BOARD # 464: United We Achieve: Mutual Support Provided by a Cohort of Institutions under the NSF EPIIC Program

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Abstract

In 2023, the four institutions of Kettering University, University of Northern Colorado, University of the Incarnate Word, and Western Carolina University formed the Enabling Meaningful External Research Growth in Emergent Technologies (EMERGE) cohort under the inaugural Enabling Partnerships to Increase Innovation Capacity (EPIIC) program. Each institution in the cohort had its own plans and activities; however, the cohort also had a set of joint activities, and was encouraged under the program to provide mutual support and assistance to each other. In this paper, we set forth the goals for the cohort activities, discuss the success of the year one cohort activities, and indicate what additional benefits the cohort provided that were not planned in the grant proposal. Recommendations are provided for other institutions that may want to form similar cohorts, under this program or others.

Introduction

The concept of a "cohort" is well-established, with mention of cohorts of various types appearing in literature for quite some time. One such mention by Rosow, as far back as 1978 [1], discussed the nature and purpose of cohorts in a broad sense. Cohorts can emerge naturally, as noted in [2], or they may be consciously constructed, as when they are integrated into an educational setting for students (e.g., [3]). While the term "cohort" has often been used to refer to groups of individuals, the term has also been used to refer to collections of institutions in some contexts. As an example, when a grant program at the National Science Foundation (NSF) gives out a set of awards at particular points in time, the group who all received their awards at the same time is sometimes described as a cohort, as in [4]. The connections between members of the cohort in this context may be weaker than in some other contexts, although the NSF often has annual meetings for Principal Investigators (PIs) of these grants, which does provide some opportunity for the project teams at those institutions to interact with one another.

Cohorts can have a number of benefits. They are often established to provide mutual support, either of individuals or of institutions. In [5], collaboration among institutions is examined, emphasizing the use of resource pooling and taking advantage of shared strengths and collective capacity. Another study, focused on a clustering of schools into cohorts for professional development purposes [6], showed that trusting relationships were important, with both formal and informal relationships developing and leading to increased collaboration. In a cohort of

individuals, specifically students, the study described in [7] showed that strong networks formed among participants. It did, however, note that cohorts could be negative in some cases; as a study participant indicated, "A successful cohort is energy building. A lousy cohort dynamic is actually damaging" [7].

Cohort Formation

In 2022, NSF put forth a call for preliminary proposals for institutions that wanted to submit grant proposals to the EPIIC program. Those institutions that were chosen to move forward from this stage participated in a series of online (Zoom) workshops, featuring both speakers and opportunities to meet the teams from other institutions. Some of these Zoom networking sessions were structured based on some kind of commonality between institutions, while others were more free-form and allowed for opportunities to go between various Zoom rooms and talk to any other institution of interest. The colleges and universities also were assigned questions to answer in shared documents, further allowing them to learn about each other. This process culminated in a multi-day in-person workshop, in which institutions were to finalize their cohorts and begin working on their full grant proposals.

In this context, the purpose of the cohorts was to provide mutual support and assistance to each other. Each institution was to put forth their own individual project plan for the grant, but they were also to formulate cohort activities that would be carried out during the three-year period of the grant. In the specific case presented in this paper, the four institutions of Kettering University, University of Northern Colorado, University of the Incarnate Word, and Western Carolina University formed a cohort titled Enabling Meaningful External Research Growth in Emergent Technologies (EMERGE).

Planned Activities

As part of the proposal, the cohort outlined several shared activities. These fell into the broad areas of brand development and marketing, exchanging best practices and professional development, sharing access to resources, and project evaluation. As some of these activities required budgetary commitments, it was necessary to decide how the financial aspects of these would be handled, and the cohort institutions decided to divide up the financial commitments so that no more than two institutions would need to allocate budget for any one item, in order to simplify budgeting and accounting. The cohort scheduled monthly meetings for the PI's, as well as a larger monthly meeting for the entire project team from each institution, in order to facilitate communication and carry out some of these activities. In formulating the cohort plans, a decision process was established for any changes or additional activities that the cohort might want to consider. This process allows for the possibility of disagreement among the PI's; in practice, such disagreements have not arisen to date.

Brand Development and Marketing

As part of the cohort's brand development, a joint website was developed for the cohort. The website was developed by an external company, in order to avoid any possible issues with a single

institution hosting it, with the development process drawing on input from all of the institutions. The website developer held Zoom meetings with the entire cohort, with specific guiding questions used to elicit information about what the brand should capture, and also gathered written feedback from all of the institutions. When needed, discussions of the website and branding were included in PI meetings and cohort meetings. As the website development and maintenance costs were shared between two of the institutions, each of those institutions had one member of their team who was primarily responsible for working with the vendor. The website has been launched, and is available at a URL that will be listed in the final paper. The website has been launched, with the URL https://partnerwithemerge.com/.

Exchanging Best Practices and Professional Development

Each institution committed to share its own best practices and unique resources; in the first year of the grant, this was mainly done through the in person summit described below. However, as the second year of the grant began, this was also incorporated into the monthly cohort meetings. Kettering University presented a session on its co-operative education program in one of the monthly Zoom meetings; this session was given by the director of the program, and then the other cohort members had an opportunity to ask questions as they examined how elements of that program could be useful at their own universities. The cohort also hosted a speaker on the NSF I-Corps program. After the presentation, cohort members had the chance to follow up with specific questions on how I-Corps could fit into their own plans under the EPIIC grant.

Shared Access to Resources

In carrying out individual activities, the institutions in the cohort shared information with others. As an example, when University of Northern Colorado held their Innovation Talks, they live-streamed them, allowing the other institutions to attend virtually. Kettering University recorded the keynote address and panels at their Industry Research Summit, making them available to other institutions via a private YouTube channel. University of the Incarnate Word, in their search for an appropriate consultant for some of their activities, invited the consulting firm they were working with to present at the cohort's annual summit.

Project Evaluation

A single evaluator was selected to work with all of the institutions in the cohort, and to evaluate their individual activities as well as the cohort activities. The evaluator, or a representative, attended all cohort meetings as well as the cohort's in person summit; he also conducted interviews with key personnel from all of the institutions, and provided a report. The evaluator was included in the budget of one of the institutions, and that institution (also the lead institution for the collaborative grant) also served as the primary contact for the evaluator.

After the first year of the grant, the evaluator provided a report to the cohort, and will be discussing it in a future cohort meeting. In this report [8], the fidelity of implementation was examined, and it was found that the cohort had accomplished many of its goals, and all the universities had implemented some Year 1 activities. It was also stated that the monthly meetings advance cohesion for the cohort.

Cohort Summit

The first of four cohort summits was hosted by the lead institution, University of the Incarnate Word. Each of the institutions in the cohort sent at least two of their team members to this event. The event covered a day and a half, and coincided with a major social and cultural event in the host city. This allowed all of the institutions to gain a deeper understanding of the context in which that institution operated. The first day of the summit began with a welcome by the provost of the host institution, followed by a review of the timeline and deliverables for the grant, information sharing, input and discussion on the website, lunch, evaluation and assessment status, status review for each university, a presentation by a consulting company, campus and lab tour, and a networking dinner. The second day began with a follow up from Day 1, then featured planning for Year 2, a discussion of dissemination activities for Year 2, review of action items, wrap-up, and then lunch before adjourning to travel. As a result of the summit, the institutions in the cohort had a clear set of objectives for the second year, and discussed a number of possible dissemination avenues, including this ASEE paper.

Additional Opportunities

In addition to the planned activities, there were several ways in which the members of the cohort supported each other. These included:

- Exchanging information about other grants that the institutions had received that cohort partners were interested in applying for;

- Co-authorship of a paper based on mutual interests (outreach events) not related to the EPIIC grant;

- Agreement to serve as a reference for an individual in the cohort to pursue Professional Engineering (P.E.) licensure;

- Supplying a letter of recommendation for an individual's promotion package;

- Two institutions' football teams, coincidentally, competed against each other for the first time, and allowed the co-PIs to visit in an informal setting.

These items grew naturally out of informal discussions and community-building. This aligns with some of the observations in the literature, specifically [6], indicating that informal connections were a valuable part of cohorts.

Discussion and Conclusion

One of the most significant elements in the success of the cohort is in the strong ties that have been built among the institutions. As noted in [7], a "lousy cohort" is worse than no cohort at all, while a successful cohort is energizing. The EMERGE cohort has been able to build strong ties, which has allowed it to become a successful, energizing cohort. The combination of monthly virtual meetings along with yearly in-person meetings has allowed the four institutions to become closer as a team due to the shared experiences of EPIIC. One positive outcome has been learning about the different institutions and their unique missions, opportunities, and challenges. As the

grant progresses, the cohort is already talking about ways in which the institutions can continue to work together. A key benefit of the cohort model is collective learning during the process. Cohort members can share implementation tactics and make adjustments to individual project goals as they move along. Finally, the cohort members have been able to initiate conversations regarding sustaining initiatives and funding sources at the expiration of the grant period. NSF offers complementary funding opportunities. The other option is to institutionalize certain resources, including permanent positions and other budget items.

A variety of institutions may find benefit in structuring a cohort in a similar fashion to the EMERGE cohort; in some cases, they may be able to do this in the context of a funded project such as the EPIIC program. However, such a program requirement is not necessarily the only way to do so. Institutions could collaborate on funded projects, from NSF or other agencies, where it is allowed but not required; it may also be feasible for some institutions to establish Memorandums of Understanding (MOUs) with other institutions in order to work with them. In order to make such a cohort model effective, institutions should plan to establish a set of goals and activities, agree on how the financial aspects will be structured, and most importantly, put in the time and effort to build strong, trusting relationships and connections among the individuals and institutions involved.

Acknowledgments

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