

## Teachingwithrobots.com proposal

Leonard Sheehy

New Jersey City University

This paper describes the design process used to create an online community that focuses on teachers implementing robots as a teaching tool. Members of this community will seek technical support, perform research, provide assistance to others, share new discoveries, and become informed about events. Teaching with robots was chosen as the subject of this community because using robotics is new to education. Educational robotics is in early stages of development, therefore few resources are available to curriculum designers, administrators and teachers exists. Limited resources place teachers in the position of creating their own content which can lead to inconsistencies in curriculum. For this paper, a community of practice where members possess a shared interest was established using a website called [www.teachingwithrobots.com](http://www.teachingwithrobots.com). The technology developed for this website will allow educators to learn together through meaningful conversation which Wedger et al. state provides a valuable viewpoint on the communal features of technology (Wenger et al, 2009). This community will expose members to a variety of tools that will improve their use of robotics in the classroom as a manipulative in other subject areas.

The first design element taken into consideration was the domain name. [www.teachingwithrobots.com](http://www.teachingwithrobots.com) was chosen so web users can easily find the site. In her book *E-loyalty: How to keep customers coming back to your website*, Smith says that in order to obtain loyal visitors to a website the interaction between the user and the technology should be as efficient as possible (Smith, 2000). By including the purpose of the community in the website name it becomes easier for users to remember and access the address on the World Wide Web. Originally a different name was implemented: [www.teachwithrobots.com](http://www.teachwithrobots.com). Later, [www.teachingwithrobots.com](http://www.teachingwithrobots.com) was added because at a conference the researcher engaged in conversation with an educator about robotics in education. During the discussion she repeated the website as [teachingwithrobots.com](http://teachingwithrobots.com). The researcher decided that having both addresses would be more inclusive and in turn increase the number of individuals visiting the site (A. Su, personal communication, March 23, 2016). At this time both addresses access the same site.

Part of the design process was to view other sites to gain exposure to possible strategic alternatives. A review of [www.mpdsupport.org](http://www.mpdsupport.org) was conducted. This community provides support to people suffering from Myeloproliferative Disease ([mpdsupport.org](http://mpdsupport.org), 2016). There was little information for visitors that had not registered. In contrast, [teachingwithrobots.com](http://teachingwithrobots.com) has content for educators without requiring registration. The reasoning for this decision is that visitors will become motivated through exposure to personally relevant content to become members after viewing information that they believe will improve their quality of teaching with robotics.

A review of another website, [education.lego.com](http://education.lego.com), revealed a different design strategy. The Lego site provided a variety of merchandise including robot kits and curricula for sale. The site listed long descriptions of the materials they offer, however the amount of information was

overwhelming (Effective teaching solutions for middle school, 2016). For this reason the architecture of [www.teachingwithrobots](http://www.teachingwithrobots.com) is set up to be simple and easy to navigate. Lesson ideas are be accessed effortlessly and creating blog entries is not complicated.

Millington, in his book *Buzzing communities: How to build bigger, better, and more active online communities* suggests recruiting new members by opening discussions on subjects that potential members are interested (Millington, 2012). He also states that members should be prompted to participate in discussions by email or direct conversation. To facilitate this dialog, a blog linked directly from the [www.teachingwithrobots.com](http://www.teachingwithrobots.com) website was created. The goal, according to Millington, is to get members into the practice of frequently visiting the community to see responses to their own posts (Millington, p. 24 2012). He lists four stages of the community life cycle as: inception, establishment, maturity and mitosis. Design strategies are implemented in the inception stage. Inception strategy can be broken into five steps: data collection, analysis of data, establishment of goals, creation of an action plan, and accountability (Millington, p. 22, 2012).

Data collection was conducted to determine the number of communities existing today that support the use robotics as a manipulative in education. The results determined that manufacturers of robotics products including Lego and VEX had websites that support the use of their products in curriculum, however none existed that had been developed by educators themselves. Analysis of this data determined that a need for this type of community exists. An action plan that consisted of a list of the content items that should be included on a website supporting the use of robotics by teachers was created. This list is comprised of lesson plans, a blog to get members active and an inventory of events that members would find interesting.

Aabaco, the website host, provides data that will influence continued decision making about the design of the site and its functions. The data provides a count of the number of live users on the site and where they had linked from. Knowing where the user had been previously is important because it provides information how the user came to know about [www.teachingwithrobots.com](http://www.teachingwithrobots.com). This will allow increased exposure to the site because marketing can be focused on the visitor's place of origin. The service also informs on the type of sites people link from and the keywords they used to find [teachingwithrobots.com](http://teachingwithrobots.com). It places data into categories that include social, search, shopping, Pinterest, or other. This data is helpful because it can assist in the direction of an advertising campaign. Aabaco also breaks down traffic of the site by the days of the week, time of day, state, and country.

Qualitative data is provided to the webmaster daily by feedback from bloggers. Members are encouraged to provide suggestions and comment on ways to improve the community. Active dialog will provide information on the status of the user experience with [teachingwithrobots.com](http://teachingwithrobots.com).

The prototype for this project can be found at [www.teachingwithrobots.com](http://www.teachingwithrobots.com).

## References

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