ORIGINAL ARTICLE

TEACHING, LEARNING AND ASSESSMENT ACTIVITIES: ROLE IN A BASIC SCIENCES DEPARTMENT OF A MEDICAL COLLEGE

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Background: Teaching, Learning and Assessment (TLA) program was introduced in the department of Department of Biological & Biomedical sciences (BBS) to organize workshops, seminars and courses to develop and enhance teaching, learning and assessment capabilities. The rationale for TLA program is thus to enhance open access learning for everyone around the globe, including faculty, staff and students. The objective of the study was to evaluate TLA program’s initiatives (workshops, courses, seminars) in BBS, Aga Khan University (AKU), Karachi. Methods: The cross-sectional study was conducted from July to December 2016 after approval from Ethical Review Board of Aga Khan University. The evaluation was made by qualitative analysis; assessed by focused group discussions (FGDs) with facilitators and participants, and in-depth interviews with TLA leadership (Director, Co-Director). Results: The in-depth interviews indicated ‘research, education and educational research synergy’ as the preferred themes for TLA activities. Participants and facilitators in FGDs indicated satisfaction on the design and objectives of the activity, achievement of objectives, balance between theory and hands-on component, and acquisition of new knowledge and skills. Conclusion: The TLA program in BBS Department was able to organize workshops, courses and seminars consistently during the study years (2012–2015). The facilitators and participants were satisfied with the outcome in terms of enhancement of teaching, learning and assessment activities in the department. The stakeholders identified areas of improvement for the perfection in future endeavors.

Keywords: Teaching, Learning, Assessment, Faculty development, medical education excellence, Professional development.

INTRODUCTION

Academic excellence cannot be achieved in medical institutions without focus on research in medical education required to develop new techniques for better dissemination of knowledge and improved learning processes. Various strategies have been proposed and practiced in routine, however, educational transformation is achieved by the strategies that are first developed, tested, and practiced before dissemination to audience at institutional, regional, and global levels. In Pakistan, different educational pedagogies are practiced at different medical institutions to prepare young graduates who could meet the health challenges of the 21st Century.

Teaching, Learning and Assessment (TLA) activities in an academic institution play a critical role in enhancing skills of the faculty and staff, which are vital for imparting quality education to students. This requires innovative initiatives at the departmental/institutional level for Professional Development (PD) of faculty and staff to transform them into effective academicians and facilitators who could bring excellence in medical education for the students in this digital era. These initiatives covering diverse educational experiences are the key players in strengthening educators/researchers’ performance level in any type of set up. Focused strategies result into good teaching/learning experiences for quality teaching and effective implementation.

At the same time, Capacity Building (CB) activities encompass to provide in-depth subject’s knowledge, enrich teaching skills, promote creation of new knowledge and enhance supervisory skills for development of intellectual learning communities. Such type of consistent support for the faculty and staff is known to ensure innovative delivery of contents as per learning needs of the students.

In order to enhance PD and initiate CB activities, Department of Biological and Biomedical Sciences (BBS), Aga Khan University constituted a TLA program. The mandate of this forum includes liaison with faculty to introduce innovative workshops, conduct short courses, organize seminars/programs, provide feedback for quality assurance and promote development of faculty and lab staff in medical education and research. The initiatives taken by TLA are thus likely to promote PD of the faculty and staff to enhance the quality of teaching, learning and assessment capacities for both facilitators and the participants. Therefore, this study is aimed to evaluate TLA program in terms of its merit, worth, usefulness and weaknesses.
METHODOLOGY

The evaluation of TLA program was conducted by a cross-sectional survey from July to December 2016 after approval from the Ethics Review Committee of Aga Khan University. The model comprised of evaluation of Context, Input, Process, and Product (CIPP model) which describes cycle of preparation, organizing, applying, reviewing and revising decisions, each checked through different aspect of evaluation.\(^1\) For evaluation, the TLA Program Director, Co-Director, participants and facilitators who had attended/conducted at least two activities during the study period were included in the study.

The qualitative study was done after making semi-structured guidelines form the key evaluation questions for assessment of context, input, process, and product (Annexure I) of the TLA program. Two in-depth interviews (IDI) with stakeholders (TLA director and co-director) and three focused group discussions (FGDs), two with the facilitators and one with the participants were held. All discussions were carried out in conference room settings for about 45-60 min. These FGDs and IDIs were audio-recorded, transcribed and shared with the participants for final approval after a written consent.

RESULTS

A total of 20 facilitators (12 women, 8 men) and 11 participants (8 females, 3 males) were included in the FGD sessions. In discussion sessions, facilitators indicated that PD essentially required a developed curriculum comprising of a series of relevant activities, especially for the newly recruited faculty/staff members. They proposed that frequency of context related field expert ‘Guest Lectures’ should be enhanced in workshops and seminars.

In reply to application of learned principles, one of the facilitators responded that both immediate and follow up feedback would be required to assess the impact of the activity. As an example, in a workshop on ‘How to deliver an effective lecture’, immediate feedback was received by inviting participants to deliver a mini-lecture using learnt knowledge and skills during the session. The presentations were audio and video-recorded and the immediate critique by the peer participants enabled all the presenters to improve the quality of their lectures. It has also been discussed that for assessment of the impact of these activities, TLA forum should have a follow up plan to observe the participants after a certain time period for assessing the impact in terms of application of skills acquired during these activities.

The participants in FGD session provided the candid feedback on various activities by stating that most of these activities were well structured, interactive with adequate hands-on component. However, they proposed further incorporation of games, quizzes and Kahoot software which are known innovative tools to maximize engagement of the participants. Moreover, participants emphasized on proper selection of venues for some of the activities and suggested provision of pre-reading material for some of these activities (Table-1). The IDIs with TLA forum stake-holders revealed that the themes- research, education and educational research synergy were considered for selection of workshops, courses and seminars after needs assessment. They told that guidelines for application of an activity were provided by the TLA forum followed by its approval and accreditation. The announcement of the activity was made preferably through emails, flyers and posters. Selection of participants for the activity was based on their knowledge, skills and relevant experience as per theme of the activity.

Table-1: Qualitative analysis by in-depth interview and focused group discussion

<table>
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<tr>
<th>Core Values</th>
<th>Summary</th>
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<td><strong>Context</strong></td>
<td>In the in-depth interview the goal of the program to make all the activities, workshops and seminars available to the entire institution was acquired. The stake holders, TLA director and co director gave the background information that activities were selected on the basis of requirement of the curriculum and capacity building needs of the BBS faculty/staff.</td>
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<td><strong>Input</strong></td>
<td>The days of workshops are usually considered depending on maximum availability of faculty (not the PBL days) TLA committee takes into account that the PBL days are not used for workshops. Generally, Wednesdays are taken into account All the logistics were arranged by TLA coordinator and activities were funded by the department. All the lay outs lesson plans, content, handouts and other details of activities, portfolio of facilitators were preserved in the desk record.</td>
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<td><strong>Process</strong></td>
<td>Facilitators propose a particular workshop, fulfill all the requirements for accreditation and submit it to TLA coordinator 6 weeks prior to the activity for allocation of CME credits hours. The director then checks for the context in alignment with the department and with the institutional research and educational themes and send for approval to AACME. It was further attained that once approved, selection of participants was based on the scope of the activity, for example, “if it is a workshop on stem cells, a minimum embargo is set to only allow for Masters students. On the contrary, if a CME is being delivered on how to give an effective lecture, everyone is allowed”. Balance between theory and hands on activity was maintained. In order to make the workshops more interactive, we can include game like activities and quizzes, so that we can engage the audiences more and it helps to pass on the message better.</td>
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<td><strong>Product</strong></td>
<td>Three steps were identified; After the feedback evaluation forms were filled by the participants, the evaluation forms were tabulated and sent to the director and the co-director, after which the feed back was sent to the facilitator. It usually takes nearly 24 hours to give the raw feedback to the facilitator which is then disseminated through the BBS newsletter. DCPE is then given the tabulated as well as original forms as per the requirement, after which they rate the workshop and send the evaluation back. This helps in recycling of the activities and identification of flaws.</td>
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DISCUSSION

Program evaluation is meant to acknowledge, refine and apply secure standards to assess that objectives are being fulfilled in a meaningful manner.\textsuperscript{11} The model which was used for evaluation in this study was process-based model that was proposed to evaluate all steps carried out in designing, development and value of a program.\textsuperscript{12} The CIPP model employed to evaluate TLA assessed the program in reference to vision and mission of BBS department. When the initiatives of TLA were evaluated for their role in quality of teaching, learning and assessment initiatives for both facilitators and the participants of BBS, AKU, we found a very similar impact of workshop, courses and seminars on human resource development.

The participants, in general, appreciated and recognized these activities as well designed, focused and interactive with ample opportunity for hands-on experience. Facilitators emphasized to continue adopting a proactive approach in designing these activities with particular focus on content selection, interaction stimulating discussions and a balance between theory and practical component. The participants of TLA activities remained engrossed in some of these activities due to advanced quizzes which helped them to acquire information about application of the knowledge and long term retention of concepts as has been reported by other researchers.\textsuperscript{13} Need for incorporation of game-based learning strategies as mentioned in FGDs is required to motivate participants for facilitated learning.\textsuperscript{13,14} Electronic systems, also called Online Learning Management Systems or Virtual Learning Environments have been used to support face-to-face component of learning in a range of disciplines including medicine.\textsuperscript{15,16} Our respondents agreed to the usefulness of online courses and indicated that such courses should be offered more frequently in future.

During FGDs, participants responded that they could discuss their ideas and meet the learning needs without any fear of getting criticized. This supportive atmosphere and an opportunity for critical and creative thinking helped in discussing and solving various scenarios/problems during TLA activities and this has been found to be in line with the evidence in the literature.\textsuperscript{17,18}

It is also a known fact that only listening to and seeing a power point presentation in a workshop would not help in achieving the objective of CB. To obtain meaningful learning outcomes and to stimulate deep learning, diverse teaching and learning modalities should be incorporated into developmental plans.\textsuperscript{19,20}

All TLA activities considered to be well designed were presented as an amalgam of contents, presentation leading to discussion and activity exercises. The responses from participants confirmed that these learning sessions generated an atmosphere that enhanced the participants’ sense of self-belief, self-confidence and motivation to do their best.

Our findings pertaining to the feedback of facilitators strengthened that TLA initiatives helped them in getting sensitized towards innovative teaching and learning strategies so that they could derive further motivation, build blocks and introduce creative ideas on topics of interest. The facilitators were well versed with the effectiveness of TLA activities and hence most of the initiatives were offered not just one-off event but as a series of strategically designed activities with a focus on learning by doing. In some of the workshops which were repeated every year, participants shared the application of learnt knowledge and skills at their workplaces and showed improvement in their assigned tasks.

The response obtained from IDIs highlighted the importance of PD initiatives as has been documented in the literature.\textsuperscript{21} The stake holders thus revealed that more efforts are required for identification of weak areas and careful planning for effective PD activities in future. They also recommended incorporation of new themes with involvement of faculty from other departments of the university and other universities.

The study however was not able to measure immediate and long-term change in knowledge skill, behaviors and attitudes of the participants in terms of PD and its impact in their own settings. However, results of the study are likely to pave way for conception, initiation and improvement in platforms for capacity building CB and PD activities at other departmental, institutional and organizational levels.

CONCLUSION

The TLA program in BBS department was able to organize workshops, courses and seminars consistently during the study years (2012–2015). The facilitators and participants were satisfied with the outcome in terms of enhancement of teaching, learning and assessment activities in the department. The stake holders identified areas of improvement for the perfection in future endeavors.

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