safety. When braver and safer spaces are created, ideas and solutions to problems can be explored in new contexts or new content can be developed. By creating braver and safer spaces in assessment, we not only support innovation and promising failures, but we also support equity. To do so requires assessment professionals to adopt Arao and Clemons' (2013) common rules of controversy outlined in the preceding paragraph. This ethical adoption of practices asks all assessment professionals (i.e., educators, learners, professional organization, accreditation bodies, etc.) to reflect on how to create braver and safer environments for difficult conversations including those that are about failure, confusion, or identified areas of growth.

At present, assessment structures reward programs that report positive findings ("the students are all right") and may punish programs that identify shortcomings. But programs can't improve if they aren't willing to explore and reflect on shortcomings in meaningful ways. Instead, we must structure assessment spaces and processes to enable and reinforce reflection on program weaknesses and provide resources and encouragement for efforts to address areas of weakness. To this end, the authors highlight the use of the braver and safer spaces framework to shape meaningful and innovative reflection in assessment.

Recognition of Promising Failure Stories

An example of driving innovation or promising failure at a course, program, regional or national level is through the use of annual recognition programs to celebrate promising failure stories (i.e., videos, badges, awards, market, letters of acknowledgement) (Shellenbarger, 2011). Numerous institutions already have assessment award programs to celebrate promotion of a culture of assessment, stakeholder and data engagement, transparency, scholarship, and equity in assessment (DePaul University, 2021; Oregon Health & Science University, 2021; National Institute for Learning Outcomes Assessment, 2021) One could imagine an expansion of current programs to affirm and recognize reflections on promising failure stories within academic program review, accreditation, scholarship, and conference themes and tracks.

Equity Focused Disaggregation of Data

An additional opportunity to drive innovation or promising failures is through equity focused disaggregation of data. In 2020, the Northwest Commission on Colleges and Universities revised their accreditation standards to include lenses on equity in student learning outcomes. This lens on equity includes standards that ask institutions to disaggregate indicators of student achievement and "compare data regionally and nationally, as well as, use the data to inform planning, decision making, and allocation of resources." However, equity focused disaggregation of data can expose systematic institutional or programmatic shortcomings. If institutions are to engage in meaningful and equitable review of their student learning outcomes, it is a prerequisite that their assessment culture is one where braver and safer conversations can happen. When braver and safer spaces exist, people are liberated to take what seem like shortcomings and failures (e.g., identifying a program,

department, or institution that identifies inequity) and reimagine them as data to draw on to innovate and make small iterations toward improvement. Exposing shortcomings is almost impossible to conduct in meaningful ways if institutions and accreditors are not able to create braver and safer spaces.

Using TRIZ to Drive Innovation or Promising Failure

Assessment Scholarship

Failure is often described and experienced as a missed outcome rather than an opportunity and method to improve (Yerushalmi & Polingher, 2006). Elements of TRIZ provide opportunities for reflection about how to innovate in curricular activity and the scholarship of teaching and learning.

For example, an institutional assessment challenge at many colleges and universities is to center students in the work of assessment. Imagine that you plan to use elements of TRIZ and promising failures to drive innovative ideas to focus on students and their learning at your institution. Your planning exercise might look like the following:

1. How can we reliably ensure that students are *not* centered in assessment work (TRIZ Counterfactual Question)?
    a. Schedule assessment meetings when the most students are already occupied;
    b. Do not send calendar invites for the meeting. Ask students to mark their calendars while passing them in the hall or on a small paper flyer;
    c. Once you meet with students, do not ask questions. Just talk to them about the process and conclude the session; and
    d. If you receive feedback about the assessment process from students, do nothing.
2. Is there anything we currently do, or plan to do, that resembles the strategies, or variations thereof, from the list created in the previous question?
    a. We may not have a process for engaging students in assessment;
    b. We may include students but they never are able to attend because meetings are during class periods; and
    c. We ask students for feedback on course evaluations, but we do not use that information to inform curricular planning.
3. What is the first action that we could take to successfully avoid creating situations described in response to the previous two questions?
    a. Send reminders and calendar invites to students;
    b. We can schedule an assessment feedback session after normal course hours and/or weekends for students and include incentives for participation; and
    c. We can identify student data that we collect but are currently not using and identify if and how to move the data from collection repositories to use in curricular planning.

While these ideas, taken out of context, may not seem innovative, this TRIZ application sets the stage for us to engage in innovation or promising failure. The next example explores the use of TRIZ when engaging in assessment reporting.

Assessment Reporting

The second application of TRIZ to drive promising failure or innovation is explored through assessment reporting. Begin with the first TRIZ question: How might one design an institutional system that creates a fearful, punitive assessment reporting culture? Responses to this question might include the following strategies:

1. Develop criteria, expectations and demands that are unpredictable and evolve over time, producing "gotcha" moments because submitted reports are evaluated with new, more stringent criteria;
2. Insist on inflexible deadlines;
3. Respond to unfavorable results with punishment (e.g., public humiliation or new, externally-mandated actions or initiatives);
4. Drive a culture of competition for limited resources and produce structural dynamics that punish otherwise deserving programs (e.g., when assessment findings that indicate a weakness, interpreted out of context, drive decisions that withdraw critical resources from a "weak" program); and
5. Ensure that those doing assessment work have little control over the assessment process (e.g., limited input into the articulation of student learning outcomes or other relevant metrics).

The second TRIZ question applies to assessment reporting. One might ask "to what extent do current assessment reporting approaches (internal systems and those mandated by external agencies) include elements that contribute to a fearful reporting culture?" The authors suggest that the field of assessment has experience creating fearful and punitive assessment cultures.

1. Too often, assessment initiatives launch with a panicky warning: *(Fill in the name of your regional accrediting agency) is coming!* This reliably sets hair on fire in multiple offices across campus;
2. Programs that fall short of previous targets lose essential funding; and
3. Assessment reporting processes are created by an individual administrator who then pushes these down to academic programs.

It is the authors' experience that change is difficult in any organization and academia is famous for adopting new things at a glacial pace. On the one hand, an impending review and concerns about possible negative consequences associated with "getting dinged" on an accreditation standard can motivate action. The same requests, made without the pressure created by an impending visit, might be met with rationales for delay (*We have our hands full with remote learning for COVID-19! This will be expensive and we are in a tight budget year.*) and generalized procrastination. However, although the use of external threats to motivate action on an assessment initiative can be a powerful motivator, psychologists have long observed that behaviors motivated by the desire to avoid punishment can include a variety of undesirable behaviors (deception to hide or disguise behaviors that will earn a punishment, avoidance of the people or situations associated with the required behaviors, aggression toward the source of the punishment) (Pryor, 2019).

In the final TRIZ question, we are given a prompt to create braver and safer spaces in an attempt to stimulate innovation or engage in promising failures. The third TRIZ question asks

"how can assessment professionals stop contributing to processes that use a fearful and punitive assessment reporting culture to motivate completion of assessment work?" In other words, how can we motivate assessment work, which does require time and resources to complete, without invoking these fear-inducing components? How can we build assessment processes and systems that build spaces in which academics can safely identify problems in their programs and bravely try new strategies that might improve student learning? Potential actions one could take at the institutional level include the following:

1. Assessment reporting could intentionally include neutral peer reviewers (i.e., reviewers from outside a program or college) to avoid bias and retaliatory actions for providing critical feedback.

2. Assessment teams can intentionally use aggregation and disaggregation of data to respond to clear objectives and emerging needs with an emphasis on providing useful data for program improvement.
    a. Institutions may choose to provide increased transparency in assessment by providing programmatic assessment reports to the entire institution in aggregate.
    b. Discussions with faculty about meaningful disaggregated data could impact their individual actions in the learning environment.

3. Adopt Arao and Clemons' (2013) five common ground rules to guide assessment reviews and/or institutional effectiveness procedures.

4. Identify opportunities to collect meaningful feedback from students, employers, and educators that can shape assessment reporting processes including but not limited to question creation, outcomes, and metrics.

5. Consider infrastructure and reward systems that contribute to braver and safer spaces, which are places where individuals can (safely) admit shortcomings and experiment with new strategies that are not guaranteed to always succeed.

The psychology of behavior change advocates using reinforcement rather than fear-inducing punishments to develop and sustain desired behaviors (Pryor, 2019). If higher education leaders want institutions, faculty, staff, learners, and academic units to engage in assessment for continuous improvement, assessment professionals must find and employ strategies that reinforce brave confrontation, acknowledgement of program weaknesses, and support efforts to implement actions that promise (but are not guaranteed) to improve programs or processes. This willingness to engage in braver and safer spaces set the stage for innovation and promising failures.

Next Steps

This article highlights how two practical frameworks, TRIZ and braver and safer spaces, can help assessment professionals engage in promising failures and drive innovation. Practical applications of braver and safer spaces and TRIZ in assessment included the recognition of promising failures, equity driven disaggregation of data, editorial submission process, and institutional assessment reporting. These strategies do not require additional time commitment. Instead, they require a reflection on how to integrate these approaches into

current accreditation and/or assessment activities.

While this article promotes TRIZ and the creation of braver and safer spaces, the true intent is that each reader would accept the Grand Challenge to identify ways to drive innovation or promising failures. If these tools are applied effectively there is potential to reframe complex problems and develop innovative real-world solutions. The context in which we live provides a unique opportunity to apply this work. Learners and educators have been experiencing dissonance and significant trauma as they respond to the COVID-19 pandemic. We have been challenged to use our voices for those most marginalized (Montenegro & Jankowski, 2017; 2020). The use of a social justice framework to think about promising failure and innovation in assessment can and will be intentional, important, and necessary.

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