AC 2011-1487: WORK-IN-PROGRESS: USING SOCIAL MEDIA TO BUILD AND GROW AN ENGINEERING COMMUNITY ON A SMALL CAMPUS

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Abstract

Building a strong community among undergraduate students, faculty, and program alumni is one of the important factors determining the success of an undergraduate engineering program. As part of this community, maintaining a connection with program alumni is vital for assessing the achievement of the program educational objectives. Even with a small engineering program such as our Mechanical Engineering program, establishing an engineering community can be complicated due to factors such as the very diverse student population, and the lack of an alumni association in the school. Many of the students in our program work full time, and most are part time students. The students go through the program as non-cohort groups, making information dissemination more difficult. This paper focuses on the use of social media including Facebook and LinkedIn in creating and growing our engineering community. While Facebook is more popular with the younger population of students, and used mostly for social type of activities and discussions, LinkedIn is the preponderant medium for program alumni, as well as more mature students who are in professional positions and desire to widen their networks. We are also using these media in combination with more traditional activities such as student chapters of professional societies. The paper will discuss features and statistics, and draw initial conclusions on the effectiveness of the above media in growing our engineering community. Future plans and recommendations will also be outlined.

Introduction

A majority of college students today belong to what is called the "millennial generation", meaning those born during 1981 - 2000. Several books[1] have described key characteristics of this generation, such as being very much at ease with using computers and mobile devices, and staying connected to each other in the virtual world almost 24/7. Taking these into account, it is natural that colleges and universities have intensified their efforts to better reach their current and future students as well as their graduates through social media. Numerous paper presented at ASEE Conferences in recent years describe such efforts, for example the use of social networking technologies by faculty and students with the goal of increasing student engagement in the learning process[2], using social media to attempt to find women alumni of engineering programs who were not in contact with faculty[3], and using Facebook to connect with program alumni[4].

Baker College has had a bachelor degree program in Mechanical Engineering (ME) since 1996. The program core classes are offered in an evening-only format. Most of our students are part-time students. Many work in either full-time or part-time jobs while pursuing their degree. As our campus wide average student age is approximately 28 to 29 years old it is easy to see that some of the ME students may also have families and other outside requirements demanding their time. All this tends towards reducing the amount of potential interaction between peers and with faculty of the program.

So the question arises "How can we, as a college, more easily (and hopefully better) interact with our students?" One possible mechanism is via social media offerings which have been rapidly adopted by people of all ages.

A second question is "How can we, as a college, use some application to strengthen and grow our program population?" The corollary to this is "How can we be more inclusive and collaborative with our student body?"

There are many applications of social media such as Facebook, MySpace, LinkedIn, Plaxo, Google Buzz, etc. Looking at the population of members it would appear that there are at least two categories into which these offerings fall. Some, like LinkedIn, tend to a more professional or networking leaning and, at least to the authors view, tend to attract and promote a more businesslike clientele. MySpace and Facebook on the other hand, are less of a strictly business nature and appear to be more flexible for given personalities, and fun, if you will, tends to be ubiquitous.

Our approach was to create a Facebook group for ME students, alumni, and faculty, and a second group in LinkedIn for alumni and faculty.

Facebook and LinkedIn groups features

The Facebook group was created in March 2009 with a small number of students joining and a few of the faculty. Currently there are 31 members, three of which are faculty. This is in a program which has fewer than 100 students currently enrolled. It is set up as a private, invitation only group for security and privacy.
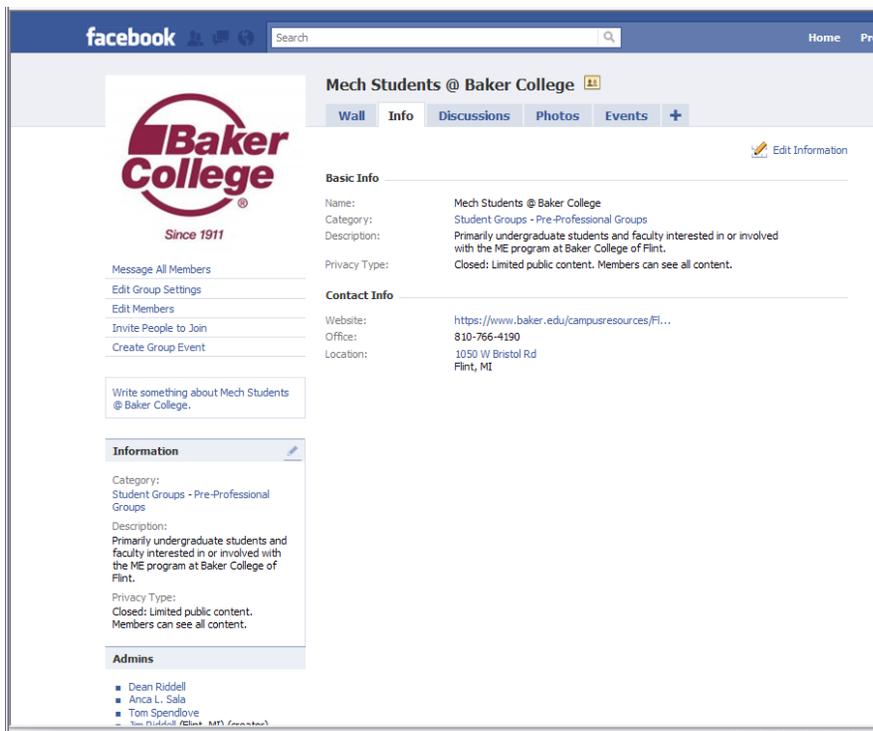
Fig. 1 Baker College Mechanical Engineering Group on Facebook.

The LinkedIn group – Baker College Engineering Alumni – started in 2009. The group has currently 18 members, 15 of which are program alumni, and three are faculty. Altogether this group totals more than 1,000 connections, providing group members with a vast network of professional contacts. Discussions are posted regularly on the website. One less traditional use of the group planned by faculty will be sending alumni surveys about the Program Educational Objectives in support of our ABET-EAC goals[5]. As Baker College currently does not have an alumni association much less a group specifically for Mechanical Engineering graduates, the LinkedIn group serves as a means to keep connected to the program alumni.
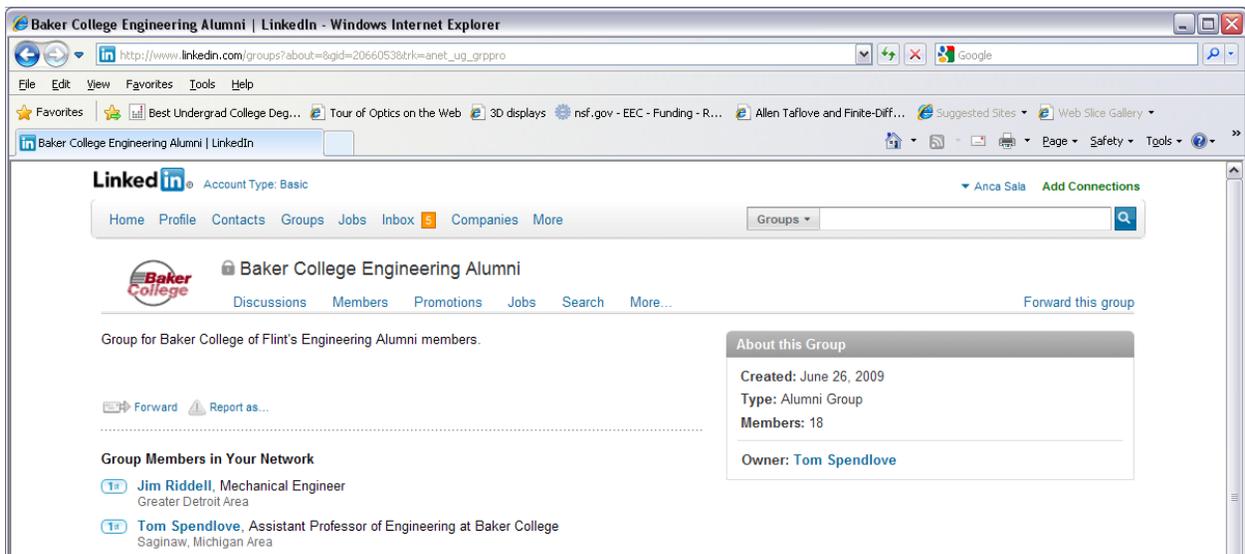
Fig. 2 Baker College Engineering Alumni Group on LinkedIn.

Why do this?

We want to properly advise our engineering students. With online registration available to students they do not always avail themselves of the opportunity to meet with faculty advisors. We want to connect with our students. Fostering an environment of help, information and direction may lead to more successful academic achievement and persistence in the engineering program.

This is also an opportunity for the Baker College Student Chapter of ASME (American Society of Mechanical Engineers) to communicate directly with like-minded students for recruitment and supply information on meetings, events and tours.

General information can be communicated via this medium. As some alumni have kept membership in the Facebook group there is an opportunity to share information across the graduation-gap. Discussions are posted with potential job and co-op opportunities, career information and scheduling of Fundamentals of Engineering (FE) exam review sessions. This is also an excellent forum for garnering some information on opinions of topics in the program outside the normal channels of student surveys.

Professional societies (ASME, SAE, etc.) have their own social/professional models of groups and there are subsets found on both Facebook and LinkedIn but they don't have the tie-in to our institution and students. These systems have many of the plusses and minuses but again, they require an additional sign in and membership.

Pros and cons

There is a danger and possible 'turn-off' with the dean and faculty being members of the group. This may limit some students joining. Nobody wants the dean watching what they say or post. We did not do a pre-survey per se, conversation was held between some of the student body and the faculty of the program. This may have led to a less effective deployment. It was felt better to have done something than to sit back and wait for more data. In retrospect it would likely be more widely acceptable if the group originator were a less potentially threatening figure than the dean or department chair. We should also publicize that joining doesn't mean that one must 'friend' those who the student may find intimidating yet still have access to the information.

Another downside is that some students do not have Facebook accounts and do not desire to join yet another online group. This is also true of any online media including some prevalent in higher education such as Blackboard. This is yet one more log in to be checked frequently. Some students do not have easy access in any case with limited internet access at work and family obligations when not studying or in class.

Some of the upside benefits are the ability to contact all members without setting up an email list, distribute meeting information and get quick reactions along with posting fun things such as a photo of the graduating class. It is an opportunity for students to link with fellow classmates and share experience if desired. If a user sets their account up to receive SMS or email notices, communication can be simplified. Potentially, the application can be monitored and utilized on a smart phone.

Inherent in any such system is the danger of abuse and questions about security and privacy. These must be taken seriously and monitored continually. This is an opportunity to educate our students on the best practices of such social media. Employers currently search Facebook pages of potential employees looking for certain traits. Unknowingly, a student could be self-sabotaging themselves. Oversight and non-judgmental guidance is imperative.

Conclusions

The paper describes the current work in progress taking place in our Mechanical Engineering department in the area of using social media to create and strengthen a community of engineering students, alumni, and faculty. So far we have not done a formal assessment of the effectiveness of these media to achieve the goals stated, but we have observed informally how the groups have grown since they were created two years ago. Assessment plans are in place for the future, in the form of surveys to new and current students to gauge their reaction to these groups. We will also send alumni in the LinkedIn group the Program Educational Objectives survey we send to alumni as part of the ABET accreditation process. We would like to thank the reviewers for their valuable suggestions on how to continue developing this project.

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