

Utilizing the Agricultural Marketing Resource Center (AgMRC) Website to Increase the Critical Thinking Skills of Secondary Agricultural Education Students

Introduction & Need for Innovation

The agricultural industry is continually diversifying its efforts to adequately market to consumers (Thilmany and Watson, 2004). The need for an agriculturally-literate populace is apparent as consumers attempt to navigate their way through a myriad of food, feed, and fiber choices (Doerfert, 2011). As agricultural markets have globalized, traditional producers must understand how to adequately address issues regarding the distribution of their products in an increasingly difficult and evolving marketplace (Thilmany and Watson, 2004). This plight is not lost solely on adult producers and consumers. The forthcoming generation is facing a similar predicament: lack of awareness in and about the agricultural industry (Doerfert, 2011; Powell et al., 2008).

Historically, agricultural education teachers have attempted to teach individuals about the complex nature of the agricultural industry through school-based secondary agricultural education (Phipps et al., 2008). Agricultural education has also been utilized as the medium for the industry to reach youth and adult consumers as well as producers through a comprehensive and inclusive approach to agricultural science (Phipps et al., 2008). To help foster the development of cognitive abilities of secondary agricultural education students, the need exists for a curriculum that encourages higher-order thinking and problem-solving skills and the ability to develop and synthesize information to arrive at viable solutions to agricultural issues (Doerfert, 2011; Edwards, 2004; Thoron and Myers, 2012). Perhaps the utilization of the Agricultural Marketing Resource Center (AgMRC) website can help to bridge the gap.

The United States Department of Agriculture, in conjunction with Iowa State University, has created the AgMRC website to serve as “an electronic, national resource for producers interested in value-added agriculture” (Agricultural Marketing Resource Center, 2013a, ¶ 1). Information provided through this resource details data concerning agricultural commodities, markets, business, and more (Agricultural Marketing Resource Center, 2013a). In addition to reaching out to agricultural producers, lessons have been developed to “educate students on value-added agriculture” (Agricultural Marketing Resource Center, 2013b, ¶ 1). These lessons revolve around introductory material related to various sectors of the agricultural industry, particularly the value-added portion of the industry.

How it Works

Agricultural education teachers are able to utilize the AgMRC website to effectively teach students about alternative agricultural production practices. The website is available free-of-charge and is designed to provide entrepreneurs and students the opportunity to learn how to

start and maintain alternative agricultural production practices (Agricultural Marketing Resource Center, 2013b, ¶ 1). The AgMRC website allows entrepreneurs and students alike to successfully integrate value-added agriculture practices to an existing operation by teaching how to identify niche markets, create business plans, track market trends, and the correct production practices.

To aid in understanding the uses of the website, an orientation guideline for searching the database is provided. Teachers can use this resource to supplement classroom instruction in a given agricultural topic or commodity, ranging from business development to livestock. Currently, 110 worksheets incorporating data-seeking questions have been developed and are ready to use. Additional worksheets are being developed and added to the website regularly. Upon conclusion of the appropriate lesson, agricultural education teachers and students are able to use internet-capable technology (i.e., classroom computers, smart phones, etc.) to access the AgMRC website by going to the “AgMRC Curriculum” tab and selecting the appropriate lesson (Agricultural Marketing Resource Center, 2013b). These worksheets require students to seek out information to answer various questions pertaining to the agricultural industry. Using technological resources to create “an original product” (Krathwohl, 2002, p. 215) allows students the opportunity to perform at the highest level of Bloom’s Taxonomy.

Implications

The AgMRC website has the ability to impact the adoption of value-added production through new entrepreneurs and secondary agricultural students. The AgMRC website can have an impact on Supervised Agricultural Experience (SAE) projects by assisting both teachers and students by generating ideas and providing frameworks to set up value-added agricultural projects. Teachers can also utilize the worksheets designed to follow the commodity prices as they fluctuate. The students must monitor market occurrences and adjust their conclusions when appropriate. This unpredictability lends itself to increasing ones’ awareness of the agricultural industry’s constant state of transformation, thereby address gaps in agricultural literacy (Doerfert, 2011; Powell et al., 2008). Through constant surveillance and reporting of market activities, these worksheets emphasize higher-order cognitive abilities by providing students opportunities to enhance their knowledge of the agricultural industry by seeking out new information and forming new conclusions and answers based on the available data (Krathwohl, 2002). As these students mature into adulthood, this knowledge of the vitality and volatility of agriculture will, hopefully, remain with them as they become consumers of agricultural industry products and services.

Future Plans & Advice to Others

These worksheets provide students with a method to use technology to synthesize and create new information in accordance with Krathwohl’s (2002) research. The ease of availability of the worksheets enhances their flexibility to be used within school-based agricultural curricula. However, a challenge remains: disseminating information regarding this supplementary curriculum source to agricultural education teachers. Boone et al. (2006) found that information about new technologies in agricultural education can be effectively conveyed through the use of teacher in-service training sessions and workshops. The researchers recommend that AgMRC

workshops and teacher training be conducted at both state and national agricultural education teacher conferences to increase awareness of this effective teaching tool.

Costs

The worksheets are free-of-charge and are accessible through the AgMRC website. The worksheets were developed with secondary agricultural education teachers' needs in mind and funded by the USDA Farm Bill. All that is required to access these materials is an internet connection and internet-capable technology. Additional costs may incur if smart phone technology is utilized, as individuals would be subject to additional charges from their service providers.

References

Agricultural Marketing Resource Center. 2013a. Agricultural marketing resource center home page. <http://www.agmrc.org/>.

Agricultural Marketing Resource Center. 2013b. AgMRC special projects initiative curriculum page. <http://www.agmrc.org/curriculum/>.

Doerfert, D.L. (Ed.). 2011. National research agenda: American Association for Agricultural Education's research priority areas for 2011-2015. Lubbock, TX: Texas Tech University, Department of Agricultural Education and Communications.

Edwards, M.C. 2004. Cognitive learning, student achievement, and instructional approach in secondary agricultural education: A review of literature with implications for future research. *Journal of Vocational Education Research* 29(3): 225-244.

Boone, Jr., H.N., S.A. Gartin, D.A. Boone and J.E. Hughes. 2006. Modernizing the agricultural education curriculum: An analysis of agricultural education teachers' attitudes, knowledge, and understanding of biotechnology. *Journal of Agricultural Education* 47(1): 78-89. DOI: 10.5032/jae.2006.01078.

Krathwohl, D.R. 2002, Autumn. A revision of Bloom's taxonomy: An overview. *Theory into Practice* 41(4): 212-218. http://www.tandfonline.com/doi/pdf/10.1207/s15430421tip4104_2.

Phipps, L.J., E.W. Osborne, J.E. Dyer and A. Ball. 2008. Handbook on agricultural education in public schools. 6th ed. Clifton Park, NY: Thomson Delmar Learning.

Powell, D., D. Agnew and C. Trexler. 2008. Agricultural literacy: Clarifying a vision for practical application. *Journal of Agricultural Education* 49(1): 85-98. DOI: 10.5032/jae.2008.01085.

Thilmany, D. and P. Watson. 2004. The increasing role of direct marketing and farmers markets for western US producers. *Western Economics Forum* 3(2): 19-25. <http://ageconsearch.umn.edu/bitstream/27982/1/03020019.pdf>.

Thoron, A.C. and B.E. Myers. 2012. Effects of inquiry-based agriscience instruction on student scientific reasoning. *Journal of Agricultural Education* 53(4): 156-170. DOI: 10.5032/jae.2012.04156.

Submitted by:

Trent Wells
Southern Arkansas University
Magnolia, AR

Ryan Anderson
Texas State University
San Marcos, TX

Dustin Perry
Montana State University
Bozeman, MT

Preston Byrd
Clemson University
Clemson, SC