

Characteristics of Agricultural Literacy Database Users

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Introduction

The National Agriculture in the Classroom Organization works to increase agricultural literacy by providing educators with agriculture-based lessons addressing educational standards in science, social studies, math, language arts, and nutrition (NAITCO, 2020). One way this is accomplished is through the National Agricultural Literacy Curriculum Matrix, a database of 467 K-12 lessons meeting the organization's mission. Launched in 2014, this database includes a free MyBinder feature, where users may set up a profile to save favorite lessons for future use (Spielmaker, 2015). When creating this voluntary account, a user is required to provide their name, state, email, educational role, and grade/content area affiliation. Knowing more about the users and their binder content will assist program leaders with information about the characteristics and types of agricultural literacy lessons educators selected for future use.

Theoretical Framework

This is exploratory descriptive research. Descriptive research seeks to gain familiarity with a subject; to observe characteristics and answer what, where, and with whom (Kramer, 1985).

Purpose

The purpose of this study was to investigate who is using the MyBinder feature and the frequency of lesson topics/titles being saved to identify any patterns. The objectives of this research were to: (1) describe the characteristics of the MyBinder users based upon their educational role, (2) identify the curriculum areas of interest among users, and (3) identify and explore patterns regarding the resources educators were saving. This research addressed the American Association for Agricultural Education National Research Agenda Priority 1 concerning programs of agricultural education. (Roberts & Brashears, 2016).

Methodology

This descriptive research used MyBinder data collected by the National Agriculture in the Classroom Organization (NAITCO) on the agclassroom.org website. The data was provided to the researcher in a CSV file. The voluntary sign-up requires users to enter their name, email, location (state or province) educator role (Administrator/Curriculum Professional, Elementary Teacher, Middle School Teacher, High School Teacher, Post-Secondary Teacher, Volunteer or Other), and curricular area of interest: Elementary (Pre-K-2), Elementary (3-5), Middle School (6-8) Science, Middle School (6-8) Career and Technical Education, Middle School (6-8) History and Geography, High School (9-12) Science, High School (9-12) Career and Technical Education, High School (9-12) History and Geography or Other. In addition to this information, the site securely stores the lesson plan titles saved by each user along with the date of their last login. This data was sorted, summed, and compared using Microsoft Excel. All objectives were analyzed using frequency counts. Categorical percentages were calculated to aid in pattern analysis.

Results

Since 2014, 5,054 MyBinder accounts have been created. Regarding Objective 1 all fifty states, Washington, D.C., and six Canadian provinces were represented. Formal elementary (27%) and high school (28%) educators made up the majority of users. Middle school educators made up

22% of users and the four remaining categories represented less than 10% each. However, 22% of total users selected more than one user category. The top ten states represented by number of users included: Iowa, Minnesota, New York, California, Texas, Georgia, Utah, New Mexico, Florida and Illinois. Each year had exponentially more users than previous years, with largest growth in 2018, 2019, and 2020. In 2020, there were 1,859 users who logged in at least once in the year. User behavior indicated 5,038 (99%) users were one day logins meaning the user created the account and last logged in on the same day. Objective two sought to find which content areas users were most interested in. Users indicated high school science (28%) and Career and Technical Education (27%) lessons were the most desired, followed by middle school science (16%) and high school history and geography (13%). All other content categories ranked at less than 5% each. In total 320 unique lessons were saved 3,007 times in users' binders. Though most users indicated looking for high school lessons, six of the top ten lessons saved were categorized as K-2, two as 6-8 and two as 9-12 grades. Of the top ten states by users, patterns in user behavior (objective three) indicate Iowa, Minnesota, Georgia, Utah, and New Mexico saw more elementary users whereas in New York, California, Texas and Illinois saw more high school users and Florida had an equal number of high and middle school users. User behavior indicated a high number of one day logins. When comparing the states represented in this one-day login population, the top ten states by number of one day users directly correlates to the top ten states by users listed indicated above. When aligning lessons saved to user type, elementary educator users were primarily saving elementary level lessons. However, some high school educators selected lessons across all grade levels. Users categorized as school administrators/curriculum professionals had a mix of upper and lower-level lessons in the top ten lessons saved whereas volunteer users saved more elementary level lessons.

Conclusions/Recommendations

Initial descriptive data demonstrates increased use and therefore success of NAITC's Curriculum Matrix MyBinder. The target audience, number of users, diversity of states represented, grade/content affiliation, and top lessons downloaded all support the MyBinder as a means to achieve NAITC's mission working toward increasing agricultural literacy through providing educators standards-based lessons. Based on the patterns observed, educators indicating specific grade level needs are saving those types of lessons. However, the extremely high percent of one day only logins cause for concern and signifies the need for greater promotion of the feature. This could be explained by MyBinder not being a required feature, account creation during conferences then not accessed afterward, users printing, or saving resources in other ways. National analysis of teacher website behavior indicates nearly all teachers are sourcing lessons online (Scholastic, 2013). So why are MyBinder users not returning to their binders? Future research using the Theory of Planned Behavior could address this question and answer more questions about the actual use of the instruction in classrooms, along with student agricultural literacy gains. It could be concluded the current users had a positive attitude toward and intention to use the MyBinder feature when created, meeting the first two of six criteria of the Theory of Planned Behavior (LaMorte, 2019). It is expected that then the user would return, however this is not the case. Therefore, future research should contact users to ask for further understanding of factors limiting their use of the binders including peer approval of use, factors impeding use, and perceived ease of use. Clarification could explain why the intended behavior is not happening thus influencing NAITC decision makers as to the future of the MyBinder feature.

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