



WAYS OF MATERIALS DEVELOPMENT FOR AGRARIAN STUDENTS

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ABSTRACT: - Higher education agriculture teaching methods should be capable of developing students' skills in food production, accessibility, food safety, and nutrition, as well as production economics. Lectures, class debates, class projects, problem solving, and tours and field trips were all typical methods in agriculture schools, according to the findings. Digital learning was barely acknowledged as a teaching strategy in this study, although being recommended in the literature review part. We can talk about approaches to build materials for agrarian students in this essay.

KEYWORDS: Agriculture, students, materials, methods, teaching, skills, digital devices and learning system, higher education.

INTRODUCTION

In this study, agricultural teaching approaches were operationally defined as the processes or methods of attending to agriculture students' needs, experiences, and feelings both theoretically and practically, and making appropriate interventions to help them develop relevant skills for food security. Lectures, class debates, demonstrations, class experiments, problem solving, and excursions and field trips are all frequent teaching

methods in secondary schools in Uzbekistan. However, as technology advances, digital learning is becoming more popular, particularly in higher education. This study's operational definition of the relationship between agricultural teaching approaches and food security is the association between agricultural teaching pedagogies and food security.

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Empowering youths with skills has educational implications, as it may open doors to financially and socially rewarding jobs, assist in the development of small informal-sector businesses, and aid in the transition from school to work for school dropouts and graduates, resulting in the ability to secure food on an individual and community level.¹ Agriculture and other applied education disciplines are at the heart of the secondary school curriculum's practical features. Agriculture should therefore be able to build abilities in students that increase food security routes through the use of appropriate instructional methods.

Universities agricultural teachers should be able to develop necessary abilities in order to appropriately handle food security in the country. Agriculture students will be exposed to a broader system of food security management if food safety requirements are included in the curriculum. The kitchen garden approach, for example, can be utilized to promote dietary diversity while conserving limited resources through improved agricultural techniques. Food safety skills can help prevent contamination, parasite diseases, and poisonous compounds that are harmful to human life, from manufacture to preservation to preparation to consumption. Furthermore, agricultural planning and budgeting skills expose students to proper farm management procedures, which leads to enhanced production techniques and, as a result, improved societal livelihoods.

¹ UNESCO-UNEVOC, Participation in Formal Technical and Vocational Education and Training (TVET) Worldwide: An Initial Statistical Survey, UNESCO, Paris, France, 2006,Y

Applied education disciplines like agriculture, home science, business studies, computer studies, art and craft, and music are at the heart of the secondary school curriculum's practical components. Agriculture, among other elective disciplines, has the potential to create skills in students that improve food security. Students can gain skills focused toward food security both within the school and in the surrounding community by attending a university with a farm.²

Teachers in Uzbekistan's universities have been discovered to teach agriculture using a variety of pedagogical methods. Lectures, class discussions, group work and questioning, demonstrations, class projects, problem solving/guided discovery, and tours and field trips are the most popular methods used in agriculture studies. As technology progresses, especially with the new coronavirus, digital learning has made its way into school (Covid-19). However, while being the most result-oriented strategy, it has not been extensively utilized in secondary school due to its attraction to adolescents. Depending on the availability of facilities and resources as well as the state of the institution, different professors employ different methods. Instead of relying on the traditional lecture technique, activity-stimulating and student-centered approaches such as digital learning, demonstration method, class projects, tours and field trips should be embraced to capture students'

² O. W. Olowa, "Effects of the problem solving and subject matter approaches on the problem solving ability of secondary school agricultural education," Journal of Industrial Teacher Education, vol. 46, no. 1, 2009.Y

attention, interest, and curiosity and promote their performance.³

Lectures are frequently held in a classroom setting. It's also known as the talk and chalk approach or the textbook method. This style is teacher-centered, with limited involvement from students. The teacher is regarded as the repository of all knowledge, while pupils are regarded as passive recipients of knowledge given by teachers during the learning process. In agriculture, using conversations as a key teaching approach allows the teacher to develop critical thinking in the students. This method also aids the teacher in establishing a rapport with the students by displaying appreciation for their contributions and challenging them to think more deeply and clearly. Through class room discussions, a set of acquired skills that is necessary for establishing and developing interpersonal relationships such as communication skills, cooperation, emotional intelligence, and critical thinking is developed.

The teacher uses the demonstration technique to demonstrate to the students what they are expected to perform at the end of the class by showing them how to do it and describing the process step by step. Diagrams, charts, e-learning, and other illustrative materials may be used in the demonstration, which will be supported by an oral explanation. During or after the demonstration, the audience observes the procedure, listens to the explanation, and asks questions. The demonstrative method piques students' interest and comprehension, resulting in a high accomplishment rate. Machine milking, preserving fish, grafting a mango tree, and installing drip irrigation in a

³ Global Communities, Food Security & Agriculture, Global Communities, Silver Spring, MD, USA, 2018.

home garden are all examples of agricultural demonstration methods. In the context of the current study, incorporation of demonstration improves both recall and psychomotor skills when the students are allowed to repeat the same procedures either individually or in groups.

The teacher demonstrates what the students are expected to perform at the end of the lesson by teaching them how to do it and describing the process step by step. Diagrams, charts, e-learning, and other illustrative resources, as well as an oral explanation, may be used in the demonstration. During or after the demonstration, the audience watches the process, listens to the explanation, and asks questions.⁴ Students' interest and understanding are piqued by the demonstrative technique, which leads to a higher rate of achievement. Machine milking, preserving fish, grafting a mango tree, and installing drip irrigation in a home garden are just a few examples of agriculture demonstration methods.

The current study promotes class projects as a vital aspect of agricultural education since they allow students to put what they've learned in class into practice. As a result, students can apply what they've learned at school to their daily lives. Problem-solving teaching may not suit the learning style of some students in the current study because abstract learners may not recognize issues as such when presented to them. Future research may need to look into the usage of

⁴ Mwiria, Vocationalization of Secondary Education: Kenya Case Study, Researchgate, Berlin, Germany, 2002, <https://www.researchgate.net/topic/publication>.

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constructivist problem-based approaches in agriculture classes to see how they affect learning results.⁵

Adult learning can be made more appealing and realistic by including multimedia and interactive materials, which can encourage and even inspire adults to improve their skills. In terms of the kids, who are the intended future farmers, this technology can help them improve their abilities and apply them to the food sector. Videos, radio, mobile phones, and television are just a few of the information and communication technology (ICT) methods that are gaining traction in improving farmers' access to agricultural knowledge and information. Videos, in particular, have a significant potential to enhance social learning due to their social learning nature, as they integrate visual and aural features that facilitate internalization and contextualization of knowledge or information, allowing farmers to share and learn from their experiences. When used in the classroom, the social learning aspect of ICT devices can accelerate the development of agricultural skills and serve as a lure to entice adolescents to pursue careers in agriculture. The use of mobile technology in game-based learning improves the educational process' efficacy and expands students' knowledge; however, a good educational game design must strike a balance between enjoyment and instructional value.

CONCLUSION

In conclusion, computers, tablets, digital cameras, video conferencing technology, and

⁵ Umar, Lecture method of teaching, definition, advantages & disadvantages, 2012, <http://studylecturenotes.com/lecture-method-of-teaching-definition-advantages-disadvantages>

Global Positioning System (GPS) gadgets can all help students learn more effectively. Mobile technology's intuitive nature, affordability compared to other ICT devices, portability, usability, and accessibility among the youth are all elements that can make it easier for them to integrate into agriculture.

The current study stresses that the use of digital tools, particularly in secondary school agriculture, should not be overlooked while developing skills in improving food security. The primary goal of agricultural education is for students to learn the fundamental concepts of agricultural production that are relevant to a country and its environment.

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