

# Lessons from a Large Scale Implementation of Academic Coaching

David Leasure <sup>1</sup>, Steve Beyerlein <sup>2</sup>, Marsha Fortney <sup>1</sup>, Stefan Günther <sup>3</sup>, Allison Patch <sup>4</sup>

## Abstract

*The University of Maryland Global Campus sought an impactful way to improve the learning and persistence of its students. Beginning in 2018, a team explored the existing model of education, the feelings and ideas of faculty and program directors to generate options and chose to “develop faculty coaching” as the most promising way to make the positive impact. The research-based practices of educational coaching, Process Education concepts, and the seven principles of learning and persistence were creatively synthesized into a coaching method with the acronym ROCK-SOLID representing nine essential steps of coaching. Using the lens of Educational Design Research, the team incrementally explored meeting the needs of the institution, learners, and faculty for improved learning and persistence. All full- and part-time faculty at the university will complete the training by the end of 2023. Evaluation shows the uptake of coaching by faculty has been strong but that the new process/model has not had time to significantly impact grades, retention, and satisfaction. The experience shows the importance of building on research, testing implementations in the real-world, measuring results, learning what works, understanding why it works, and discovering needed improvements.*

## Introduction

An ongoing, multi-year project to improve learning and persistence involves the implementation of academic coaching at the University of Maryland Global Campus (UMGC). Beginning in 2018, the researcher-practitioners sought a combination of what would make a significant impact, as soon as possible. The team chose to implement academic coaching and has proceeded through a series of steps backed by incremental results. As of late 2022, full implementation through faculty training is underway. Projections are 2500 faculty successfully completing the training by the end of 2022 and nearly 4000 by the end of 2023.

Coaching as a concept may be grasped through training; to elevate to effective practice, coaching requires reflective application. Implementation will continue beyond training to help faculty develop their skills and to look for ways to improve the individual development and institutional implementation process.

Using the techniques of coaching effectively on a wide scale precedes any expected impacts on learning and retention. Of participating faculty surveyed by the summer of 2022, 23% said taking the coaching training impacted their teaching “a great deal,” 33% said “a lot,” and 29%, “some” for a total of 85%. No faculty reported that the course had not impacted their teaching. These results are shown in Figure 6.

As regards effectiveness, surveyed faculty who completed training rate themselves as excellent (20%) or good (68%) in using coaching, for a total of 88% of completers. A

breakdown of specific practices in use by faculty is given in Figure 7 and shows generally high adoption, with the exception of self-coaching.

Having reached this success point in the implementation, the authors thought it important to analyze the progress made and the method of doing so for its potential value in providing insight to others doing similar research-to-implementation projects. The educational design research, (EDR), model of McKenny & Reeves (2018) usefully frames the project, helps to provide a common reference language, and serves to identify decisions and actions that promote success.

Developing training for academic coaching started with the ideas in Process Education’s SII model of assessment for identifying and communicating strengths, improvements, and insights (Wasserman & Beyerlein, 2007). The model evolved over a four-year period, as the authors gained a better understanding of the needs of adult students and adjunct faculty in creating positive conditions and the skills needed to implement coaching. The result of multiple iterations is the ROCK SOLID Coaching Methodology.

The current status of the project is that completion of one or the other of the two coaching courses is required of all full and part-time faculty. Between February 2021 and September 2022, 1,871 faculty took the FacDev112 course and 1,633 demonstrated coaching competencies. A total of 1,091 faculty were registered for the course between September 2022 and December 2022. Based on the success

<sup>1</sup> First-term Experience, University of Maryland Global Campus

<sup>2</sup> Mechanical Engineering, University of Idaho

<sup>3</sup> Faculty Affairs, University of Maryland Global Campus

<sup>4</sup> Institutional Research, University of Maryland Global Campus

rate of 87.28%, the combined actual completions are expected to total 2,582 faculty. Training will continue in 2023 until all faculty have completed the training. Faculty who do not initially pass may retake the training until they do.

The background begins with a review of the current evolution of academic coaching at UMGC, which is mnemonically referred to as the ROCK-SOLID Coaching Methodology or RSCM. The background continues with a more detailed history of the project and is followed by a brief summary of EDR. The narrative continues with a review of related research, both within Process Education and from many other sources that were drawn into the project to support the evolution of the RSCM. The methods section describes the mapping of the project onto the EDR framework, which highlights the practice and subsequent tests done during multiple iterations, each of which is a research project in itself. The results of each test are presented and then discussed. Discussion focuses on the importance of understanding and meeting stakeholder needs, design considerations, and process insights.

## Background

### *The ROCK-SOLID Coaching Methodology (RSCM)*

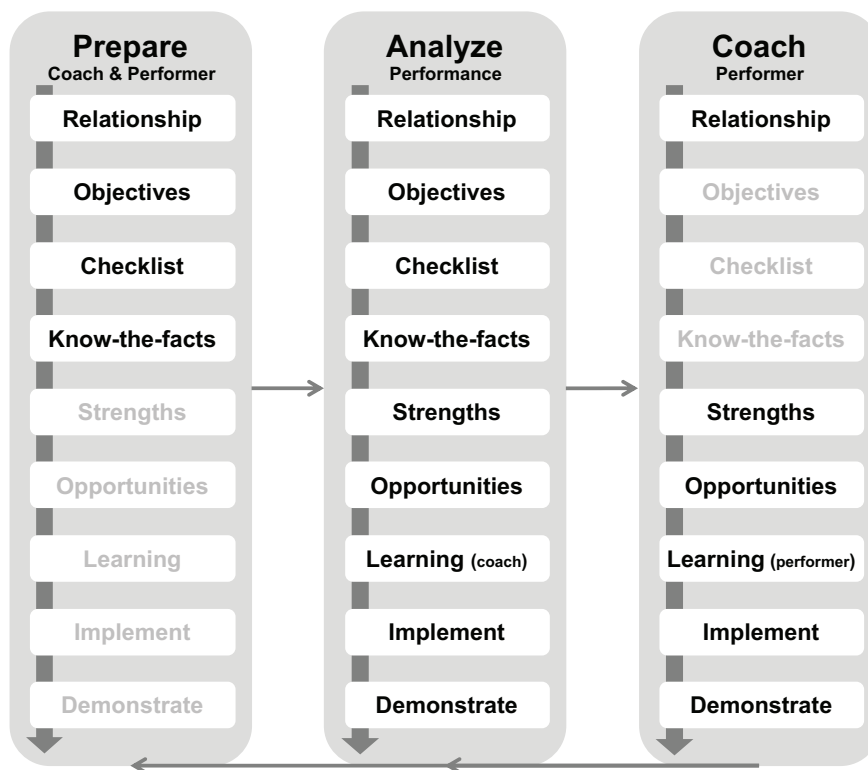
Academic coaching seeks to reinforce and build on the strengths demonstrated by a performer to improve future similar performances. An academic coach (hereafter,

*coach*) does this by systematically developing feedback that is welcome, helpful, and impactful in the context of the performer. Coaching incorporates and extends the performance assessment and mentoring of Process Education and presents it as a memorable methodology.

The ROCK-SOLID Coaching Methodology describes one possible process of academic coaching that contains nine memorable steps applied in three phases. Figure 1 shows the three phases and the flow across the steps in each phase. Table 1 describes the phases and the steps taken during each phase. The methodology, as described in the table, may be used to provide feedback to individual and group performances. Each letter of ROCK-SOLID represents one of the nine steps in the methodology. The figure covers an ideal coaching situation where there is time to prepare, analyze, and then coach. In practice, the phases may happen in overlap or even simultaneously. For example, using ROCK-SOLID to coach a preplanned assignment proceeds sequentially through the three phases. On the other hand, a student may call a coach to discuss a grade, for example, but the coach determines it is best to start in the analyze phase by asking questions to understand, prepare, further analyze, and coach the student.

Table 1 provides a detailed explanation of each step of ROCK across the three phases. Table 2 does the same for each step of SOLID.

**Figure 1** The Steps of the ROCK-SOLID Coaching Methodology Emphasized in Each Phase



**Table 1** Description of the Phases and Steps Within ROCK

Phases ↓	Prepare Coach & Performer	Analyze Performance	Coach Performer
		Prepare to analyze and coach; prepare individuals/teams to perform.	Measure, understand, and explain the individual/team's performance using evidence and preparations.
<b>Steps to take at each phase</b>			
<b>R</b> relationship	Build relationships within the group of performers.	Using knowledge developed from the relationship, understand each individual's contribution to the performance, including prior knowledge, skills, and personal factors.	Prepare the performer to receive the feedback by being non-judgmental and appreciative of the effort required; affirm the purpose is to improve future performance.
<b>O</b> objective	Set the objective of the coaching based on the performance.	Focus on the performance within the scope of the objectives.	Remind the performer of the objectives to refresh the frame for the feedback.
<b>C</b> checklist	The checklist determines the dimensions of a quality performance and may also include measurement levels.	Apply the checklist to the performance and its results to determine the overall level of quality and its contributing factors.	Discuss the checklist measures within the strengths and opportunities.
<b>K</b> know the facts	Determine what information about a performance will be the most helpful.	Obtain evidence to analyze a specific performance to determine the process and skills that produced the observed quality.	Use the facts in the feedback so the performer can identify its context.

**History of the Project**

In 2018, one of the authors was engaged by UMGC to identify opportunities for improving educational outcomes. A formal report was issued on the value of the competency-based learning approach developed by UMGC known as the enhanced learning model (ELM). Among the findings of the 2019 report were barriers to quickly expanding ELM to broad implementation outside of the graduate program, mainly the cost and time required. These barriers led the consultant, the provost, and the vice president of Faculty Affairs to discuss other ways to enhance learning, the value of online experience, and persistence of students that would also lend themselves to being more affordably and expeditiously implemented. The team determined that the greatest and most immediate impact would come from academic coaching, which had been developed and later revised as an approach by Leasure (2019).

The long-term goals for this project, paraphrased from the 2019 project charter, are:

1. Develop an effective methodology for coaching that improves student learning and persistence
2. The method is usable by adjuncts
3. The method is scalable to all faculty within the university (~4,000)

Figures 2 and 3 depict significant project milestones that are further described in this section. Additional information on PACE and FacDev 111, including research results, appears in a paper by Leasure et al. (2020).

In spring 2019, UMGC began developing PACE 111, a new first-term undergraduate course with the design goal of enhancing motivation and persistence. Leasure and Günther proposed a parallel course, FACDEV 111, to train faculty teaching PACE 111. Erica Ellsworth, Marsha Fortney of the Faculty Affairs department, and David Leasure developed the course and taught it during the summer of 2019 to prepare faculty teaching PACE 111 in the fall of 2019. They revised the course at the end of summer based on their experiences together with faculty performance and feedback.

A coaching methodology, referred to as SOLID, guided the coaching portion of FacDev 111. SOLID combined concepts from Process Education that were developed and proven through twenty-five years of research (Apple et al., 2016). Each letter in SOLID stands for a step in the

coaching methodology to serve as a mnemonic: Strengths, Opportunities, Learning, Implementation, and Demonstration. The definition of each step has remained the same with the exception of learning, which expanded. The ROCK steps were added later. Table 2 describes the steps in SOLID.

Both SOLID and ROCK-SOLID share the goal of generating feedback that is welcomed and maximally impactful. Providing feedback that is not welcomed may have the unintended impact of demotivating the performer. When the performer welcomes the feedback, they make an effort to understand the feedback and how to implement its opportunities. The opportunities, rather than identifying the weaknesses, instead focus on the most impactful changes that can be made to improve future quality. It embeds the philosophy that even a strong performance may be made stronger.

Leasure and other members of the team reported on research conducted to determine the success of the PACE 111 and FACDEV 111 courses (2020). PACE 111 outperformed other courses in retention and grades, and more significantly, impacted student and faculty perceptions of learning.

Based on this success, Leasure and Günther decided to develop a version of FACDEV 111 for all UMGC faculty called FACDEV 112. Leasure and Fortney had both joined the First-term Experience department as collegiate faculty and developed FACDEV 112 in the fall of 2020. SOLID continued to be in the course based on the positive use by faculty. Since the SOLID had been primarily used for helping students solve challenges that could impede or derail their success in college, to be useful for all faculty, courses, and program levels, the coaching method needed to extend to giving feedback on student work and still work well for coaching students as they solved their problems.

**Table 2** Description of the Phases and Steps within SOLID

Phases ↓	Prepare Coach & Performer	Analyze Performance	Coach Performer
		Prepare to analyze and coach; prepare individuals/teams to perform.	Measure, understand, and explain the individual/team's performance using evidence and preparations.
	<i>Steps to take at each phase</i>		
<b>S</b> strengths	Explain to the performers how the steps of SOLID coaching will be done, why they're important, the advantages of building on strengths vs. correcting deficiencies and how opportunities will be given for all performances.	Let quality measures guide strength identification; for each strength, consider how it was done and how it could be improved.	Identify 2-3 most impactful strengths, including skills, values, actions, & mindsets. Describe how to repeat for a future performance.
<b>O</b> opportunities		Where could changes to the process most improve the quality of future performances & within capability to grow by the performer.	Identify 2-3 opportunities to improve the future quality of the same or similar performance. Be specific about what and how.
<b>L</b> learning		Adopt an open mind when analyzing a performance to discern the method and intent while not imposing one's own.	Describe how the performer's learning can be applied to valued areas such as career success.
<b>I</b> implement learning		Consider what supports for the opportunities can best support the development of this performer or group.	Provide or ask the performer for a plan to achieve the opportunities. Coach the plan to improve its chance of success.
<b>D</b> demonstrate learning		Determine a future performance or deliverable that supports verification of learning. It need not be the same as the current one, but one that requires the skills to demonstrate.	Demonstrate confidence that the performer will be able to achieve the opportunities and determine when and how the performer will demonstrate the improvements.



An article reporting on the course success explains how PACE 111 incorporates seven principles of learning and persistence in its design that are not explicitly covered in FacDev 111 (Leasure, Blaher, et al., 2020). Table 3 lists these principles which Joe Cuseo (2018) presented in a talk and Dan Apple et al. documented with respect to Process Education in a paper (2020). These principles and the authors' experiences with teaching FacDev 111 led to a decision to equally emphasize relationship development, the setting of coaching objectives, the development of a checklist of quality, and a process to know the facts of a performance. These four elements became known as *ROCK* and joined with *SOLID* to produce the *ROCK-SOLID* Coaching Methodology.

PACE 111 contains discussions, curriculum, and one-on-one faculty meetings to build a trusting, supportive relationship between the faculty and students. FacDev 111 addresses building relationships in the faculty intro video section, but otherwise it is not explicitly linked to coaching.

### Educational Design Research (EDR)

Susan McKenny and Thomas Reeves describe EDR in a comprehensive text on the subject:

Education design research blends scientific investigation with systematic development and implementation of solutions to educational problems. Empirical investigation is conducted in real learning settings – not laboratories – to craft usable and effective solutions. At the same time, the research is carefully structured to produce theoretical understanding that can serve the work of others. (McKenney & Reeves, 2018)

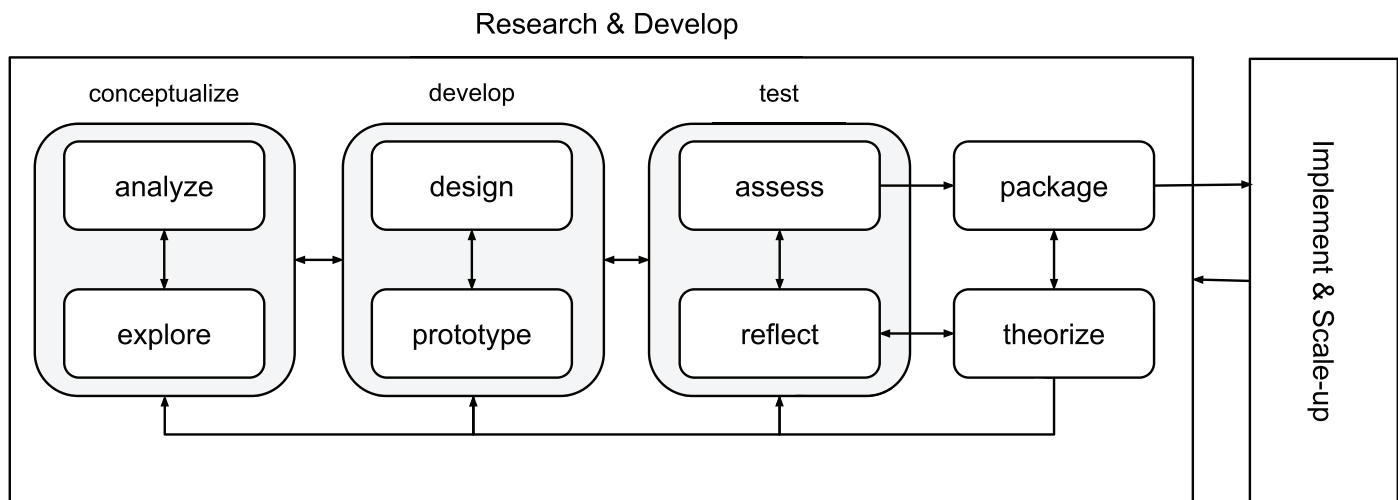
The work described in this paper meets this definition of EDR. The project has been systematically executed and studied in the real-world setting of UMGC.

Figure 2 depicts the phases and steps in EDR, modeled after McKenny's and Reeve's process for EDR. EDR may be regarded as a schema because the steps are non-sequential and optional in practice. This schema is used in the Results

**Table 3** Principles of Learning and Persistence and Their Use in *ROCK-SOLID*

Learning and Persistence	Incorporation in <i>ROCK-SOLID</i>
Personal Validation	Validation of individuals, as being capable and contributing to the university community, occurs in the initial establishment of a relationship (R) and reinforced in each coaching feedback session.
Self-Efficacy, Growth Mindset, and Grit	Identifying strengths (S) helps a student recognize their capabilities in performing collegiate-level work. Growth mindset is inherent in the coaching method which seeks to improve future performance and not judge past performances. Coaches encourage grit when expressing confidence in students during feedback. The checklist (C) helps students self-regulate their learning and make decisions about the quality of their work.
Meaning and Purpose	Feedback, especially leveraging learning (L), reinforces that the learning empowers what the performer cares about, usually being able to see the value to one's career. Originally, (L) stood for Learning Insights, but it was ambiguous whose learning was highlighted and why it mattered. Opportunities (O) are suggested by coaches not just to improve the current performance but to broaden the application of skills to similar areas.
Active Involvement (Engagement)	Students who build their own implementation plans, (I), take active ownership of their learning and performance. Self and peer coaching likewise provide active learning and encourage development of learning ownership.
Reflection and Metacognition	Self-coaching encourages metacognition when a performance's process is analyzed with know-the-facts (K). The mental process is reviewed and improved during coaching. Reflection appears in finding the meaning of an experience, as shows up when leveraging learning (L).
Social Integration	Coaching can reinforce other social processes, such as collaborative and cooperative learning, peer coaching, and when coaching the application of social and relationship skills in team projects.
Self-Awareness/ Self-Knowledge	Students reflect on values and how they live them as well as other cares they have when performing self-coaching, as they must think about the objectives of coaching (O), the construction of a checklist (C) and the reflection required when doing know-the-facts (K).

**Figure 2** Conventional Educational Design Research (EDR) Schema



and Discussion sections to guide a rational reconstruction of the project. The actual project details are extensive and the paper benefits from this abstraction.

Reporting on an EDR project can be difficult. McKenny and Reeves list two challenges: having “too much story to tell” and the difficulty achieving “alignment with standardized research reports” (2018). Indeed, in a project spanning multiple years and touching thousands of people, the story is large.

A value of using the EDR framework is to present recognizable phases and steps with comparable terminology so that an implementation done by one group may be com-

pared with another’s. In addition, each transition from one phase to another represents a decision, ideally supported by a test, that provides guidance to the transition.

### Review of Related Research

As the coaching project evolved, additional sources of research contributed to the evolving methodology, course, and change approach. Tables 4, 5, 6a, 6b, and 7 list the key concepts by area along with citations to the research. Entries with “PE:” represent sources within the Process Education community. All other reference concepts lack this prefix.

**Table 4** Summary of Prior Research on Learning and Persistence Applied in this Work

Concept	Research Support
<b>Learning and Persistence</b>	
7 timeless and universal principles	(Apple et al., 2020; Cuseo, 2018) is explicitly covered in the FACDEV 112 course.
PE: Quality learning environments	(Apple et al., 2016; Apple & Smith, 2007) contributed to the method to build relationships and establish trust.
PE: Assessment Mindset	(Jensen, 2007) contributes the emphasis on improving future performances rather than judging the past performance.
<b>Learning Skills</b>	
PE: Classification of Learning Skills	(Leise et al., 2019) contributes the focus of coaching the learning skills that produced the performance rather than the end product as well as offering suggestions coaches could apply.
PE: Learning to Learn	(Apple et al., 2013) also contributes to the idea that the skills for learning are a more effective target for coaching as they will affect many future performances.
PE: Psychology of Learning and Success	(Apple, 2017) demonstrated the power of coaching to support students’ development into more capable performers and provided conceptual support for selecting the coaching project.

**Table 5** Summary of Prior Research on Coaching Applied in this Work

Concept	Research Support
<b>Person-Centered Education</b>	
PE: Risk factors for success	(Horton, 2015) lists the types of risks addressable through coaching.
PE: Risk and success frameworks	(Apple et al., 2018a, 2018b; Leasure & Apple, 2018) analyze how risk identification applies to success.
<b>Coaching Process</b>	
Coaching with the Brain in Mind	(Rock & Page, 2009) expands <i>assessing to improve performance</i> to include life coaching of desired criteria defined by the performer.
PE: Mentoring	(Apple et al., 2016, pp. 93–98; Leise, 2007) demonstrate skills and techniques used within coaching.
<b>Differentiating Coaching from Grading: Evaluation vs. Assessment</b>	
PE: Evaluation vs. Assessment	(Apple et al., 2016, pp. 51–58) contributes the distinction between performance coaching and performance evaluation incorporated into ROCK-SOLID.
Transformational vs Transmissive/ Transactional Feedback	(Miller & Seller, 1985) contributes the need to coach with a broader perspective supporting the growth of the individual and not only the objectives of the course.

**Table 6a** Summary of Prior Research Incorporated into ROCK Portion of the Coaching Methodology

Concept	Research Support
<b>Relationship and Trust Building</b>	
Trust building	(Covey & Merrill, 2006; Cuseo, 2018; Kegan & Lahey, 2000, 2016) support taking learning risks, enhancing the desire for coaching, using the language of authentic regard, and to enhance the desire to improve oneself.
PE: Quality learning environments	(Apple & Smith, 2007; Hintze-Yates et al., 2011; Smith & Apple, 2007) lists practical actions to take to create and sustain a productive learning atmosphere of coaching, facilitating, and evaluating.
<b>Objectives for Coaching</b>	
PE: Learning by performing (LxP)	(Leasure, Apple, et al., 2020) Integrates learning activities with coaching and evaluation to create productive learning and growth.
<b>Checklist for Process and Product</b>	
The Checklist Manifesto	(Gawande, 2009) provides rationale for checklists.
PE: Performance descriptions	(Nelson et al., 2020) demonstrates powerful descriptions that foster greater aspirations by learners.
PE: Performance criteria and measurements	(Apple et al.) brings a methodology for creating and productively using criteria for coaching.
<b>Know-the-Facts</b>	
PE: Theory of Performance	(Elger, 2007) provides an easily applied framework for analyzing the conditions leading to performance variation.
Learning by Performing (LXP)	(Leasure, Apple, et al., 2020) shows the importance of knowing the facts to better coach the learner to control for variation.

**Table 6b** Summary of Prior Research Incorporated into SOLID Portion of the Coaching Methodology

Strengths, Opportunities, Learning	
Concept	Research Support
PE: Assessment Strengths, Improvement, Insights	(Wasserman & Beyerlein, 2007) provides the foundation to SOL steps and rationale for identification of strengths first, followed by opportunity to improve. Emphasized the importance of the language of coaching to encourage change efforts and growth mindset.
PE: Growth and Learning to Learn	(Apple et al., 2016) demonstrates both coaching and self-coaching methodologies adapted to SOL steps and the importance of models and practices to support learning to coach.
Implementation, Demonstration	
PE: LxP	(Leasure, Apple, et al., 2020) discussed the importance and key elements of planning for learning success.
Wish, Objective, Obstacles, Plan	(Oettingen et al., 2015) contributes a tested approach to creating effective plans.
The Language of Coaching	
The language of authentic regard; The language of deconstructive feedback	(Kegan & Lahey, 2000) contribute patterns and mindsets to achieve non-judgmental and authentic language that enhances personal change.
PE: Mindset for Assessment	(Jensen, 2007) describes the coaching mindset for achieving coaching that is welcome and impactful.

**Table 7** Summary of Prior Research on Institutional Change Applied in this Work

Concept	Research Support
Organizational Change	(Preston & Armstrong, 1991; Schein, 1996, 2010) demonstrate the importance of addressing professors' motivation to adopt coaching for their own benefit, such as being more effective, making a greater impact, and promoting persistence. Schein in particular suggests aligning the cultural incentives.
Development and Implementation	(Kotter, 2007; McKenney & Reeves, 2018; Pilcher, 2010) provide advice on avoiding failure, ensuring success, and taking a structured, incremental approach to change with multiple testing points. McKenney & Reeves provide the language and structuring of EDR to support agile, tested development.
Iterative Process Improvement	(Langley et al., 2009) provides a summary and comprehensive reference for the techniques of quality improvement that were used throughout the process.

## Methods

Given the complexity of an EDR-based project, the time frame is long, the tests and decisions are many, and the methods vary with the needs of the situation. The research for this paper focuses on these three main areas, each explained in a subsection.

1. Mapping the project onto EDR phases
2. Testing at key points
3. Extracting process and other knowledge useful when implementing large-scale change

## Project Mapping to EDR

Mapping the history of the project to EDR steps supports the third focus area of extracting useful process knowledge. To create the map, the project history is assigned to the EDR phases and steps depicted in Figure 2. The resulting map is presented in Figures 3 and 4 which are presented in the Results section. Figures 3 and 4 clarify the sub-projects that build knowledge and experience, highlighting the tests that inform key decisions, both for continuation of the project and for adapting to the specific environment and culture.



## Testing at Key Points

The EDR process conducts tests to decide whether to move forward, revisit a prior step, or stop the project. In addition, these tests support reflection and theory-development steps within EDR. The specific tests that follow inform the implementation. To assist understanding, each test is identified with the step number as depicted in Figures 3 and 4.

- **Analyze the educational approaches of the University (Steps 2-4, Figure 3)**

Conduct through interviews and synthesis of key points within them. Particular attention to be given to strengths and opportunities to support proposals that would improve learning and persistence at the university.

- **Pilot and review of faculty results from the FACDEV 111 course (Steps 6-8, Figure 3)**

This test reviews the instructor feedback, performance on the in-class projects, and a reflection session among the instructors with the leaders of Faculty Affairs and Faculty Development.

- **PACE 111 Success review (Steps 12 and 15, Figure 3)**

The first goal of the test is to validate that the training and delivery of academic coaching through the PACE 111 course makes an impact. The second goal was to collect information that would guide the generalization of FACDEV 111 into FACDEV 112.

The method and results of this test are documented in a paper by Leasure, Blaher, et al. (2020) and summarized in the Results section.

- **Review the pilot offerings of FACDEV 112 (Steps 19-21, Figure 4)**

The testers will assess the learner's assignments, including pre- and post-course statements of teaching philosophy, coaching of peers, written coaching of student work, demonstration of the language of coaching, and commitment and practicality of their coaching implementation plan.

The test supports identification of needed refinements, evaluation of course outcomes, acceptance of the course by faculty, identification of faculty to lead future sections of the course, and whether to present the course to the provost for the decision to fully implement for all faculty at UMGC.

- **Assess and address stakeholder feedback (Steps 25-28, Figure 4)**

Perform grounded theory research methods to the learners' coaching implementation plans produced in the first non-pilot sections of FACDEV 112 to identify impediments to implementation of coaching.

Within FACDEV 112, all faculty create coaching implementation plans that capture intention, actions, and expected obstacles. The plans are based on the successful WOOP approach suggested by Oettingen et al. (2015).

- **Intent to coach (Steps 30-31, Figure 4)**

Perform qualitative analysis of learners' teaching philosophy, produced at the end of the FACDEV 112 course, to determine the percentage of faculty who are or will use coaching in their courses.

- **Evaluate effects of FACDEV 112 on student and faculty metrics (Steps 34-35, Figure 4)**

Perform comparative analysis between the treatment (faculty completing FACDEV 112 and their students) and the control groups (faculty who did not complete FACDEV 112 and their students) to determine the effects on the following:

- student perception of faculty engagement and performance by using end-of-course surveys
- student performance and persistence by using course completion and persistence rates
- faculty perception of the helpfulness of the FACDEV 112 course by using a specific survey

## Generalizing the Results

EDR mapping enables generalizing design and implementation knowledge in regard to phase transitions. The Reflection Methodology (Desjarlais & Smith, 2011) applies well to the experiences. Table 8 lists focus questions to guide the reflection; these have been adapted from the author guidelines of the academic journal, *Educational Designer* (2021).

**Table 8** Focus Questions for Augmented Reflection

<b>F1</b>	What key premises, principles, heuristics or considerations, (expressed as generalized knowledge) of the design itself or the research and design / implementation process can contribute to future projects?
<b>F2</b>	What criteria for good design, from the perspectives of designers, clients and users, does the design achieve and why is it good?
<b>F3</b>	What design and development processes were followed, should be followed, or should not be followed?
<b>F4</b>	What is the connection to scholarly evidence for the insights?

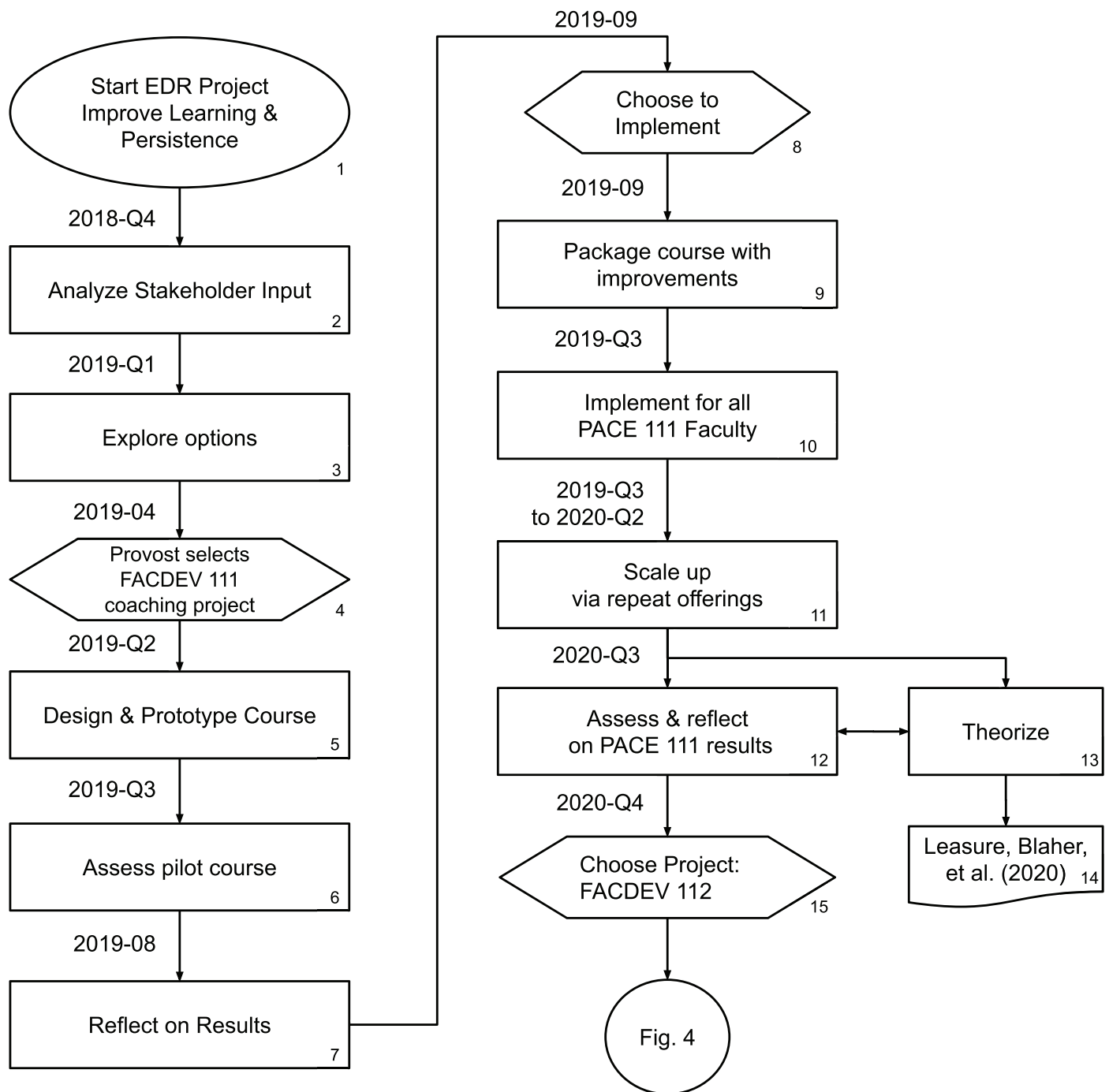
## Results

### Mapping the Project to EDR

The EDR approach depicted in Figure 2 uses two-way arrows between phases and steps to imply that looping among or even jumping between steps may occur within the EDR process. This section captures the many steps and decisions that occurred in the project and presents them in the language of EDR. Again, Figures 3 and 4 depict the mapping of the project phases with the steps taken. These steps are numbered for ease of reference, both in the figures and the remainder of the Results section. The tests described in the Methods section are integrated as EDR steps that are not explicit in the schema of Figure 2, yet were key points in the direction and evolution of the project. Each of the 36 steps are explained.

1. The project began in late 2018 as an investigation of the educational approaches used at UMUC with the goal of improving learning and persistence, particularly investigating whether UMUC's competency-based approach, called the Enhanced Learning Model (ELM), could offer an advantage. One of the authors conducted interviews of more than 40 faculty and academic leaders.
2. The interviews were analyzed to produce a report for the Provost that subsequently presented the findings in six academic workshops to the academic team, gathering their feedback.
3. Following a positive reaction by workshop attendees, the Provost requested exploration of possible follow-up projects to improve learning and persistence in a substantive and timely way. A report listing 10 possible projects was produced. The projects ranged from changes in the way courses are developed to faculty development for different teaching interventions including active learning, expansion of competency based education, and academic coaching.
4. The provost reviewed the projects, and based on the speed that coaching could be developed and put to use by faculty, academic coaching was selected. In consultation with the Faculty Affairs department, it was decided to develop a faculty preparation course for the new PACE 111 first-term, undergraduate course. The FACDEV 111 project was initiated.
5. PACE 111 would be offered beginning in August 2019. The FACDEV 112 course was designed, built, and began to be delivered in the second quarter of 2019. The design adapted ideas from Process Education's approach to assessment of learning (Apple & Baehr, 2007; Baehr & Beyerlein, 2007; Jensen, 2007; Wasserman & Beyerlein, 2007). The adaptation removed confusion concerning the multiple definitions of *assessment* by referring to it as *coaching*. The resulting method, named SOLID, is an acronym for the steps coaches take: identify strengths (S), opportunities (O), a learning (L) the coach had from the student's work, an implementation plan (I) for improving future performances, and a demonstration date and means. The course instructors demonstrate (D) coaching through feedback on the faculty's coaching of one of six scenarios and the coaching of another faculty. The course also focused on creating a relationship up front with students via a course video.
6. Faculty were selected to teach the first PACE 111 sections and became the pilot group for FACDEV 111. Several of the authors taught multiple pilot sections beginning in the third quarter of 2019. Dynamic improvements were made to FACDEV 111 based on comments and questions received by the team. Faculty were able to complete the course in five days and embraced the academic coaching ideas. The course instructors met frequently to compare experiences.
7. The FACDEV 111 team reflected on the resulting coaching skills of the faculty taking the course, their embrace of the coaching approach, and the ability to continue to offer the course to new faculty.
8. The Faculty Affairs leadership reviewed the results and chose to move forward with full implementation of FACDEV 111.
9. The course was polished and somewhat streamlined for both instructors and students.
10. FACDEV 111 was reaffirmed as the pathway to qualify faculty to teach PACE 111.
11. As the number of sections of PACE 111 scaled up, so did the offering of FACDEV 111.
12. PACE was evaluated by the Institutional Research department after one year to determine its impact (this is discussed in the Results from Tests subsection).
13. Research on student learning and persistence revealed seven principles of learning and persistence, e.g., Apple et al. (2020), that are embedded in the design of PACE 111 and reinforced by coaching. This work demonstrated how the theory of coaching and the principles interacted to support the results. Theorizing explained the importance of relationship building, and the need for it to occur with students from the beginning through to the end of a course experience.
14. The research results for PACE 111 and FACDEV 111 courses are documented by Leasure, Blaher, et al. (2020).
15. The demonstrated success of PACE 111 led the Faculty Affairs team to approve a coaching course for all faculty, designated the FACDEV 112 Project.

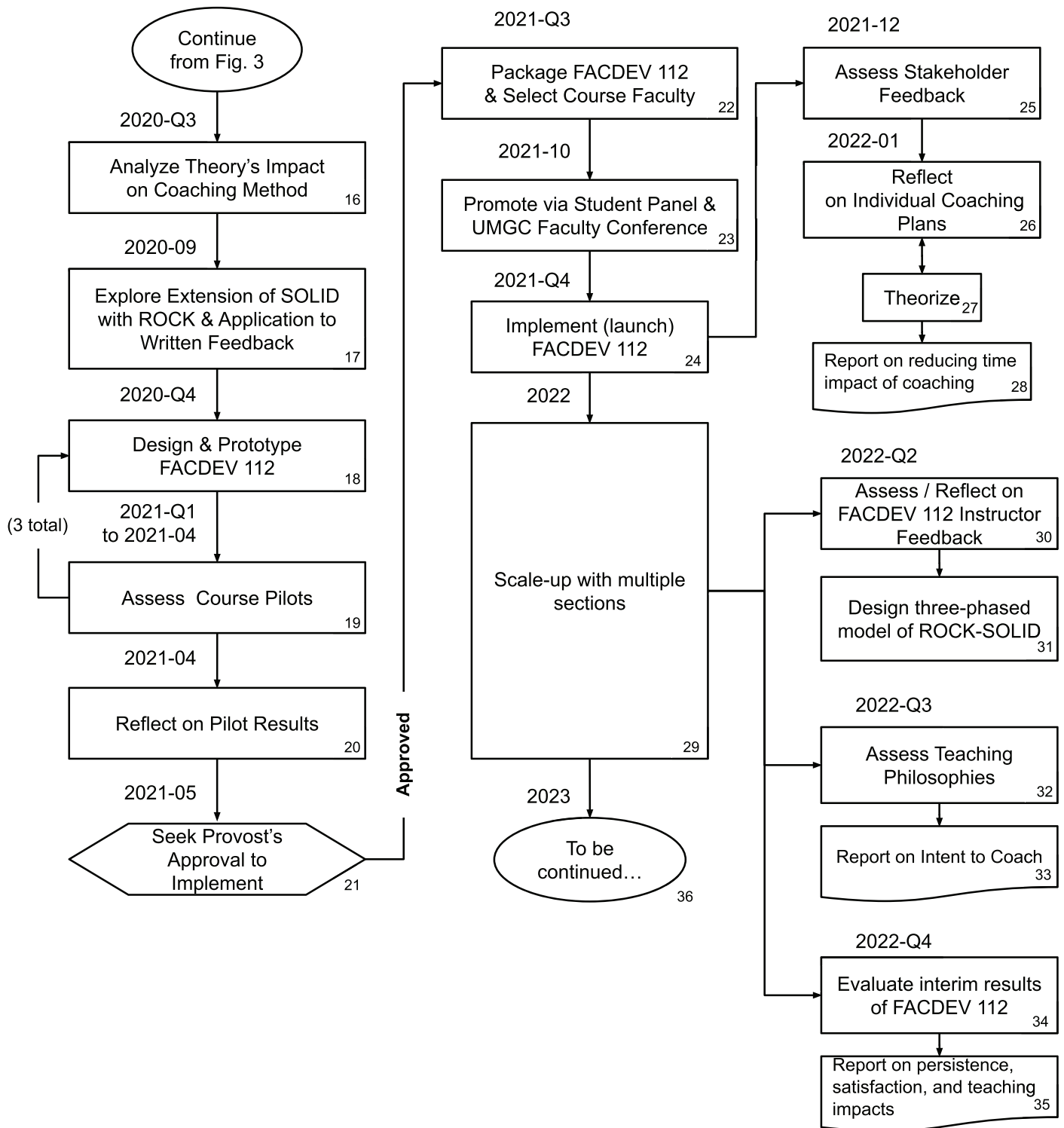
**Figure 3** The Mapping of the “Improve Learning and Persistence Project” to EDR Steps, Part 1.



The following Steps, 16-31, are depicted in Figure 4.

16. The key extensions from FACDEV 111 to the future FACDEV 112 are the generalization of coaching to both assignment coaching and the coaching of students' problem solving of non-curricular impediments and adding the missing features of FACDEV 111 that are found in the structure of PACE 111. The analysis of PACE 111 showed that the seven principles contributing to learning and persistence would help FACDEV 112 be more impactful. The need for effective coaching of learning through assignments also would ensure the applicability of FACDEV 112.
  17. The team explored the incorporation of these principles into coaching while preserving the mnemonic benefit of an acronym capturing the steps. After much discussion, the team adopted ROCK-SOLID as the approach, where ROCK stands for Relationship, Objectives, Checklist, and Know-the facts. The mapping of the principles into ROCK-SOLID is described in Table 3.
  18. Three iterations of design and prototype coupled with pilot testing (Step 19) refined the design of FACDEV 112. The first design focused on adding the new features to FACDEV 111 and video components supporting all of ROCK-SOLID. Subsequent designs included explicit coverage of the principles and an adaptation of Kegan & Lahey's (2000) languages of authentic regard and deconstructive criticism to a language of coaching.
  19. Assessment of the three pilots used the deliverables of faculty-trainees to gauge the mindset and competency changes occurring in the course with respect to the goal of a motivated, caring faculty with the skills to address individual differences of students and the ability to adapt coaching to the full variety of course structures.
  20. In reflecting on the course results, including the assessment of Step 19, the team and its leaders assessed how the course experience was perceived by stakeholder-faculty taking the course and their managers. Importantly, they also identified faculty who exemplified the best of coaching within the course to serve as future course trainers, should the course go forward.
  21. Considering the positive results of the assessment and reflection and the ability to scale, Faculty Affairs decided to present the course to the provost for approval. After reviewing the course materials and plan, the provost approved implementation for all UMGC full and part-time faculty.
  22. The course was packaged by instantiating the course model to multiple sections and a compensation model was developed for faculty teaching the course.
  23. To prepare faculty for a change in their role from grading to coaching plus grading, Faculty Affairs made coaching and mentoring the theme of the fall 2021 Faculty Conference. To build energy, Faculty Affairs hosted a zoom panel composed of students who had nominated their favorite professors for teaching awards. The theme of the panel was to describe great teaching. Much of it paralleled coaching and the seven principles.
  24. Faculty development implemented FACDEV 112 on November 11, 2021, offering five sections, each lasting two weeks.
  25. Faculty Affairs collected feedback from program directors who voiced concerns of some of their faculty. The primary lament was a concern for the amount of time coaching would take over current workload for a course. The feeling was broad enough to trigger a reflection.
  26. The team assembled and reflected on the coaching implementation plans of the first 75 faculty completing FACDEV 112.
  27. Grounded theory research process was applied to analyze the implementation plans and develop a practical theory for approaching the time-to-coach obstacle.
  28. A report was produced for Faculty Affairs to use in communicating with stakeholders.
  29. Faculty Development fielded a total of 82 sections of FACDEV 112 between November 29, 2021 and July 27, 2022, with more on the 2022 schedule.
  30. In the Microsoft Teams channel for FACDEV 112, instructors discussed the difficulty some students were having in FACDEV 112 applying ROCK-SOLID to different course models. They needed a model that would minimize duplicated effort and better explain how to prepare to coach in varying courses.
- A second question arose concerning the L in SOLID. Its meaning in FACDEV 111 was to give appreciation to the performer for what the coach had learned (L) from them. The desire by program directors was to connect the learning done by the performer to the goals of the performer, thereby activate the purpose principle. The original intent was preserved in how the coach keeps an open mind during analysis and can give thanks to the performer while making the new connections that sustain motivation.
31. The team developed a new design that introduced three phases of using ROCK-SOLID. The new design emphasizes the planning, analysis, and giving of feedback to a performer and is depicted in Figure 1 and described in Table 3.

**Figure 4** The Mapping of the “Improve Learning and Persistence Project” to EDR Steps, Part 2.



32. A spot check on the impact of FACDEV 112 on the post-course philosophies of completers revealed a high proportion of intention to implement coaching in their future teaching practice.

33. The report on the intent to coach is presented later in the Results section.

34. The Academic Quality department of UMGC initiated an interim study in the fall of 2022 to determine the effects FACDEV 112 may have on teaching at UMGC.

35. The department issued an internal report authored by Patch (2022) that shows use of coaching practices and impacts on personal approaches to teaching and iden-



tifies the opportunity to improve the impact of coaching on persistence and end-of-course satisfaction. The report supports continued investigation into the implementation of coaching by faculty after completing FACDEV 112.

36. Faculty development anticipates continued offering of an updated FACDEV 112 in 2023. The updates will incorporate the results of Step 31 and the version of RSCM depicted in Figure 1.

This mapping demonstrates that the EDR schema has been successfully applied in this case to classify the steps taken in the project. The resulting mapping (classification) aids in understanding the evolution of the project, especially due to the influence on project evolution from the tests and assess/theorize steps.

• **Analysis the Educational Approaches of the University (Steps 2-4, Figure 3)**

To analyze the approaches, a combination of interviews and review of existing educational documents were analyzed. Over 40 interviews were conducted with faculty, program directors, and deans of the university. Much of the discussion was about how to produce new programs faster, but other initiatives in this area were already underway. Another possibility for an initiative included injecting more active learning into the curriculum but would require extensive revision of curriculum. It was determined that faculty training offered the most effective parallel activity to curriculum development and development processes. After discussion, the most

widespread approach for impact was determined to be academic coaching.

• **Review of the Pilot and Faculty Results in FACDEV 111 (Steps 6-8, Figure 3)**

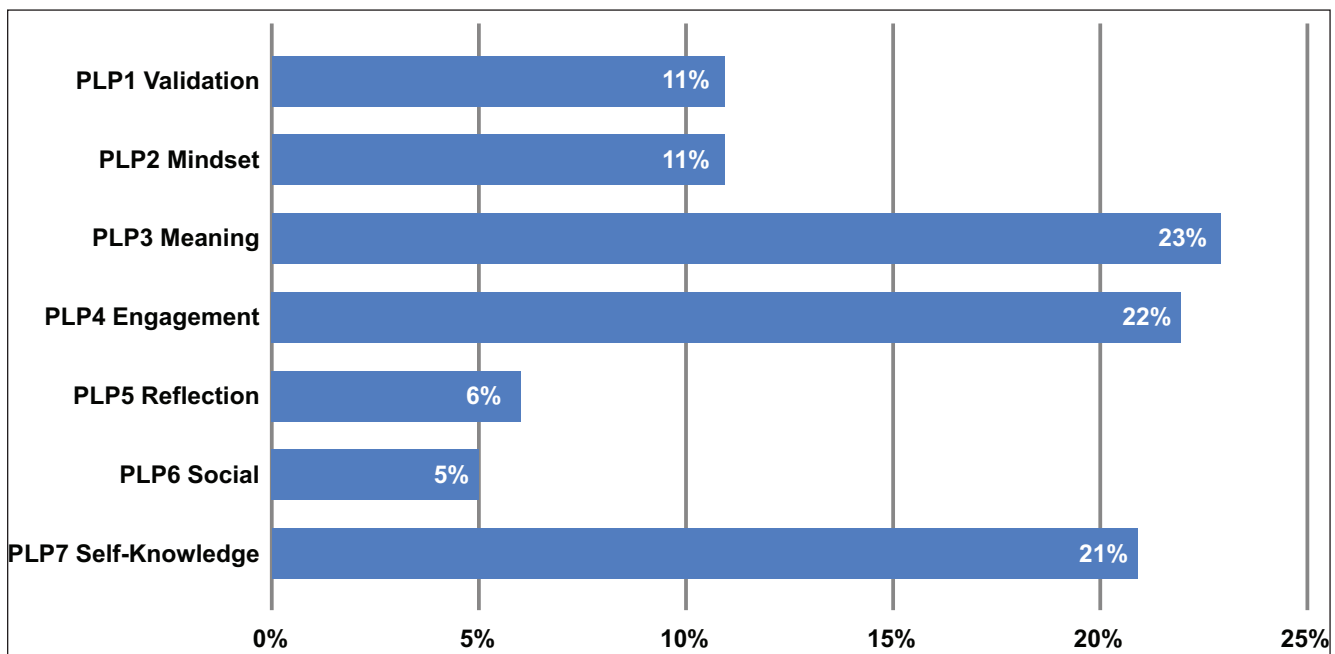
PACE 111 showed improved satisfaction and persistence over other first-term courses. It had higher success rates (fall 2019 n = 4000, spring 2020 n = 5280, resp.) of 78.5% and 82.7% compared to rates in other first-term courses of writing, information systems, and psychology (fall 2019 n = 6428, spring 2020 n = 6431, resp.) of 74.2% and 77.9%. Digging deeper through qualitative analysis of student comments showed that 72% of the respondents (a total of 898) identified, as part of their experience, one or more of the seven principles of learning and persistence and summarized in Figure 5. More detailed results are contained in the paper by Leasure, Blaher, et al. (2020).

• **Review of the PACE 111 Success (Steps 12-15, Figure 3, and Steps 16 and 17, Figure 4)**

This test, as described in the methods, consisted of comparing PACE 111 students' retention rates and satisfaction levels to those in other first-year courses. It also reviewed faculty satisfaction and compared it to UMGC-wide satisfaction. Students' free form comments were collected and analyzed.

The results of the PACE 111 assessment provide indirect evidence of the value of FACDEV 111. The method and results of this test are documented in a paper by

**Figure 5** Observed Frequency of the Seven Principles of Learning and Persistence in Student Surveys from PACE 111, 2020-Q2, n=650. Adapted from Table 2 of Leasure, Blaher, et al. (2020).



Leasure, Blaher, et al. (2020) which reports that students had higher retention than other first term courses as well as greater satisfaction and that faculty had higher teaching satisfaction as well. In addition, the team compared the principles in PACE with seven principles of learning and persistence (Apple et al., 2020; Cuseo, 2018) and found a close alignment between the two. This alignment was corroborated by qualitative analysis of free-form comments from 650 students that coded to one or more of the principles; the frequency of response is shown in Figure 5.

Faculty Affairs reflected on the results of the test and alignment with theory, consulted with the trainers and course developers for FACDEV 111, and decided to approve a project to create FACDEV 112 by generalizing and enhancing FACDEV 111. The new project would be piloted, and if successful, offered to all faculty at UMGC to help them use coaching effectively within their courses to impact learning and persistence.

Two authors revised the SOLID approach of FACDEV 111 to the ROCK-SOLID approach of FACDEV 112. The resulting design includes four new steps in coaching called ROCK that are defined in Table 1. The design also explicitly uses the coaching steps to support the seven principles.

- **Reviewing the Pilot Offerings of FACDEV 112 (Steps 19-21, Figure 4)**

Three pilots of FACDEV 112 were fielded and assessed. The first two pilots launched in 2021-02 and emphasized the delivery of coaching with written feedback while not covering coaching of students' problem solving of personal situations. The third pilot launched in 2022-04 and incorporated both approaches to coaching and the explicit use of coaching to support principles of learning and persistence.

Faculty were invited to participate in the three pilots and 55 accepted the invitation. 12 performed so well that they were recommended to teach future offerings of FACDEV 112.

The experience and feedback from the three pilots led to enhancements to improve the quality of the course, reduce confusion, and reduce the time to complete. The reviewers assessed the quality of learners' work, including pre- and post-course statements of teaching philosophy, coaching of peers, written coaching of student work, demonstration of the language of coaching, commitment to coaching, and practicality of students' coaching implementation plans.

The team felt the pilots were a success based on multiple criteria. The course was judged effective because the students demonstrated coaching skill, a change in their philosophy that incorporated coaching, and wrote plans to apply coaching to a variety of courses. The course was judged engaging because of the volume of voluntary reflective discussion of their experiences and the enthusiasm expressed in their surveys and teaching philosophies. Efficiency was partially established with the finding that the course took a total of 8-10 hours of student effort. The team determined implementability of the course by the confirmation of efficacy and engagement, a plan to improve the course's efficiency, and the availability and enthusiasm of the recommended instructors.

Faculty Affairs reflected on the results of the assessment, consulted with the instructor of the pilot, examined student work, confirmed readiness of the team to implement for all faculty, and ensured sufficient staff to administer enrollments and record keeping. Faculty Affairs approved submitting the course for approval by the new provost and her team.

The provost approved the implementation of RSCM training for all faculty and the team began preparation for implementation and scale-up, which started in November, 2021.

- **Assessing Stakeholder Feedback (Steps 25-28, Figure 4) Winter 2021**

After the first five offerings of FACDEV 112, Faculty Affairs met with UMGC's program directors who explained a concern that coaching would take too long for faculty to execute in their courses. The seriousness of this concern led to an unplanned assessment of FACDEV 112 with the research question to discover methods that would allow faculty to efficiently apply coaching that they judged usable.

One of the authors applied the grounded theory approach of Glaser and Strauss (1967) to seventy-five coaching implementation plans from the first five sections of FACDEV 112. Within FACDEV 112, all faculty create coaching implementation plans that capture intention, actions, and expected obstacles. Grounded theory induces theories that the producers of the analyzed data would agree with. The assignment specifies plans following the WOOP approach suggested by Oettingen et al. (2015). Students, in their plans, identify the benefits of coaching to them, describe the immediate outcome that results from successful implementation of the plan, list the obstacles that could prevent success, and present their strategies to address the obstacles, when encountered.

The plans described 239 obstacles, each with one or more strategies to use if that obstacle were to appear. The most frequently mentioned obstacle at 21% was that “coaching may take too much time”, which confirmed the concern of the program directors. The second most frequent obstacle mentioned, at 16%, was “not having control over the course structure would limit coaching opportunities”. Importantly, rather than accepting these obstacles, faculty proposed solution strategies. For the first obstacle of limited time, faculty produced 131 overlapping solutions that fell into 25 solution categories which were then synthesized into seven solutions covering 94% of the approaches. Overall, while faculty recognized the potential of time challenges associated with coaching, they also saw the value of coaching, the incremental addition of time to grading they are already doing, and saw the suggestions produced as ways to overcome these limitations.

A list of these solutions follows:

- Reduce the need to coach the most frequent errors of students. The errors included not following assignment instructions, mismanagement of time, procrastination, insufficient preparation, poor self-motivation, poor engagement, failure to read and act on feedback, and not consulting the faculty with students’ difficulties.

The recommended solutions include early action on any challenges, relationship building, connecting to real-world outcomes, strengthening student communication, and describing time management skills.

- Prioritize coaching among the teaching responsibilities as an effective way to improve learning; to allocate time appropriately, consult with experienced faculty to determine the most important.
- Target coaching to the assignments where students struggle to learn the most important concepts; faculty may also refer students who struggle individually to tutoring or the writing center.
- Practice to become more efficient; the most helpful strategies include use of a quality checklist for the coaching process, timing coaching per assignment and self-coaching to improve, performing group coaching that applies to most students, and keeping a clip-file of common feedback phrases for each assignment.
- Selectively coach the students who need it the most.
- Coach as close to the performance/assignment as possible to take advantage of the students’ momentum and higher likelihood of using the feedback; this reduces re-coaching of the same situations.

- Provide mutual support for improving the practice of coaching.

The report showed stakeholders that they were heard and that there are multiple strategies for reducing coaching time that preserve the value of coaching.

#### • **Assessing Teaching Philosophy Statements for the Intent to Coach (Steps 32-33, Figure 4)**

Faculty in the first course offerings showed an intent to coach by stating such in their plans. The final teaching philosophies developed in the course provide a second validation of the intent to coach, and this time were taken from 200 faculty who took the course in June 2022 through July 2022. Qualitative coding of the intent to coach involved looking for evidence in their statements directly related to a positive use of coaching with students.

The analysis shows that of the 200 philosophy statements, 84.5% made explicit and positive reference to coaching students, 1.5% described not wanting to use coaching, and the remaining 14% did not provide enough evidence to code either way.

#### • **Evaluating Impacts of FACDEV 112 on Key Metrics and Faculty Adoption (Steps 34-35, Figure 4)**

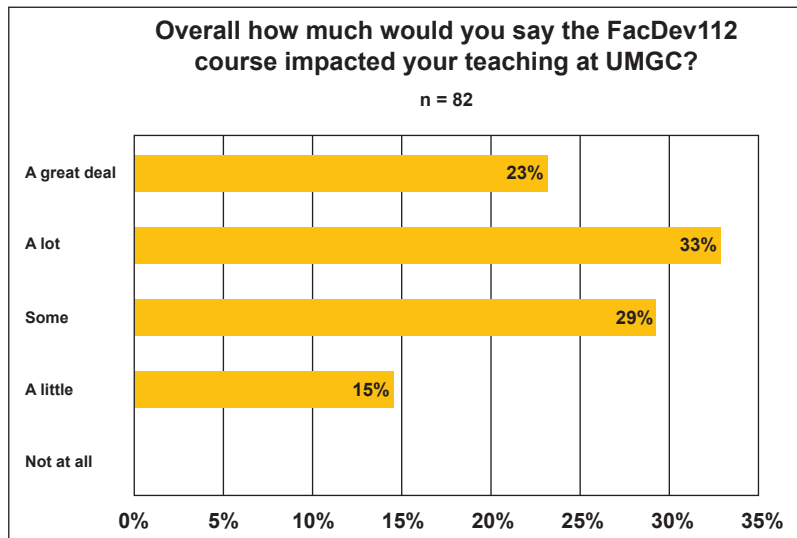
In the fall of 2022, after a sufficient number of faculty had completed FACDEV 112, UMG’s Institutional Research department evaluated the effects of this course on the student perception of faculty engagement and performance, student performance and persistence, and faculty perception of the helpfulness of the FACDEV 112 course.

Statistical analysis of the results of data supporting these questions yielded the following:

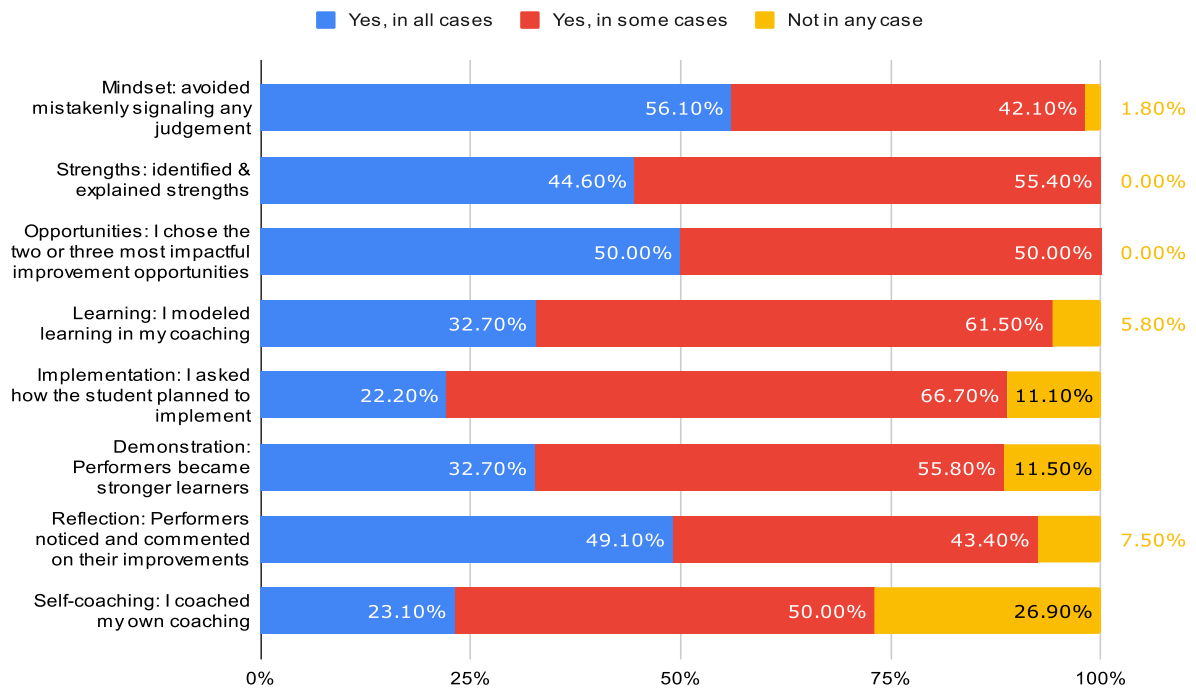
- Faculty ratings in the end-of-course surveys were not statistically significantly different in the post-FACDEV 112 courses as compared with their pre-FACDEV 112 scores
- The success and persistence rates were not statistically significantly different between the pre- and post-FACDEV 112 courses
- Faculty had a great experience with FACDEV 112 and reported a positive impact on their teaching

Since the first two inquiries displayed no statistically significant effects, Figures 6, 7, and 8 reflect only the impact on faculty teaching practices. A change in practice is expected to precede a change in downstream metrics.

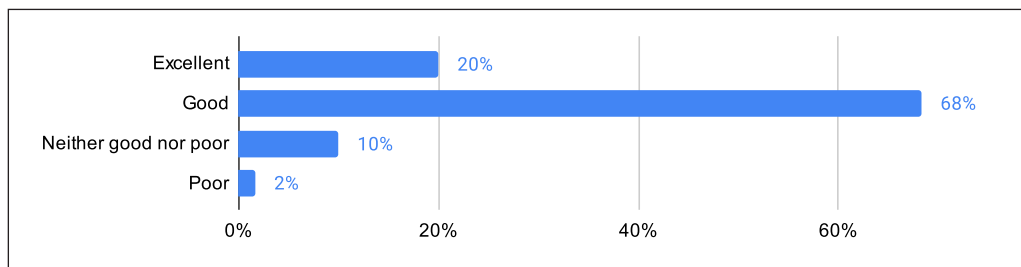
**Figure 6** Reported Overall Impact of FacDev112 on Teaching, 2022-Q2, n = 82



**Figure 7** Reported Use of Coaching Practices, 2022-Q2, n = 52



**Figure 8** Self-Rating of Coaching Performance, 2022-Q2, n = 60





## Discussion

The four EDR focus questions listed in Table 8 provide a framework for generalizing the results. Each question appears as a subsection: Stakeholder Focus (F2), Design (F1), and Process Insights (F3). Answers to the fourth focus question, Scholarly Support (F4), are addressed where needed throughout the paper.

### Stakeholder Focus (F2)

The success or failure of initiatives rests on acceptance by those most affected (Preston & Armstrong, 1991; Schein, 2010). A useful summary defines a *stakeholder* as any person whose cooperation and goodwill are needed for the project to succeed. This definition identifies the primary stakeholders of the project as students, faculty, program directors, and UMGC's academic leaders. Throughout the project, stakeholder needs were discovered through analysis of data, analysis of faculty work, and surveys. Stakeholder needs were addressed using pilots, feedback sessions, development conferences, and individual conversations with faculty who actively applied coaching in their classes.

The team sought feedback, reflected on it, addressed issues, and communicated results to ensure that the change would be adopted. Schein (2010) recommended formulating a compelling reason for change for each of the stakeholder groups to follow when implementing a cultural shift. For this project, these reasons (following), have guided the decisions throughout the project.

1. Students see kinder and more helpful feedback delivered in a safe environment to be a compelling reason to desire coaching.
2. Faculty see the chance to engage with students more personally and helpfully as their reason for change.
3. Academic leaders desire to improve student learning and increase persistence and to make the change quickly and with faculty acceptance.

The latest report by Patch (2022) shows no significant difference in student perception of faculty practices post-FacDev112. This does not suggest students would not value the conditions of "compelling reason 1", only that they did not, statistically speaking, recognize a sufficient difference. A formal study of their experience, such as done with self-growth papers (Ellis et al., 2019), would give additional insight into determining what does matter most for them. From a positive viewpoint, coaching did not hinder their perception, grades, and persistence.

For faculty, the power of compelling reason 2 is observable in their coaching implementation plans and teaching philosophies where over 84% expressed their intent to coach students.

Ample evidence exists to confirm reason 3 as compelling. The twin focus of improved learning and retention (i.e., persistence) is evident in most leadership meetings at the institution. At the present time, the desired outcome expressed in the compelling reason has not been demonstrated (Patch, 2022).

Table 9 summarizes the steps taken by the authors to collect and apply stakeholder feedback.

The project benefited from these guiding principles because they were used by decision makers to remain true to stakeholders' compelling reasons for change. The finding of no statistical difference on reasons 1 and 3 does not invalidate the reasons; rather, the results suggest additional time and efforts are required. The data were collected in the term following training. Changes were expected in faculty behavior and mindset, first, to be followed by student behaviors leading to changes leaders want to see. Time is required to develop expertise in coaching and another data collection needs to be carried out as a 12 month follow-up. In addition, research to understand what faculty and others could do to ensure students receive the benefit of coaching needs to be completed sooner to better plan for supporting changes.

### Design Considerations (F1)

The paper and book of Merrill, *First Principles of Instruction* (2002, 2012), proposed that all courses be Effective, Efficient, and Engaging. These principles guided the approach to designing FACDEV112, suggesting to designers that the mnemonics SOLID and ROCK-SOLID be used to make the instruction and subsequent practice by faculty more effective. Effectiveness was also achieved through the design of realistic examples, checklists for quality of coaching, and hands-on exercises. The modified Bloom's Taxonomy of Bobrowski (2007) that calls for students to demonstrate applying course principles to different situations enhanced course effectiveness.

Designers closely monitored efficiency of the course from its beginning and purposefully allocated FACDEV 111 a three-day slot and FACDEV 112 a ten-day slot with the further limit of five hours and ten hours of learning time, respectively. Repeated simplifications and improvement of resources addressed efficiency concerns of faculty and program directors, such as deleting discussion questions or making them optional when faculty protested their deletion. Designers made the content more engaging through hands-on exercises, discussions with colleagues, and approximately 45 minutes of video content.

Designers went beyond effectiveness, efficiency, and engagement as principles for the course because they considered the same attributes as vital for coaching. Without these attributes, the concept of coaching would not culturally take hold among faculty and students. Applying



these attributes to the content reflects the importance of real-world validity for any change initiative. Designers addressed effectiveness and efficiency of coaching through inclusion of templates, checklists, and self-coaching. They suggested approaches to developing expertise incrementally before committing to full implementation so the impact of learning to coach by doing would not detract significantly from teaching.

The deliverables in the course help adoption of coaching because faculty are asked to

- Identify their fundamental reasons for adopting coaching as they reconsider their teaching philosophy statements, thus making it easier to understand and adopt coaching
- Practice coaching and receive coaching from peers and instructors to demonstrate the learning benefits

and to personally experience the emotional impact of coaching

- Examine and receive feedback on their approaches to implementing coaching in their specific courses, including a realistic appraisal of obstacles and what they would do to overcome them

Training differs from typical academic courses because designers can observe the impact of such a course **on** practice, whereas it is difficult to see student application of their learning **in** practice. The evaluation of FacDev112's impact (Patch, 2022) on student perception, faculty usage, and learning and persistence showed that faculty had taken up the coaching practices (Figure 7) while the other results showed no statistical differences. The least implemented coaching practice is "self-coaching." The designers believed this practice to be essential to the development of strong coaching and the lower uptake may explain the oth-

**Table 9** Summary of Steps from Figures 3 and 4 that Collect and Apply Stakeholder Feedback

Steps	Discussion
2-4	One author interviewed the provost and 40 other program directors and academic leaders to determine needs and opportunities within the UMGC educational model. The findings from these interviews were reflected back to a larger audience through six face-to-face workshops where coaching was practiced by the participants. Attendees provided written feedback. The provost chose developing faculty to use coaching as the project.
6-7	Faculty participated in the pilot offerings of FACDEV 111 and generated feedback in the form of statements and questions in the discussion areas of the course. This feedback helped refine the course and support that faculty would be receptive to the training. This decision helped fund the project and enlist support of key leaders.
12 & 16-18	The assessing and reflecting on student performance and analysis of student feedback addressed first the goals of the institution to improve learning and persistence and then student attitudes toward the different learning experience. A separate faculty survey showed faculty satisfaction higher due to the course format and interaction with students. The positive feedback from students on the seven principles encouraged designers to incorporate the principles into ROCK-SOLID.
19-20	Faculty Affairs conducted pilots to determine the effectiveness, efficiency, and engagement of FACDEV 112 before expanding it beyond 55 faculty. Faculty feedback in discussion areas guided improvements to the course.
21	Faculty Affairs sought the provost's feedback and approval to ensure leadership support for the effort.
23	To build enthusiasm for the launch, Faculty Affairs held a live and recorded student panel to present what they considered the attributes of an excellent professor. During the Faculty Conference at UMGC, FACDEV 112 instructors, among others, presented perspectives on coaching and mentoring and Faculty Affairs promoted the upcoming launch.
25-26	Assessing feedback from program directors through meetings and faculty feedback (via analysis of their implementation plans) both surfaced the time issues and showed that faculty had designed effective means to address them.
30	FACDEV 112 instructors use a Microsoft Teams channel to ask questions, raise issues, and suggest changes in the course. Through this feedback, the designers shifted from a two-phase model to a three-phase model of coaching that makes the analysis phase explicit with the intent to make it easier for faculty to apply.
32	A follow-up confirmation of faculty's intent to use coaching revealed at least 84.5% planned to do so versus 1.5% who did not. Follow-up will examine correspondence of intent with intent and obstacles in the faculty's coaching plans.

er results of the report. An additional practice suggested in the implementation plan description suggests coaching circles which could also improve faculty practice.

### Process Insights (F3)

The process of implementing an intervention that improves learning and persistence reflects a specific and modified application of the EDR schema. Applying the schema to the actual events, as depicted in Figures 3 and 4, demonstrates the importance of integrating each step and testing the way forward while addressing stakeholder wants and needs. Reflecting on this project through the lens of EDR generates the following insights that could contribute to similar efforts.

- Engaging key stakeholders up front helped set the project on a widely approved path. While not evident in the schema of Figure 2, not having agreement from others when the goal is to implement an intervention, dooms a project to failure.
- Continuous experiential data collection and feedback helped the authors make better decisions. The tests of an EDR-based project provide answers to key questions. Numerous design decisions and insights came from designers supporting their intervention and learning from the interaction with stakeholders.

Explicit representation of tests to support transition decisions is recommended as a contribution to the EDR approach.

- Starting modestly allows the approach to get worked out. It parallels the agile product development strategy of beginning a project with a minimum-viable-product, allowing for quicker piloting and learning before over-committing resources that will be needed later (Pilcher, 2010).
- The authors kept key documents that supported the representation of the project as EDR. Other information lived inside emails between team members. Keeping journals during the project allows personal thoughts to be captured and revisited without relying on memory. The practice of journaling and periodic reflection will become a standard practice of the project to enhance the quality of grounded reflection.
- Being open to change of the original concept based on new information, observed problems, and test results is required for success. An example is when the seven principles of learning and persistence were incorporated into ROCK-SOLID to achieve broader results.
- Having a grand purpose while operating in the details keeps a project true to its objective and prevents suc-

cess from devolving into simply launching a course or other less meaningful goal. Ottingen found this to be true with individuals, and the authors found it to be especially true when compared to the time and resources required for large change. This same purpose frames the “doing the right thing” portion of stakeholders’ compelling reasons for change. Alignment of purpose with the leaders’ purpose helps maintain support for the project. Managing expectations with frequent communication keeps the project energy alive for stakeholders. Showing maximal impact could lock in that support.

### Future Research

While FACDEV 112 has been scaled to almost 2,000 faculty completions, the parent project is not complete. Only multiple subprojects are complete and guide future planning. UMGC’s office of academic research has evaluated the early impact of the initiative (Patch, 2022). The most positive result of this evaluation has been the uptake of most coaching practices, with the exception of self-coaching. The other results from the report show a need to better understand the post-FacDev112 environment, the self-development of coaching, and to prioritize incentives and actions to reduce barriers. Encouraging self-coaching will become a focus in on-going support of completers.

More effort into analyzing the practice and results of coaching could also yield additional insights into the theory of coaching, what works better, and what is less effective. The impacts from differing subjects, course design, and even learning models need teasing out.

Finally, if other institutions approach improving learning and persistence through adoption of coaching, then comparative research with what has been done at UMGC will produce insights on implementing large scale, meaningful change.

### Conclusion

The research-based practices of educational coaching and the seven principles of learning and persistence were creatively synthesized into the ROCK-SOLID Coaching Method. Using EDR, the team incrementally explored meeting the institutions’, learners’ and faculty’s needs for improved learning and persistence. The project requires a long-term, transformational approach to reach its full benefit, and early results are encouraging.

The investigation shows the importance of building on research, testing it in the real-world through many iterations, measuring the results, learning from them, and implementing needed improvements. The documented approach with insights and examples is offered as a guide to future work on the project and to others.

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