

Scaling the Summit Together: Holding Effective Cohort Summits for an NSF EPIIC Grant

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Abstract

In 2023, Kettering University, University of the Incarnate Word, University of Northern Colorado, and Western Carolina University formed the Enabling Meaningful External Research Growth in Emergent Technologies (EMERGE) cohort under the inaugural EPIIC program. One of the cohort's joint activities has been a cohort summit, which has rotated among the institutions. The summit has featured elements that were similar during the four summits, but there were also variations as the grant progressed and the needs of the cohort evolved. In this paper, we discuss the different elements of the summit, why they were chosen, best practices, and the effectiveness of hosting these summits. Theoretical models of team development are also used to better understand the summits' impact, and emergent benefits and unforeseen pivots are discussed, which allowed the cohort to adapt and take advantage of new opportunities. The paper will provide recommendations for other institutions interested in hosting a similar summit model with the goal of maximizing the team's time in collaborative activities.

Introduction

The EMERGE cohort was initially formed in 2023, as part of the pre-proposal process for the NSF Enabling Partnerships to Increase Innovation Capacity (EPIIC) grant. Part of the cohort formation process set out by NSF involved a series of workshops over Zoom, followed by a multi-day in-person meeting. The cohort found that the in-person meeting had a great deal of value in promoting cohesion, and set the stage for writing a successful collaborative grant proposal. Based on this, the cohort determined that one of the joint activities included in the project would be regular in-person meetings, termed summits. A broad scope of the cohort activities and the value of the cohort itself were discussed in [1]; in this paper, we discuss the summits in more depth, setting forth the activities themselves and the way in which they were helpful.

Team Development Models

The following team theories and frameworks are relevant in explaining and providing meaning to the emergence and development of the NSF EMERGE cohort; Tuckman's Stage Model [2, 3], Gershick's Punctuated Equilibrium Model [4], Hackman's Enabling Conditions Model [5], and Swift Trust Theory [6]. Teams go through five sequential stages: forming (orientation and

dependency), storming (conflict and resistance), norming (cohesion development), performing (functional role attainment), and adjourning (disengagement). The EMERGE cohort has transitioned through the stages to become a high performing team with clear roles and goal attainment. Although there has been a change of one member, this has not caused disruptions in the team development process as hypothesized by Tuckman. Gersick's Punctuated Equilibrium Model (1988) challenges the linear assumption, proposing that teams alternate between periods of relative calm and change. Teams establish behavioral patterns early and maintain them until a midpoint transition triggers fundamental reassessment of approaches. This model proves particularly relevant for time-bounded project teams with defined deliverables. This may be relevant to the cohort considering academic and NSF calendars that have tended to trigger heightened activity and robust discussions and review, followed by extended periods of relative calm. Some of the conditions suggested by Hackman [5] are relevant and applicable in COHORT NAME REDACTED FOR REVIEW. Hackman identifies five conditions essential for team effectiveness: clear boundaries, a compelling direction, enabling structure with appropriate task design, supportive organizational context, and access to expert coaching. To some extent, each of the five conditions is relevant and instrumental to the effective functioning of EMERGE. Swift Trust Theory [6] is typically associated with professional teams such as medical teams in surgery units, professional sports. Temporary teams can achieve functional trust quickly through professionalism, categorical assumptions, and role-based expectations rather than interpersonal history. This is relevant in the inception of COHORT NAME REDACTED FOR REVIEW that did not have the luxury of investing months in building relational trust before performing. Lencioni's model [7] identifies absence of trust as the foundational dysfunction preventing team effectiveness, cascading into fear of conflict, lack of commitment, avoidance of accountability, and inattention to results. A related concept of psychological safety is relevant. This requires intentional design such as shared protocols for communication, explicit norms for constructive disagreement, and visible measures of accountability.

For consortia such as NSF EPIIC, these models bring to light some pertinent issues. There may be a need to prolong forming stages due to geographic distribution, differing institutional cultures, and varied workload/reward structures. Gersick's punctuated equilibrium model suggests that consortium teams may require deliberate intervention at project midpoints to reassess collaboration structures rather than waiting for natural transition. Annual NSF workshops and summits provide opportunities for such interventions. Hackman's framework highlights that multi-institutional teams require explicit attention to boundary management with clarity on who constitutes the core team versus extended stakeholders, and create supportive contexts when participants answer to different institutional authorities. It appears the inclusion of college deans has helped manage institutional issues by providing an advocate who can implement policy changes.

Structure of Summits

To date, the cohort has held three of the four planned summits, rotating among the universities. The first summit was hosted in a major urban area (San Antonio, Texas), on the campus of the cohort's lead institution, University of the Incarnate Word, in April of 2024. The second summit was hosted in a more rural area (Greeley, Colorado) in March of 2025, on the campus of the

University of Northern Colorado, and the third was hosted by Kettering University in the small city of Flint, Michigan in September of 2025. The fourth and final summit will be hosted by Western Carolina University in western North Carolina in Fall 2026. Participants in the summits included at least one representative from each of the four universities, often more, and an evaluator from our external evaluation service. Each summit was a two-day event, ending at lunchtime on the second day, although optional activities could be scheduled in the afternoon on that day.

All of the summits had several common elements.

- Updates from each university on progress and activities
- Updates from the evaluator
- Opportunities to meet leaders from the host university
- Discussion of future plans for the cohort

In addition, there were some activities that were common to two of the three summits.

- Discussion of dissemination opportunities (e.g., papers and presentations)
- Discussion of the cohort's website

Each summit also had unique features, either based on where the cohort was in the overall grant timeline or based on the campus and its activities.

- Summit #1 featured a presentation by a consulting company, a review of the proposal timeline and deliverables, and a tour of the PI's lab space.
- Summit #2 featured a Faculty Pitch Event and Innovation Talks, as well as a high school student pitch contest that cohort members helped judge.
- Summit #3 featured a tour of the university's automotive test track, innovation discussions with local leaders in entrepreneurship, and a tour of the university's FIRST Robotics Community Center.

In addition to these features, the cohort members had informal discussions over meals; for each summit, those who arrived early enough on the preceding day gathered for dinner. Breakfast and lunch were provided for both days of the summit, as was dinner on the first day, providing additional opportunities for networking.

In formulating the agenda for each summit, the host institution solicited feedback from the other three institutions. It was decided early on that one key feature would be to include the external evaluator or a representative of the firm, in order to ensure that evaluation was used for continuous improvement and not simply seen as a check-box that had to be done. It was also decided that each university would be allocated time to present on their own activities, as well as holding discussions on what the cohort as a whole was doing. Furthermore, the opportunity to meet leaders from the host university was important; it both gave leadership a deeper knowledge of what the EPIIC grant was about, and gave the guests additional perspectives on the host university and its priorities.

It was also decided that each university would highlight some of its unique characteristics, which would provide a deeper understanding of its institutional context. The exact choice of what to highlight was left to the host university, based on what they felt would best showcase their campus and what the other cohort members would most likely be interested in.

A number of lessons were incorporated into the summits. The first lesson in the inaugural summit was the need to allow sufficient time for each university to present their information and hold discussions. The schedule had to be shifted to allow for the large number of questions and extensive discussions that occurred when each university had their turn to speak. Another key lesson was the importance of balancing structured versus unstructured networking time. The amount of time available for informal discussions varied somewhat for each summit, but the provision of some time to talk without a specific agenda was preserved in all of the summits. It was also found that meeting with higher level administrators at the host university was valuable, as it reinforced the importance of the work being done under the grant.

One element of summit planning that was extremely valuable was the ability to leverage appropriate staff support. As each of the PIs has significant teaching, research, and service responsibilities, their time to reserve rooms, choose menus, and test AV equipment was limited. Utilizing staff members to handle event logistics allowed the PI hosting the summit to focus on the agenda and other intellectual content of the event, increasing their effectiveness. Faculty who are planning or contemplating similar events are encouraged to identify their internal staff members who handle event planning and work with them to ensure that logistics are handled quickly and smoothly.

Benefits of the Summits

While the cohort held frequent virtual meetings, the faculty from the four institutions felt that in person meetings were also highly beneficial. There were some tangible benefits that came out of the summits, such as a clear website strategy or a direction for future work; however, many of the benefits were less tangible. Aligning with the literature on teams, it is generally acknowledged by the cohort that in-person meetings have been essential for norming, that is, forming a cohesive team. This cohesion has produced a level of comfort that has allowed team members to be comfortable exchanging ideas and has given a better interpersonal understanding that has enhanced virtual meetings. The connections formed by the faculty at the various institutions have allowed them to effectively draw on each other's expertise; the project evaluator noted, in the second year report, that "In a few interviews, participants used the phrase 'inspired by my cohort colleagues' to describe how they felt when pursued a new direction in their strategy for community engagement or partnership connections." [8]

Conclusion

Overall, the cohort members felt that in-person summits were helpful in building relationships, establishing cohesion among the team, and giving the team the time and space for deeper conversations on important topics. Furthermore, by visiting each others' campuses, everyone gained a greater appreciation for the unique contexts of the partner universities in the cohort. The



(a) Participants in Inaugural Cohort Summit



(b) Participants in Third Cohort Summit

Figure 1: Summit Participants

inclusion of some standard elements in each summit, as well as some that were customized to the university, resulted in an experience that the attendees felt was time well spent.

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