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An Intentional Approach to Starting a Learning Improvement Project

Laura Lambert, M.S., Megan Good, Ph.D.

Author Note

Laura Lambert, 0000-0003-4057-7114

Megan Good, 0000-0002-2026-0593

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Abstract: Assessment practitioners are well aware that evidence of learning improvement in higher education is scarce. A Learning Improvement Community has been created to promote learning improvement. Recently, this group created a *Readiness for Learning Improvement Tool.* Given learning improvement projects are resource intensive, this tool was designed to help practitioners and faculty evaluate a program's readiness prior to engaging in the work. The tool is quite flexible, which is an asset; however, the flexibility leaves practitioners with a number of methodological decisions to make. In this paper, a case study from James Madison University's Integrated Science and Technology (ISAT) B.S. program, one strategy for using the tool is demonstrated. In this particular case, all outward signs suggested that the program was ready for a learning improvement project. Use of the Tool revealed that the faculty did not have the capacity to take on a new project. Decision points and considerations on future use of the Tool is provided.

Keywords: Learning Improvement, higher education, faculty engagement, readiness, STEM

Introduction

Why do we assess student learning in higher education? The primary response is typically to *improve student learning!* Practitioners might also add that we must for accountability purposes, although the spirit of accreditation standards *is* improved learning (Smith et al., 2015). Either way, improvement is the prime goal of assessment. The general idea is that the measurement of learning relative to a particular student learning outcome will inspire curricular change. Unfortunately, Banta et al (2009) found very few examples of improved student learning when reviewing the best assessment reports in the nation. How could that be?

One might offer a variety of hypotheses. Perhaps folks practicing assessment were getting hung up on the measurement of student learning. After all, measuring student learning is tough; there is an entire discipline of psychometrics in psychology! Blaich and Wise (2011) ruled out this idea. Through the Wabash Study, they provided sound measures and analysis to many institutions throughout the country. Did programs use this sound data to improve student learning? They did not.

If not a measurement issue, then what? Fulcher et al. (2014) proposed the challenge was rooted in a lack of definition. What does *use of results* mean? The authors offered a *Simple Model* for learning

improvement that included three steps *assess, intervene, reassess.* Importantly, the re-assessment is of future cohorts of students and not the same students as is the case in a pre/post assessment design. For example, imagine a program assessed senior writing skills and found unsatisfactory results. The program faculty then came together to collectively design and implement significant curricular changes by infusing writing into multiple courses. Finally, they reassessed writing skills on a new cohort of graduating seniors. If this re-assessment yields higher scores than the baseline cohort (taken years before!), *then* the program can claim learning improvement.

Of course, the adjective *simple* in this model is surface level. Carrying out a learning improvement project is complex and resource intensive. Fulcher et al.'s (2014) paper clues us into this complexity offering five key insights that changed the landscape associated with the purpose of assessment:

1. **Changes are not improvement.** We hope that changes made based on assessment results are positive; however, one can only characterize a change as an improvement if the third step – reassessment – is conducted.
2. **Time.** Often assessment reports share *use of results* on a calendar year. However, true learning improvement takes years to carry out given that a focus on student cohorts. Additionally, it takes program faculty significant time and energy to design changes and implement them.
3. **Focus.** It's important to consider learning improvement for a *single* student learning outcome.
4. **Teaching and Learning Expertise.** Assessment practitioners are incredibly helpful in this process. Notably, educational developers are, too! These experts on teaching, learning, and curriculum are key to supporting program faculty in the creation of pedagogical and curricular changes.

Fulcher and Prendergast (2021) further unpacked learning improvement in their book *Improving student learning at scale: A how-to guide for higher education*. Given learning improvement projects require significant change and coordination (e.g., among program faculty, an assessment practitioner, and an educational developer) it is important that a program exhibits a degree of readiness prior to carrying out this work. Indeed, the authors offer three steps to learning improvement before beginning in earnest: 1) Collective Will to Improve, 2) Vision, and 3) Where are We Now? Basically, are the faculty willing to improve? Do they have an idea or vision for the learning improvement project? And what are the situational factors that must be considered before getting started?

Learning Improvement Community

The concept of learning improvement has gained traction in the assessment community. For example, there is now a learning improvement track at the annual Assessment Institute conference, a 'learning improvement corner' in the *Research and Practice in Assessment* journal, and an online community dedicated to promoting improved student learning in higher education. Referred to as the *Learning Improvement Community* (https://www.learning-improvement.org/), this group provides guidance, community, and inspiration to assessment practitioners and educational developers looking to conduct learning improvement projects. The community highlights successful projects through *Learning Improvement Stories,* offers a sharper definition of learning improvement through the published *Tenets,* and most recently the group has created a *Readiness for Learning Improvement Tool* which is

free and publicly available: https://docs.google.com/spreadsheets/d/1Xkq-rtTLGsbfAA4ab63TgLthdsb_UlKmaqBgzEKhTec/edit#gid=1006378608.

Readiness for Learning Improvement Tool

As previously mentioned, learning improvement is resource intensive. An assessment practitioner may work with many degree programs on campus – how can they determine which one(s) might be ripe for collaboration? Likewise, a faculty member may be keen to engage in a learning improvement project, but unsure of what is required across the program faculty and if necessary supports are in place. The *Readiness for Learning Improvement Tool* is a self-assessment intended to "help faculty, academic administrators, and/or staff who support faculty (e.g., educational developers, assessment professionals) … determine whether a department or program has the resources, attributes, and motivation needed to undertake a program-level learning improvement project" (Learning Improvement Community, 2022). This tool was designed to inform conversation prior to engaging in a learning improvement project. The tool was not designed to measure psychological constructs and thus traditional considerations of reliability and validity do not apply. The instructions suggest the tool can be used "as a self-assessment for a department or program" or "as a way for an administrator or academic support person who focuses on student learning outcomes and/or program effectiveness… to identify departments or programs that might be a good candidate to conduct a learning improvement project."

The tool comes with instructions, highlighting flexibility. Indeed, individuals or a working group can complete the items. The authors advise inclusion of an external facilitator if the tool is completed by a working group. The instructions also note the purpose of the tool, which is to allow a program to identify strengths and possible challenges. Given this purpose, it's not necessary to have scores on each item.

In total, there are 31 items organized around three readiness factors – Capacity, Culture, and Commitment. These three factors were inspired by Combe's (2014) change readiness paper in the project management space, given that learning improvement requires significant change. Indeed, Smith and colleagues (2018) lay out the situational factors that a facilitator must consider prior to engaging in a project given the significant energy requirement. Each of the three areas and items are explored in the following sections.

Capacity. According to the tool, *"*Capacity refers to the degree to which the program has or can access knowledge, experience, skills, and resources to aid in successful implementation and sustainability of learning improvement (Learning Improvement Community, 2022). The capacity section includes twelve items, 5 of which are associated with knowledge, skills, and ability (e.g., CA 5, *Program faculty have working knowledge of the relationship among teaching, learning, and assessment*) and 7 related to Resources and Supportive Structures (e.g., CA 7, *Administrators who oversee the department/program support efforts to improve student learning beyond the course level.*). Other items associated in this area focus on access to assessment help, educational development support, administrative support, and financial resources. In other words, the Capacity items invite consideration of whether or not it is practically possible for a particular program to carry out a learning improvement project.

Culture. This readiness factor "refers to the degree to which cultural norms or context are conducive to learning improvement" (Learning Improvement Community, 2022). The culture area includes 12 items, 3 of which are associated with beliefs about teaching and learning (e.g., CU 5, *Program faculty see the courses they teach as part of a larger whole*) and 9 items associated with professional climate (e.g., CU 7, *Program faculty exhibit willingness to identify problems and make changes to solve them*). Essentially, a healthy social dynamic and care about teaching and learning are good ingredients for a learning improvement project.

Commitment. The commitment factor refers to "… the degree of motivation and resolve to successfully complete a multi-stage, iterative learning improvement process (Learning Improvement Community, 2022). Seven items are associated with this factor; 5 pertain to Receptivity to Change (e.g., CO2, *Department/Program faculty believe it is possible to make changes to the learning environment/learning experiences*) and 2 are associated with Resources and Supportive Structures (e.g., CO7, *The department/program has a "champion" willing to be the internal leader of the project*). This area is akin to Fulcher and Prendergast's (2021) aforementioned *Collective Will to Improve.*

Purpose of the Current Study

The *Readiness for Learning Improvement Tool* provides a great deal of flexibility given the intended use to frame conversation about engagement in a learning improvement project. The tool has been cited once in the literature (Townsend et al., 2022). In their paper, authors Linda Townsend (an assessment professional) and Pam Tracy (an educational developer) used the tool with six different programs. They noted that the tool offered valuable insights and recommended practitioners ensure that faculty participants are at least familiar with learning improvement prior to engaging with the tool. They also raised awareness about potential power dynamics in the conversation to consider (e.g., if the facilitator was a department head, faculty may not be willing to speak up as freely).

In their brief piece, there is limited insight into the design choices surrounding use of the tool. Flexibility is certainly a strength, but it does leave the user with many decisions. The purpose of the current study is to provide an illustrative case study of one program's use. The case outlines the context of the program that informed specific methodological choices.

Illustrative Case Study

The following illustrative case study showcases a detailed description of how one degree program successfully used the *Readiness for Improvement Tool*. As will be discussed, the program was selected by convenience as the first author is a member of the program.

Context

James Madison University (JMU) is an R2 institution in Virginia, serving ~20,000 undergraduate students and ~2,000 graduate students. The institution has a rich history of assessment, with the renowned Center for Assessment and Research Studies (CARS) being founded in the late 1980s. Indeed, the institution has hosted an *Assessment Day* for general education data collection for over 30 years (Pastor et al., 2019).

Until recently, JMU practiced meta-assessment providing quantitative and qualitative feedback to degree programs on the quality of their assessment. This practice led to an incremental increase in quality of assessment over a decade, with most programs reaching the heralded *exemplary* status. The degree program of interest is in STEM, the undergraduate Integrated Science and Technology (ISAT), B.S. The ISAT, B.S. program has had a strong assessment practice in place for several years.

ISAT graduates approximately 100 undergraduate students each year and is accredited by ABET under the Applied and Natural Science Accreditation Commission. Students choose one of six concentrations within the degree program (Applied Biotechnology, Applied Computing, Energy, Environment, Industrial Manufacturing Systems, and Public Interest in Technology and Science). Regardless of concentration, all students take a series of scaffolded courses referred to as the *spine.* In the last *spine* course, a capstone, students address a complex problem and integrate multiple disciplines and viewpoints in their solution. There are about 34 full-time instructional faculty within this department, organized into teaching teams based on their concentration affiliation.

The first author is a member of this department serving as a Lab Coordinator. From a human resource perspective, she is not classified as instructional faculty, although she teaches around 6 lab sections per year. At the time of this study, she had been in the department for 5 years and has positive relationships with her colleagues. The first author is also a doctoral student in the Assessment and Measurement doctoral program and motivated to engage in a learning improvement project.

At JMU, departments are led by *academic unit heads* (AUH). A bit atypical, the School of Integrated Sciences, which houses the ISAT department, has two co-AUHs, one of whom manages the ISAT faculty and staff. This co-AUH has significant experience in the educational development space and was keen to engage in a learning improvement project when approached by the first author. The authors were aware of the Tool and determined insights from the tool could inform the propensity for a project (or not!).

Buy-In

Given the co-AUH's background in educational development and appreciation of assessment, the authors determined that gauging this person's buy-in was a pre-requisite to estimating faculty buy-in, which was unknown. The co-AUH was enthusiastic about a potential learning improvement project and pledged summer stipend support for faculty participation if needed. At this point, it was unclear 1) what the project would focus on (i.e., the student learning outcome of interest) and 2) the willingness of faculty to engage in a new project on learning improvement. The Tool would be helpful in gauging the readiness among faculty.

Faculty Champion

Perhaps the most important actor in a learning improvement project is the *faculty champion* (Smith et. al., 2018; Fulcher & Prendergast 2021). This individual, or perhaps two individuals, are the ones to identify a potential project, have the capacity to devote the most time to a project, and are willing and able to see the project through to completion (Fulcher & Prendergast, 2021). Faculty champions are

within the program and take responsibility for leading the project and coordinating resources. The faculty champion should have social capital and be well acquainted with how the department works and the particular wishes of the leadership and faculty.

In this case, the first author was identified as the faculty champion. She was well aware of the nuanced situational factors at play for the program – faculty who would be willing vs. unwilling to participate, faculty who worked well together and those who did not, and the unseen hierarchies that often exist in departments.

Tool Respondents

Given a faculty champion was identified and there was known assessment support through CARS, input was needed from instructional faculty to truly determine readiness. Thus, instructional faculty were the primary respondents of the tool.

Methodological Decisions

Recall, the purpose of the Tool is to provide a means to gather perspective on a program's capacity, culture, and commitment to a potential learning improvement project. From an efficiency standpoint, we considered sending the tool to all faculty via email and requesting a response. In addition to efficiency, this approach provides the opportunity for anonymity or confidentiality on the faculty member's part. That said, this purely quantitative approach has drawbacks. Specifically, surveys notoriously have low response rates. Likewise, the quantitative information would not yield insight into nuanced perspectives.

A qualitative approach would yield a richer understanding of perspective. The facilitator can glean more about *why* a department is ready along the three factors or not. However, using the tool to interview 34 faculty members would be quite resource intensive! Additionally, it was doubtful that faculty members would invest the extra time. Thus, a hybrid approach was derived.

With the co-AUH's support, one of each of the six-teaching team's existing meeting structure was used to facilitate a conversation based on the *Readiness for Learning Improvement Tool*. First, the Tool was converted into an online survey and sent to faculty on that team a week prior to each team meeting. Of note, faculty were informed that their individual results would be confidential in an effort to encourage honest responses. Results were then aggregated and presented to the teaching team (4-5 faculty members) for discussion.

The first author facilitated the conversations. Per an approved IRB protocol, consent was requested (and was universally granted), the conversations were audio recorded, transcribed, and ultimately coded using a thematic coding approach with two independent readers. All surveys and focus group discussions occurred in the fall semester. As expected, the survey response rate was low (32%). Team meeting participation was high (i.e., there was nearly a 75% response "rate" for the live discussions, a more accurate picture of the overall faculty voice).

Readiness Results

From the survey results gathered, our lowest scoring item was CA12 (*The department/program has faculty, staff, and administrators with time and energy to focus on this project*). Item CA4 (*The program's ability to change is not constrained by factors beyond the department's control [e.g., general education or disciplinary accreditation requirements]*) and CO6 (*Program faculty are willing to conduct the project within the timeframe recommended/required [1-2 years])* were also quite low.

While informative, these scores did not reflect the strength of feelings from some faculty. Indeed, two key themes emerged from the discussions. First, faculty did not have time to engage in a new learning improvement project. The faculty spoke highly of their commitment to teaching and learning and their culture (i.e., two of three readiness factors). However, the faculty were still reeling from the burdens experienced during the COVID-19 pandemic and were unwilling to consider something added to their plate. Thus, the *capacity* factor was low.

Second, the faculty noted their prior work on developing the curricular transformation for the aforementioned *spine*. Indeed, years before this took a great deal of energy and while the faculty believed it was a success they did not have data to support this claim. They offered the idea of evaluating the efficacy of this past effort rather than beginning something new.

At the onset, it seemed that the ISAT, BS program had all the right ingredients for a learning improvement project: a supportive leader, willing faculty champion, and a history of curricular innovation. Without the *Readiness for Learning Improvement Tool*, the program might have dived into the work only to find building resentment associated with the workload and/or complete failure.

Results Dissemination

Data collection spanned the fall semester and coding occurred in early January. The qualitative themes were shared with all program faculty during an early spring semester meeting. The *lack of time* theme was highlighted acknowledging the strength of this sentiment. The lead author and co-AUH concluded the program would *not* be embarking on a new learning improvement project given the results. The intentionality of the process was appreciated and *closing the assessment loop* was modeled.

Discussion

The *Readiness for Learning Improvement Tool* enables a program to intentionally consider a learning improvement project prior to investing significant energy along three factors associated with major change: Capacity, Culture, and Commitment. The tool is quite flexible, allowing for many uses to generate insight. Through the ISAT, BS program at JMU we demonstrate one way to use the Tool in a relatively large department.

On the surface, the faculty champion and departmental leader believed the program was ripe for carrying out this important work. However, conversations generated around the items on the Tool revealed that Capacity – particularly time – was limited among faculty. A silver lining of the project was

that faculty expressed an interest in better understanding a prior curricular change, something that would require less resources and be informative to the faculty.

The flexibility of the *Readiness for Learning Improvement Tool* is a great strength, although it leaves the practitioner with many decision points on where to start and how to use it. Below is a series of decision points for a practitioner to consider. For each decision, a few questions are offered; these questions are provided as an aid to creating a plan that will allow for necessary insights to be generated from the Tool.

Readiness Tool Decision Points

Below are four decision points to consider when designing a strategy for using the *Readiness for Learning Improvement Tool*.

Buy-in

Is there buy-in from leadership? When considering the potential for a large, resource-intensive project, it's important to have both faculty and leadership buy-in. Determining the order of buy-in will depend on a unit's culture. For some units, leadership support will be needed prior to seeking buy-in from faculty. For other units, faculty buy-in is needed prior to seeking leadership support. Leadership support could be as simple as not opposing a project, but more helpful would be support in the form of course releases, summer stipends, professional development opportunities, administrative support, etc.

Key actors

Who are the key actors in a possible learning improvement project? Who needs to be aware of the possible project? Does anyone need to endorse the effort? Who would actually implement such an effort? Do *all* faculty members need to be involved? A subset? Who would support the project? Answers to these questions will guide the practitioner in deciding who might be included in discussion relative to the Tool. Departmental leadership, some faculty within the department, and a faculty 'champion' are obvious key actors. Perhaps other individuals supporting the work (e.g., assessment practitioner, educational developer) should be included.

In larger departments or programs, consider if all faculty need to answer the tool, or only faculty interested in participating in a learning improvement project. As described in Fulcher & Prendergast (2021), only faculty who will be teaching impacted courses need to participate in a learning improvement project. If the faculty champion has already identified likely courses to be impacted, perhaps only those faculty need to complete the tool. However, in smaller departments, this may include all the faculty. When determining what faculty should answer the tool, another question that needs considering is if there is any order to who completes the tool. For example, should a potential "inner circle" (Fulcher & Prendergast, 2021) complete the tool prior to other faculty? Or will the results of the tool identify individuals who may be willing to participate in the inner circle?

Methodology

Given the nature of the tool (e.g., speaking about a program's culture), some faculty, particularly early career faculty, may not answer openly unless they are able to respond anonymously or confidentially. It's important to design a process that enables insight to be shared and deeper understanding to be gathered. In this case study, the Tool was administered prior to group discussions. This enabled folks less likely to share in a group context to provide insight and the conversations were certainly richer than the numerical responses gathered. Another option for rich understanding *and* confidentiality would be to conduct individual interviews (though this may be heavily resource intensive depending on the program's size).

If interviews or focus groups are conducted with the Tool serving as the foundation for discussion, who will facilitate this work? The Tool's authors ("Learning Improvement Community," 2022) recommend an external facilitator (e.g., the assessment practitioner). In this case, the lead author – a member of the department – facilitated the conversations. Given she had positive relationships and a strong understanding of the culture this pathway worked well; however, the decision to have an internal facilitator should be made with great caution and an analysis of departmental dynamics and situational factors.

Sharing Results

Once results are in, how should results be summarized and presented? Regardless of how the tool was used, and with whom, there will be valuable information to share. Perhaps ideas or themes came up repeatedly across many different faculty or groups that are worth bringing back to the department as a whole. One option for reporting results is simply reporting the tool responses in aggregate. This will provide information to the faculty as to how the department is feeling overall, as well as informing leadership. If meetings were held where the tool was deployed or discussed, themes that came up during these meetings can be presented back to the department and leadership. One point illustrated by Townsend et. al., 2022 was that this tool does not solely need to be used to inform learning improvement; it can also be used to guide decision making in other areas.

Conclusion

The *Readiness for Learning Improvement Tool* is a valuable resource for gathering information about a department or program. The ISAT experience highlighted here showcases the decision points to make considering local situational factors. There is no "minimum" score that must be obtained on the tool before a department should undertake a learning improvement project, nor should low scores on questions be viewed as 'disqualifying' a department from embarking on a learning improvement project. Rather, the data should be examined along with insights from the faculty champion and other sources to get a full picture of departmental readiness. There may be explanations for low scores, high scores could be hiding strong feelings, and, ultimately, it will be up to the faculty whether or not they will participate.

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About the Authors

Laura Lambert, Doctoral Student, Department of Graduate Psychology and Biotech Lab Coordinator, Department of Integrated Science and Technology, James Madison University, laycocla@jmu.edu

Megan Good, Executive Director of Center for Assessment and Research Studies and Assistant Professor in Graduate Psychology, James Madison University, good2mr@jmu.edu