Field Trip as an Effective Method of Teaching Apiculture/Beekeeping among University Students

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Abstract: Various methods of teaching beekeeping in the very few institutions of higher learning that offer such courses have been studied. This survey attempted to review the numerous methods of instructions applied in achieving better learning outcomes on apiculture in tertiary institutions. Secondary information were mainly used to source for data for the survey. However, interview schedules were conducted to solicit for primary data from the students on their perception on best methodology for learning the subject. Descriptive statistics and percentage score were used to analyse the involvement of institutions in instructing learners, and capture learners' perception on most preferred teaching methods of the course, respectively. Although findings indicated that a classroom lectures method, a combination of lecture and demonstration methods, field trip method, laboratory method, project methods, among others, existed as pedagogies used for ensuring that learners have had thorough understanding of the subject matter, majority of learners opted for the field trip method of teaching apiculture as the most preferred way of stimulating students toward enhanced learning outcomes. Based on the findings of the study, it's concluded that a combination of field trip and lecture methods of instruction is the most effective way of teaching beekeeping in tertiary schools. Therefore, institutions and organisations of public and private origins that intend to improve on the knowledge of apiculture among youths and all, should capture field trip and lecture methods in their curricula of learning as the most preferred way of instruction.

Keywords: Apiculture, Beekeeping, Field, Learners, Methods, Nigeria, Teaching, Trips

1. Introduction

The essence of learning is to create better individuals through capacity building in order to afford enhanced livelihoods. This is more relevant in the developing economies like Nigeria where there is a pronounced high level of illiteracy and poverty. Achieving the stated entails making use of appropriate methodology of instruction. Knapper (2008) reported that most faculty staff still mainly adheres to the traditional lecture method in teaching students of higher institutions, which has several defects in terms of effectiveness. However, authors like Bello (2011) affirmed that educationists are now beginning to

realise that certain pedagogies do not seem to create the desired effects in learners, and are craving for better options.

The above scenario therefore, necessitates for instructors to apply teaching methods that stress student activities and participation rather than being passive learning. Although Patrick (2010) endorsed field studies for science and practically-related courses/subjects, it is only imperative to attempt to assess the field trip method of teaching along other methods from the perceptions of learners, for the sake of validating or otherwise of the author's claim. Similarly, Chimoita et al. (2015) assessed the Farmer Field Schools approach (FFS) in improving tea production among smallholders in Kenya, discovered tremendous increase of green leaf per bush production from 0.8kg – 1.2kg per bush in the year 2005/2006 to 2006/2007 cropping seasons than other methods. In line with this and since beekeeping is more of a practical learning than mere theories, the title of this paper becomes handy.

It is against this backdrop that the study sought to identify number of local and foreign institutions of higher learning that offer courses in apiculture or beekeeping, identify methods used in instruction of learners, determine the most preferred method of teaching from the learners perceptions, and describe constraints associated with the preferred method of instruction of students.

2. Methodology

The study was primarily conducted in the Faculty of Agriculture, Adamawa State University, Mubi, Nigeria. However, secondary information were sourced on engagement of other higher institutions in beekeeping courses/programmes, specifically from the internet. A total of 94 final year students were purposely selected and used for the study. Questionnaire, interview and group discussions were applied in gathering primary data on students' perception. Having been taught with the various methods of instructions, students' perceptions on the most preferred way of teaching the course were sought through structured questionnaire. Similarly, Google Scholar and other search engines were employed to browse and identify higher institutions that offer courses in apiculture, and their methods of instructions observed.

Descriptive statistics and percentage score were used in analysing the data. Specifically, percentage score was applied in capturing the perception of learners on the most preferred method of teaching apiculture.

3. Results and Discussion

This section of the paper processed data into tabular form and discussed the findings and attempted to state the policy implications as these would pertain beekeeping practice in institutions of higher learning and the communities.

Table 1: Distribution of institutions based on engagement in teaching apiculture (n= 54)

Type of institution	Frequency	Teaching apiculture	Not teaching apiculture
● Indigenous	38 (70.37)	01 (1.85)	37 (68.52)
● Foreign	16 (29.63)	03 (5.56)	13 (24.07)
Total	**54 (100.00)**	**04 (7.41)**	**50 (92.59)**

Note: Figures in parentheses are percentage of total
Source: Field survey (2014).

Findings in table 1 indicate compositions of institutions teaching apiculture and those that do not. It shows that majority (92.59%) of the universities surveyed over the internet were not instructing learners on beekeeping as a course, rather conduct lectures on bees as insects in the entomology class. In other words, only 7.41% of the institutions taught apiculture courses as at the time of the survey. Of the whole tertiary schools studied 68.52% were of the indigenous; meaning resident in Nigeria, whereas 24.05% were foreign based or located outside the shores of the country. While only 5.56% of the former engaged in taking courses in beekeeping, a mere 1.87% were offering same among the indigenous schools, which is considered very negligible. This is an indication that beekeeping technology and its economic significant have not been well understood even among the enlightened international community.

The implication of the above finding is that as very few students are being trained in the aspect of apiculture, a corresponding few instructors would be inclined to pass-on the skills to re-orient the minds of rural practicing beekeepers/apiarists in the communities, or extend the improved methods to the potential apiarists. This would serve as a great setback in the effort of creating an improved world of beekeeping.

Table 2: Distribution of institutions according to methodology used in instruction of learners of apiculture (n= 54)

Type of institution	Method of instruction	Frequency
● Indigenous	Lecture/Practical	01
● Foreign	Lecture and Field studies	03
Total		**04**

Source: Field survey (2014).

Table 2 shows information on methods of instructions adopted by foreign and indigenous institutions in teaching apiculture. It could be observed from the findings that all the foreign universities surveyed were teaching using both the lecture and field study methods. Further investigations revealed that these schools have established apiaries. The only indigenous institution found teaching beekeeping used mainly lecture method, with laboratory practical.

The result above implied that for higher institutions of learning or those that intend to establish beekeeping departments for that, to effectively instruct the improved methods of the farming system, should also establish standard apiaries composed of various modern beehives for the sake of comparison, and other necessary equipment.

The perceptions of learners with regards to preferred methods of instruction on improved methods of beekeeping were sought in table 3. The findings in the latter indicate that a larger proportion (27.66%) of the students preferred a combination of lecture and field study/trip method of learning beekeeping. This is followed by purely field trip method (23.40%). A combination of lecture and demonstration method accounted for 21.28%, which is still indicating students' activities or participation.

Table 3: Percentage of perception of learners on preferred methods of instruction on apiculture (n: 54)

Method of instruction	**Frequency**	**Percentage (%)**
● Lecture	15	15.96
● Demonstration	06	6.38
● Lecture/Demonstration	22	23.40
● Field trip	20	21.28
● Lecture/Field trip	26	27.66
● Others	05	5.32
Total	**94**	**100.00**

Source: Field survey (2014).

Inferring from the results in table 3, it could be stated that learners or students in higher institutions preferred teaching methods that involved participation of individuals and discovery in general. This stemmed from the fact that, of the larger proportions of methods chosen, three were participatory in nature. The implication is that all schools that intend to establish beekeeping programmes should appropriately capture participatory activities and discovery methods in their curriculum of learning. This is further strengthen by Ajaja's (2007) concept of scientists' perception of the universe and understanding of events as embedded in field work, and Patrick and Kpangban's (2004) strong endorsement of the use of discovery method in the instruction of science-based courses.

Table 4: Constraints associated with the preferred method of instruction/field trip
(n= 54)

Constraints to method	Frequency	Percentage (%)
● Inadequacy of funds	33	61.11
● Lack of trained instructors	40	74.07
● Insufficient facilities	23	42.59
● Lack of awareness	50	92.59
● Deficiency of curriculum	26	48.15

Note: Multiple responses were recorded.
Source: Field survey (2014).

The findings in table 4 show constraints associated with the preferred method of instruction on beekeeping in schools. Lack of awareness of the improved methods of beekeeping and by extension the appropriate procedures of instruction accounted for 92.59%. This is followed by lack of trained instructors with 74.07%. Inadequacy of funds for conducting field trips recorded 61.11%. While deficiency of curriculum had 48.15%, insufficient facilities in schools scored 42.59%. These facilities include modern beehives, bee suits, and smokers. Some are honey extractors inform of centrifugal machines or fabricated stuff for manual purposes, queen cage, and attractants, among several others.

Deducing from the above findings, it could be said that the beekeeping industry is still largely indigenous in nature, and improving the farming system would call for introduction or establishment of schools with more emphasis on improvement of the indigenous methods first, as the larger chunk of the population of farming communities are illiterates (Okuneye et al., 2004; NWG, 2013), then advancing the more sophisticated methods. Adoption of these improved methods of farming system would definitely go a long way in alleviation of poverty among what Sola (2010) and Chigozie and Ituma (2014) termed as poor majority of Nigerians.

4. Conclusion

Based on the results of this survey, it could be stated that very negligible number of higher institutions of learning offer courses on beekeeping proper, and most of such schools are foreign-based. There is very low awareness as to the importance and practice of modern beekeeping globally. Similarly, the issues of poor funding and inadequacy of trained instructors are so pronounced internationally, among so many factors.

5. Recommendation and Policy Implications

It is strongly endorsed that nations with very good beekeeping potentials like Nigeria should embark on establishing apicultural colleges and universities where intensive beekeeping courses would be taught in earnest in order to produce more enlighten beekeepers. A very powerful committee should be instituted to embark on massive awareness campaign on the importance of keeping bees, both in urban and rural

areas. While funding institutions of higher learning offering beekeeping becomes necessary, training adequate personnel to take care of effective learning is even more imperative. Field trip as an appropriate method of teaching apiculture should be properly captured in curriculum of learning in schools.

As improved methods of beekeeping has been assessed across the world to be one of the farming systems that is being adjudged by several authors as profitable, and to be used for poverty alleviation in impoverished rural communities, both the public and private sectors should get involved in the establishment of learning centers that would massively promote the skills acquisition. This singular act would broaden the spectrum of knowledge in the industry.

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