

Applying the Team Member Teaching Design (TMTD) Model to Strengthen Teamwork Behavior and Academic Achievement of Arak University Students

ZAHRA KHOSHODIFAR¹, ENAYAT ABBASI^{2*}, HOMAYOON FARHADIAN³,
HOSSEIN SALEHIARJOMAND⁴, ABDOLMOTALLEB REZAEI⁵

1, Ph.D. graduate, Department of Agricultural Extension and Education, Tarbiat Modares University and Assistant Professor, Department of Agricultural Extension and Education, Higher Education Complex of Saravan, Saravan, Iran

2, Associate Professor, Department of Agricultural Extension and Education, Tarbiat Modares University, Tehran, Iran

3, Ph.D., Department of Agricultural Extension and Education, Tarbiat Modares University, Tehran, Iran

4, Assistant Professor, Department of Medicinal Plants, Faculty of Agriculture and Natural Resources, Arak University, Arak, Iran

5, Assistant Professor, Department of Agricultural Extension and Education, Faculty of Agricultural Economics and Development, University of Tehran, Karaj, Iran

(Received: Oct. 28, 2019- Accepted: Jan. 19, 2020)

ABSTRACT

Objectives

In the colleges of agriculture in Iran, the lecture is used as a dominated teaching method. Team learning is one of the most commonly used educational methods in the present era. The aim of this study was to compare the Team Member Teaching Design (TMTD) and the regular lecture method on the academic achievement and teamwork behavior of agricultural students.

The use of active and participatory teaching methods where students are directly involved and gain experience through direct participation is more appropriate for agriculture students. Application of team teaching methods and interactive learning have several benefits including increased vitality in class, increased beliefs and expectations of students, student participation in class management, more referral to other texts and increased persistence and reduced absenteeism from the classroom, dependence on group members, brainstorming, collective empowerment, increased self-confidence and learning satisfaction, attempts to adapt to the group. Also, it provides a common understanding of learning materials, deeper processing of ideas, better preservation and transfer of educational materials, greater stability and scientific sustainability, more academic success, greater intrinsic motivation and positive attitude to the subject of learning. Although the lecture method can be helpful for information acquisition, for the organization and transfer of knowledge, for the integration of information from multiple sources, and clarification of complex information, it does not teach problem-solving strategies or attitude change. To improve the teaching methodology, many researchers have suggested the use new and innovative methods, among them the peer teaching and collaborative learning are increasingly used worldwide. Among the methods of team teaching, the TMTD teaching method, as a combination of new collaborative methods can be used.

Teamwork behavior is a combination of knowledge, skills, and attitude of team members. Teamwork knowledge includes common mental models, student knowledge and understanding of topics related to team, environment, actions, and programs. Teamwork attitudes include mutual

E-mail: enayat.abbasi@modares.ac.ir

* نویسنده مسئول: عنایت عباسی

trust, belief in the importance of teamwork, and prioritizing team approaches to individual approaches in dealing with problems. Teamwork skills include communication skills, creative behaviors, and leadership and management skills. Various studies have been conducted on the impact of lecture and team teaching methods on the academic achievement of students. Many of them have found that team teaching is more effective in improving the students' learning skills and academic achievement compared to lecture methods. At the same time some other studies have argued that there is no significant difference between lecture and team teaching methods in terms of enhancing the performance and academic achievement of students.

Methods

A within-subject design was followed for two groups in which first group attended a series of lectures and second group participated in team teaching. Differences between lecture and team teaching methods were examined for their academic achievement and teamwork. The study samples were taken of medicinal herb Department of the University of Arak during the academic year of 2018-19. A questionnaire of behavior measurement was used to collect the teamwork behavior data. This is a modified form of the behavior Teamwork Scale and includes 50 statements that measure teamwork behavior on a four-point Likert scale (from never = 1 to always = 4). After the questionnaire was revised, it was presented to a panel of relevant experts, and its content validity was confirmed. To assess the reliability of this scale, Cronbach's alpha and split-half method were used. This coefficient for the whole scale was equal. The results demonstrate the desirable and acceptable reliability and validity of this scale for assessing teamwork behavior of students. Prior to the beginning of the semester and after briefing the selected faculty trainers, several meetings were held to cooperate with the scholars and trainer. After they accepted to have this pilot project conducted in their classroom, all stages of the implementation of the TMTD teaching method were explained by the researcher step by step, and he was provided with the resources on how to teach TMTD. It should be noted that the trainer had previously learned how to apply team teaching methods and had a lot of interest in implementing this teaching method in their classes. Teaching in lecture and teamwork methods was planned according to the educational calendar.

Results

The mean scores of academic achievement and the teamwork behavior of students were compared. In compared groups, the effect of TMTD method on the academic achievement of students was shown. The results of means comparison tests indicated a significant difference between the two methods of teaching in the field of academic achievement and the strengthening of the teamwork behavior of students. The results of this study showed that the mean score of academic achievement and teamwork behavior of students after intervention in both courses was significantly higher than that of lecture method. As well, the effect of providing educational content by the TMTD model has been used to increase awareness and improve the performance of individuals.

Discussion

The paper further discussed team method implementation and its implication for teaching and proffered the way forward for effective use of teaching methods for better results in the classroom teaching and learning process.

Keywords: Agricultural education system, lecture and TMTD methods, Teamwork behavior