Faculty Professional Development and Its Impact on Teaching Strategies in Saudi Arabia

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Abstract: This qualitative study explores a group of male and female faculty members (n = 85), drawn from diverse academic disciplines, who participated in a two-day Higher Order Thinking Skills (HOTS) workshop held at a university in Saudi Arabia. Shortly after participating in this two-day workshop, the faculty members were surveyed to obtain data about their experience. Three months later, a random sample of these individuals progressed to an in-depth follow-up interview in order to determine whether they had fulfilled their participation objectives. The degree of planned and enacted HOTS workshops, the analysis of post-workshop abilities, and the level of knowledge of and ability in HOTS are topics that have not yet been explored in the professional faculty development literature. Ideally, the assessment of the impact on the professional development of faculty members should measure the effect of learning in terms of their ability to implement what they have learned. The results show that 89% of the faculty members were initially enthusiastic about applying the knowledge and skills acquired through the workshop but that what they had learned started to diminish and to be set aside within the first three months. This was largely because the faculty members became heavily focused on routine activities including lecturing.

1. INTRODUCTION

The aim of this study is to analyze feedback from faculty members after they had participated in a two-day workshop on Higher Order Thinking Skills (HOTS). The workshop was conducted to serve as a platform for encouraging participants to implement HOTS in their teaching and to assess the extent to which they had in fact used them to improve their teaching. The main rationale was to learn about the views of faculty members regarding the implementation of HOTS. This study sought to gain insight into this workshop, including the extent to which it was useful for the faculty members and the extent to which they were interested in implementing the HOTS-related practices in their professional activities. This study makes a significant contribution to the growing body of academic literature about the perspectives of faculty members and about the ways in which these individuals have the potential to benefit from these kinds of workshops in general and from workshops about HOTS in particular.

Higher education has become part of a worldwide change involving the creation, dissemination and use of knowledge. The new ethos includes a focus on problem-solving and is sensitive to the needs of twenty-first century learning (Ramsden, 2003). As universities in Saudi Arabia continue to increase their focus on excellence in teaching and learning, it is becoming more important than ever before to strive for a closer alignment between student and faculty needs on the one hand and institutional practices on the other hand.

A faculty-development plan is required in order to optimize the overall quality of the education that is ultimately delivered (Al-Ghamdi & Tight, 2013, p. 83). As Al-Ghamdi and Tight (2013) explain, high-quality academic staff lead to a higher quality of research and teaching at the institutional level and to better graduates who are able to make tangible contributions to the development of the community, both domestically and internationally. Universities in Saudi Arabia are increasingly investing in the professional development of their faculty members, and this stems from the belief that preparing these individuals helps to optimize and fine tune the abilities of fresh graduates. This also will eventually lead these institutions to achieve higher national and international rankings.

Professional growth for higher-education faculty members assumes many different forms and shapes, ranging from self-directed activities to organized

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programs of learning (Caffarella & Zinn, 1999). Recent studies on professional development by Darling-Hammond et al. (2017) and by DuFour, DuFour and Eaker (2005) indicate that effective professional development in the form of structured professional learning opportunities results in changes in teachers' practices and hence in improvements in students' learning outcomes. McKee and Tew (2013) explain that "Faculty development entails many forms of organized support to help faculty members mature as teachers, scholars and citizens of their campuses, professionals and broader communities, as these processes pertain to enhancing students' learning outcomes" (p. 12).

Professional development can be provided by the institution as a whole or by a specific faculty within it. For example, in 2011 the University of Dammam (UoD) (renamed in 2016 as Imam Abdulrahman Bin Faisal University) established the Deanship of Educational Development (DED) with a focus on providing ongoing workshops and professional development assistance, thus allowing this institution to move forward with the training of faculty members at all levels (teaching assistants, lecturers, assistant professors, associate professors and full professors). DED arranges a wide range of workshops covering various topics related to assessment, microteaching, the motivation of students, the design of curricula, the design of programs and teaching skills oriented towards the needs of the twenty-first century. International experts from various countries, including the United States, the United Kingdom, Singapore and Australia, have delivered many of these professional development opportunities. Some of these workshops have been transformed into webinars (broadcasted from overseas via Skype).

One of the distinctive characteristics of the DED's professional development programs is comprised of the many opportunities for faculty members to engage with one another to explore and implement a wide range of HOTS-related pedagogies. This approach acknowledges the fact that, in order to actively engage students in the learning process and leverage recent trends in higher education, faculty members have to be functioning with a HOTS perspective. Faculty members who engage in this kind of professional growth, especially in a planned and systematic manner, have an enhanced ability to support students throughout the learning process. Given the many benefits of these types of programs, it is perhaps surprising that there remains a lack of systematic evaluation of these workshops after they are held (Caffarella & Zinn, 1999).

In the discussion set out below, the researcher draws on the research literature and on the reflections and feedback gathered from participating faculty members in order to describe and analyze their involvement in a two-day workshop held at the University of Dammam's Deanship of Faculty Development in 2014. This study also explores the implementation by the faculty members during and after this condensed HOTS workshop.

2. LITERARTURE REVIEW

A. *Context for Higher Education in Saudi Arabia*

According to Smith and Abouammoh (2013), professional development "…will eventually lead to achieving higher rankings for the institutions" (p. 4). What is this ranking system? How will expanded professional development lead to increases in university rankings? To what extent are universities under pressure to increase their rankings? These questions have led policymakers and higher education officials in Saudi Arabia and elsewhere to invest significant attention and care into selecting and developing high quality academic staff.

In order to establish the context for this research paper, it is important to explore various aspects of the literature related to HOTS and to faculty development. At the 2014 Academic Program for the Exceptional (APEX) conference, one of the most exciting featured innovations was the creation and establishment of a new component of higher education that would involve the development and implementation of important practices like a strong jobs orientation, professional development workshops and other forms of professional development training. At these kinds of events, educators like George Kuh have delivered pedagogical training sessions (e.g., Kuh, 2014) aimed at making a significant positive impact on instructional abilities both inside and outside classrooms through the teaching of skills falling within the scope of Higher Order Teaching Skills. There is an ongoing paradigm shift in higher education, away from models of learning and teaching that focus on the inculcation of information and towards a greater emphasis on thinking, reasoning skills and information literacy (Fry, Ketteridge & Marshall, 1999). This shift cannot continue without programs designed to train and prepare faculty members for the new paradigm.

According to Kuh (2008) the teaching of HOTS involves:
- Requiring students to devote considerable amounts of time and effort to executing purposeful tasks;
- Putting students into situations that require them to interact with faculty members and peers in relation to substantive matters;
- Increasing the likelihood that students will increase their level of experience with diversity through contact with people who are different from them;

- Giving students regular feedback about their performance;
- Providing opportunities for students to see how various academic subjects are applied in various settings, both on and off campus; and
- Connecting students to others through opportunities that are aimed at the promotion of active, collaborative learning.

Notwithstanding the differences among educators in terms of defining HOTS, there is a general consensus about its importance in terms of teaching and learning at all levels (King, Goodson & Rohani, n.d.). Higher education sometimes receives criticism for its traditional methods of teaching and learning. Yet, the basis for this criticism is steadily eroding. In recent years, problem-based learning, decision making, and critical and analytical thinking have been recognized by educators as some of the most significant forms of HOTS. These HOTS are becoming increasingly prominent in higher education, and this is a reflection of their importance. This is largely because of the relevant pedagogical and communal trends involving the promotion of flexibility, adaptability, problem solving, and critical thinking and expression. The traditional methods of teaching have little or no connection with any of these trends (Savin-Baden, 2011).

The increasing emphasis on Higher Order Thinking Skills is intertwined with the expansion of higher education in Saudi Arabia. This is largely because many education leaders have come to realize that the growth in the number and size of the Kingdom's universities must be accompanied by improvements to teaching and learning within those institutions. Early steps within the leading and most established institutions are already underway (Al-Nassar & Dow, 2013, p. 59). There have been numerous studies involving large- and small-scale samples that have discussed the effectiveness of professional development, with a particular focus on in-depth training opportunities such as HOTS (Garet et al., 2001; Drew & Klopper, 2014). This highlights the fact that these training opportunities are among the most important elements of effective professional development. One of these studies is Drew and Klopper's (2014) investigation of the ways in which a process involving peer assessment and the observation of teaching can be used to enhance the teaching practices of academics and to implement professional development activities at various organizational levels. One important feature of effective training is that it continues over an extended period of time, as this is more likely to allow for in-depth discussion of personal development (PD) content and for teachers to try out more practices and obtain feedback on their teaching. Other recent studies by McKee et al. (2013) and by McKee and Tew (2013)

emphasize the fact that one of the major themes of U.S. higher education is the shift towards effective professional development for faculty members in order to achieve sustainability goals.

A review of international Arabic and English studies that have explored pre and post training and the perceptions and practices of faculty members reveals that the majority of relevant studies are quantitative. The results of studies by Baral et al. (2015), Alrweithy and Alsaleem (2014), Kivunja (2014), and Al-Hattami, Muammar and Elmahdi (2013) reveal that there were statistically significant differences in the performance of the training group before and after the training and that these differences were in favour of the post observations. The current study recommends the adoption of a training program used to develop the teaching competencies of instructors in Saudi universities. Al-Hattami et al. (2013) may also provide some insight into faculty members' experiences while practising and applying what they learned in various workshops, including the ways in which they have incorporated these lessons within their teaching and the challenges that they have encountered post training. This is why the current study used a qualitative methodology, specifically in order to provide faculty members with opportunities to uncover some of the challenges and opportunities encountered in their classrooms after their training.

B. Theoretical Framework

The theoretical foundation of this research study is based on the work of multiple scholars, including Bandura's (1986) Social Cognitive Theory, Knowles's (1980) Adult Learning Theory, and Mezirow's (1990) Transformational Learning Theory. These theories support this study and help to establish its focus of inquiry. Mezirow's (1990) Transformational Learning Theory is closely connected to faculty development, as is explained by Clark and Wilson (1991). The current study is also based on Mezirow's (2000) argument that meanings and perspectives are often acquired uncritically during childhood through the processes of acculturation and socialization, most often while engaging in significant learning experiences with parents, teachers, and other mentors − a process that reflects the dominant culture into which individuals are being socialized. Another prominent theory is that of Lawle and King (2000), the Adult Learning Model of Faculty Development, which is largely based on Knowles (1980). Lawle and King's (2000) theory provides information that is useful to those who are already familiar with faculty issues and to those who are new to developing programs. Lawle and King (2000) emphasized the fact that the impact of adult learning, adult education, program development, and professional development

principles premised upon informed practice can lead to the creation of programs that meet the changing needs of faculty and their institutions. The Adult Learning Model of Faculty Development provides an organized and strategic framework for focusing the thinking and activities of faculty developers from an adult learning perspective. The growing emphasis on Higher Order Thinking Skills as a prerequisite for students' and recent graduates' success in the twenty-first century underlines the need for professors to gain an in-depth understanding of these skills and of the best methods for fostering their development.

Although the literature provides a foundation for examining the level of comprehension and acquisition of HOTS, it is also important to directly observe the learners. The individual learner is the best source of evidence regarding the extent to which HOTS in educational systems is beneficial. Teachers have a tendency to arrange tests at a rapid pace that many students are unable to match. The best approach to ensuring that all students move forward at approximately the same pace is to implement HOTS through instruction.

This research study is significant because it is one of only a few studies that have examined feedback obtained from male and female faculty members regarding the use of HOTS in their teaching and learning, as well as regarding the challenges that they faced in the period immediately following a HOTS workshop. This study explored the impact of the two-day workshop at the University of Dammam on the participating faculty members.

C. General Context

The case study took place post a two-day HOTS workshop held at the University of Dammam, which is a leading public university and the only public post-secondary teaching institution in the Eastern Province of Saudi Arabia. The number of faculty members exceeds 3,000 and includes teaching assistants, lecturers and professors (assistant, associate, and full). The context overview set out below covers Saudi Arabia, higher education in Saudi Arabia, faculty development, and a brief description of the specific workshop. Although some might argue that a two-day workshop can have only a minimal impact in terms of improving faculty teaching, it could equally be argued that such a workshop can lead to meaningful improvements in knowledge, skills, and attitudes, not just of the participating faculty members but also of their colleagues and their students. The latter possibility is supported by Baral et al. (2015), whose study of medical-education short training and workshops found that these opportunities' content and training methods can have a very positive impact.

D. Saudi Arabian Higher Education and Faculty Development

Founded in 1932, the Kingdom of Saudi Arabia is a country that wields significant political and economic influence as a result of its status as the birthplace of Islam and its vast petroleum reserves (Hamdan, 2005). Over the last decade higher education has emerged as an area of particular focus as a result of the reform and development initiatives launched by the late King Abdullah bin Abdul Aziz Al Saud. Saudi Arabia's higher education system is undergoing a significant overhaul in terms of the number of higher education institutions, and in terms of support for strengthening the quality of teaching and learning. The National Commission of Academic Accreditation and Assessment (NCAAA), which was established with the core mission of improving the quality of teaching in higher education, is engaged in encouraging the implementation of a major reform program. One of the main objectives of this program is to move the approach to teaching away from the traditional reliance on rote memorization and towards a heavy emphasis on critical thinking and problem solving. A key reform project is called "Tatweer" (Progress), and it stresses the importance of faculty professional development as an integral part of the overall reform and development of higher education.

This paradigm shift in Saudi Arabia's higher education system requires a fundamental change in terms of how faculty members perceive teaching and learning. According to Al-Ghamdi and Tight (2013), "Universities in Saudi Arabia expect their faculty members to engage in teaching, research and public service as these are the functions of most universities" (p. 83). Yet, in order for the new generation of teachers to achieve this transformation, they must overcome many years of experience – both as a student and as a teacher – that were premised on the traditional paradigm. This must be done in traditional contexts and must engage with the new methods while fulfilling the requirements of their professional development (Alghamdi, 2015).

Various studies, such as Al Dawood (2007) and Qureshi (2006), indicate that students' adherence to traditional learning methods can be traced back to their teachers' focus on memorizing the information necessary to pass the exams, an approach that "…goes with a lack of research skills, experimentation interference, independent learning and finding new sources of information" (Al-Nassar & Dow, 2013, p. 57). Other studies, such as Aljuda (1990), go further by relating the high failure rates among Saudi university students to the inability of some faculty members to deliver scientific material to students, to the lack of academic guidance, to the lack of adequate care for students with learning difficulties, and to the inadequate or inappropriate

methods used in teaching the curriculum. In addition, the Saudi Ministry of Education regulations place greater value on research than on teaching and service.

Almost all faculty members make research their first priority rather than instruction and the optimization of education outcomes (Qureshi, 2006). Partly in response to faculty members' priorities, faculty professional development has acquired a heightened level of importance in Saudi Arabia (Al-Ghamdi & Tight, 2013). As Al-Ghamdi and Tight (2013) explain, "University teaching is one of the professions in the world that appoints people with no specific training to perform the complex task of the teaching of university students" (p. 88). Qureshi (2006) similarly indicates that "Many faculty members in Saudi Arabia begin their teaching with no formal pedagogical preparation and hence they often lack effective teaching skills. Although they may be knowledgeable in their discipline and well prepared to conduct research, faculty members lack the basis and skills necessary to communicate their knowledge to students" (p. 56).

The typical basis on which universities select their academic staff is comprised of their research abilities and their expertise in the relevant subject matter; there is little if any concern about whether they have received training in how to teach or assess students. In addition, their ability to develop academic programs and courses is a matter of importance that is not generally considered as part of the hiring process. Notwithstanding the general pattern, a few Saudi universities have begun to address this problem and have established progress deanships or centres to improve the quality of teaching (Al-Ghamdi & Tight, 2013, p. 88).

E. Higher Order Thinking Skills Workshop: The Context

At the start of the course, the workshop booklet provided the participants with a working definition of HOTS – that is, HOTS in higher education involves learning complex and judgment-oriented skills such as problem solving and critical thinking and is a concept based on learning taxonomies. This comprises cases like that of Bloom when some types of learning require more cognitive processing than others and are known to be more difficult to teach and for students to develop (Burton, 2010).

The participants in the workshop consisted of 166 male and female faculty members from all 32 colleges at the UoD. Among these 166 individuals, only 85 demonstrated a keen interest in participating in the study by sending back their completed survey. This two-day workshop took place during the thirteenth week of the spring semester of 2015. The workshop began at 8:00 a.m. and was finished by 4:00 p.m., with a one-hour break for lunch and with two short coffee breaks; in total, the workshop lasted for 20 hours. The schedule allowed the workshop to address the theoretical background of the educational paradigm shift from focusing on rote learning and memorization to focusing on critical thinking, problem solving, and synthesis and analytical thinking.

The structure of the program covered such topics as learning design and the development of Higher Order Thinking Skills, students' approaches to learning, knowing versus understanding, students' perceptions of teaching, twenty-first-century cognitive skills, curriculum mapping, constructive alignment, the motivation of students, and the engagement of students in effective learning. Critical to this study and this workshop was the fact that the instructor modelled the sound implementation of HOTS by asking questions that required the participants to discuss issues, ask questions, synthesize and analyze throughout the workshop.

3. METHODOLOGY

A. *Research Questions*

This study's research questions are as follows:

Q1: Which HOTS did the participants find to be most useful for the higher education context in Saudi Arabia?

Q2: Which assessment strategies were mentioned in the workshop and which ones are the most useful in the Saudi context?

Q3: Which HOTS did the participants find to be inapplicable in the Saudi context?

Q4: Which HOTS have been used most heavily post the workshop?

Q5: What are the major challenges faced by the participants post the workshop?

This exploratory case study used a qualitative methodology that combined multiple procedures of qualitative data collection (Erickson, 1986) and analysis to provide deeper and more localized insights into faculty members' perceptions related to the implementation of HOTS in teaching and learning. This was done while providing potential generalizations to other contexts where HOTS can be applied (Creswell, 2010). The mixed-methods approach that was selected proved to be the most appropriate research design for taking advantage of the rich variety of information sources that reveal and confirm various trends or assertions flowing from the data. The qualitative part of the study was based on semi-structured interviews conducted by the researcher. A faculty member read the transcripts and cross-checked the themes identified by the researcher. Additionally, an audit trail was created in order to ensure the accuracy of the information provided. Creswell (2010) outlines how a researcher can ensure the reliability and validity of a

qualitative study. The first component was comprised of the survey, which itself was comprised of demographic questions and the list of skill sets emphasized in the workshop; the faculty members had to prioritize these skill sets according to their importance and applicability in higher education teaching and learning. The second component involved interviewing a random sub-sample of participants in order to investigate their rationale for their personal involvement with HOTS; this was followed by collecting their feedback three months after the workshop.

This strategy was based on the premise that the research strategy should be qualitative in nature, such that a deliberate inquiry process is used instead of a reporting process, a process that is guided by a set of formal procedures and techniques (Erikson, 1986). The researcher acquired additional depth through the use of this approach, rather than through the use of a selected sample and a quantitative survey. The main reason for doing this was to find answers to the research questions framed for the study.

Thirteen participants were contacted out of the large number of faculty members who attended the workshop. Ethical approval was obtained from the Ethics Committee before this study was commenced and the consent form was signed prior to the interviews. Some of the interviews were conducted in Arabic, with the audiotapes subsequently being transcribed and then translated into English. All of the audiotapes and transcribed data are held confidentially by the author. The researcher conducted the interviews in a casual environment. The three male and 10 female faculty members spent one hour in their interview and some of them were interviewed over the phone. The researcher ensured that the participants understood the questions, which sought to elicit their reflections about their professional development, their personal gains as a result of participating in the HOTS workshop and their students' benefits (sees Appendix A).

4. DATA COLLECTION

Permission from the Deanship of Educational Development of the UoD was obtained at the time that the workshop was being planned and organized. The survey was sent to the participants via email on the second day of the two-day workshop. The translated questionnaire was in Arabic, as some of the faculty were not bilingual and did not read English. The workshop was delivered simultaneously in Arabic and English. Almost 51% of the survey responses (n=165) were usable. The questionnaire was distributed among all of the participants; more women responded than men and therefore the qualitative sample has a greater number of female faculty members. In order to obtain the qualitative data, the interview phase included 13 faculty members because the others who had volunteered at the beginning

were not able to commit and could not allocate enough time for in-depth interviews. Each interview lasted for one hour. The questions to be asked in the interview were distributed to the participants in advance, which allowed for a smooth and interesting discussion.

A. Participants

The participants in this research study were comprised of both male and female faculty members who were enrolled in a two-day workshop to promote HOTS. The study was conducted after the conclusion of the workshop and focused on the teaching strategies that the faculty found helpful. The study incorporated 85 volunteers. All of the participants held a PhD or an MA in science or arts in various disciplines such as education, medicine, Islamic studies, engineering, Arabic studies, mathematics, computer science, physics, history, geography, biology, chemistry, English language, and literature. They ranged in age between 35 and 55 years and all were working at one of UoD's five campuses, the main campus being located in Dammam (which is the capital of the Eastern Province). Almost 65% had no prior experience attending professional development workshops, while 35% had at least some prior experience.

B. Survey and Interviews

The research is based on the outcomes of a survey of, and in-depth interviews with, members of a random sample of male and female participants. The survey and the in-depth interviews were focused on HOTS. (The short survey of skills and the in-depth questions that were asked three months after the workshop are provided in the Appendices.)

C. Validity of the Survey and Interview Questions

The soundness of the survey and of the specific questions was verified by a panel of experts composed of a professor emeritus whose specialty is English curriculum and instruction, along with three other external educators. The professor acted as an evaluator of the clarity of the wording and of the appropriateness of each item and its relevance to the main research questions that were asked. The professor's feedback and directives were used to refine the questionnaire. The three educators reflected on the following questions and provided feedback:

- What do you think the survey and the questions measure? Do the contents of the course represent HOTS?
- Is the workshop appropriate for the population/sample chosen?

- Are the interview questions broad enough to gather the data needed to tackle the purpose and goals of the study?

Some parts of the survey and some of the questions were adjusted based on the feedback obtained from the professor and the educators. The reliability of the questionnaire was explored through a pilot study of 15 faculty members who were not part of the larger study. Their responses were used to determine the level of consistency between the stated advantages and disadvantages of attending the workshop in relation to implementing HOTS. There appeared to be internal consistency among these respondents' biased responses and their justification for their choice. This result was taken as evidence of the reliability of the questionnaire (its internal consistency) in this low-risk study. Interrater reliability, which is also called interobserver agreement, establishes the equivalence of the ratings obtained with an instrument when used by different observers. If a measurement process involves judgments or ratings by observers, a reliable measurement will require consistency between different raters. This is also obtained by checking the instrument by a group of professors.

D. Data Collection Procedure

The researcher began by informing the workshop participants about the rationale for the study and then provided them with an information letter and a consent form. These documents indicated that participation would involve only minimal risk because anonymity and privacy were assured. Moreover, the participants could withdraw from the data-collection process at any time. The participants received the consent form prior to the start of the data collection. They completed the questionnaire two days after the workshop, a process that required between 20 and 30 minutes. The researcher received and analyzed the data after 85 survey answer sheets had been collected. Of the 165 participants who were provided with consent forms, only 85 returned a response; 60 of these individuals were randomly selected to be approached for a follow-up interview with the researcher three months after the workshop. Thirteen faculty members responded and offered their time to provide feedback on the workshop. Informal discussions were held with each participant to gather enriched perspectives on the ways in which and the extent to which they were implementing the teaching techniques that they had been taught. The researcher made field notes of the discussions for subsequent analysis.

The analysis of the responses to the completed questionnaire began when the number of interested individuals reached 85, including male and female faculty members drawn from almost all of the faculties of the university. The respondents were divided into categories based on their experiences in the teaching and learning workshops and based on their personal characteristics, including their gender and their citizenship (i.e., whether they were Saudis or expatriates). The analysis of the open items and field notes from the interviews was completed after reading and re-reading the participants' answers, using constant comparison and grouping the answers according to the themes. Significant HOTS themes were the assessment strategies that they employed to assess the effectiveness of their HOTS usage/implementation, the HOTS that are not applicable in the Saudi context, the use of HOTS post the workshop, and the challenges that the participants encountered post the workshop.

The researcher selected representative responses, quotes, and field notes to illustrate the themes and to serve as evidence for the participants' assertions pertaining to each research question. The quotes were then reviewed based on the respondents' points of view regarding the ways in which they practiced HOTS in their teaching three months after they took the course.

E. Data Triangulation

Triangulation refers to the use of multiple methods or data sources in qualitative research to develop a comprehensive understanding of phenomena (Patton, 1999). Three sources of data were employed to ensure the validity of the qualitative research. These are the survey questions that were posed to the participants, the interviews that were held with those who had agreed to a follow up, and the in-depth interviews that were held with some participants to discuss their reasons for using HOTS in their teaching.

5. DATA ANALYSIS

A. Quantitative Data Analysis

The quantitative data indicated the importance of various skills, specifically through the ratings provided by the participating faculty members. These data are set out in the table hereunder.

The most important HOTS	Percentages according to the participants
Problem solving	65%
Drama and role playing	12%
Collaborative learning	8%
Dialogue and debate	6%
Case study	3%
Synthesis learning	2%
Analytical thinking	2%
Gaming	2%
Prior reading	1%

B. Comments on the Quantitative Data

The table set out above indicates that the faculty members who participated in this study found problem solving (PS) to be the most important and most applicable skill after the workshop. This is related to the faculty members' desire to contribute to the paradigm shift away from heavy reliance on memorization and rote learning. PS is one of the HOTS that is able to help students apply learning in their lives (Savin-Baden, 2011). This in-depth qualitative data helps to reveal the reasons why the faculty members gave PS the highest rating among all of the most important HOTS.

According to the participants, the least important of the HOTS is prior reading, which refers to students' pre-existing knowledge. The perception that gives a lower weight to pre-existing knowledge is related to the perception of learning as the accumulation of information to satisfy external demands (Prosser & Trigwell, 1999), rather than as the connecting of students' existing knowledge with new information, a process through which learning occurs. The fact that this skill is viewed as having little value, and therefore is given the lowest rank, needs to be examined. The faculty members ought to be able to appreciate the value of students' prior knowledge, and this is interpreted as a major misconception that needs to be a focus of future professional development. In the sciences, for example, students' prior knowledge acquired through reading and experience is of great significance (Rivet & Krajcik, 2008). The ways in which students utilize and conceptualize project-based instructions rely heavily on their prior knowledge and experience (Rivet & Krajcik, 2008). The fact that students' prior knowledge is a foundation for further learning is one of the reasons why this knowledge should be considered and valued.

C. Qualitative Data Results

The reports for each result were carefully examined, including the associated research question (RQ). Assertions about the RQ are characterized as tentative declarative statements and are written in bold-face type, with the evidence for each assertion being provided in the form of numerical values or quotations, and with the author's elaborations and discussion being provided in normal type.

RQ1: What is/are the HOTS that the participants found most useful for the higher education context in Saudi Arabia?

The participants expressed the belief that the most useful of the HOTS is problem-based learning (PBL). The feedback highlights how students memorize information like, for example, the periodic table of elements in chemistry. As participant 4 indicated, problem-based learning explores each element, along with its characteristics and history. It is more meaningful for the students to unpack the subtext of each of the elements and to use that information to solve problems and complete various exercises.

PBL helps students to work on developing skills that will be significant in their subsequent education and professional life. This approach to learning includes the implementation of self-study and self-directed learning. Participant 1 suggested that, in the process of working with students and implementing PBL, real learning happens when the students are reflecting on the subject matter. It also happens when the students are engaging in discussions within groups with the objective of building their communication skills and without being encumbered by the feeling of being too shy to think out loud.

These observations support the conclusion that "PBL offers students the opportunities for critical contestability and offers them real choices of what and how to learn. Critical contestability is a position whereby students understand and acknowledge the transient nature of subject and discipline boundaries" (Savin-Baden, 2011, p. 123).

According to the study participants, the second most important of the HOTS is the ability to make distinctions between understanding and social learning. One of the main advantages of the workshop was that it elevated the participants' level of awareness of the importance of increasing students' consciousness about understanding concepts rather than simply memorizing them. Students, according to participant A, are humans, and humans are social beings; thus, they are most likely going to discuss what they are learning with their counterparts. This is an approach to learning that the researcher was especially able to appreciate after attending the workshop. This approach highlights a generational difference in that, unlike many older people, many young people prefer to socialize while studying or to combine socializing and studying.

Seventy-eight percent of the participants agreed that critical thinking and synthesizing are the two HOTS that they found to be the most useful and applicable. Participant 7 indicated that dialogue is particularly useful: "It gives students confidence and the ability to articulate the material they read…. Dialogue is a skill students in Saudi are not used to having… but I implement it because I believe in its importance…. Some students don't exhibit any ability to communicate when they go for job interviews and hence, they are not hired because of that…. Medical students or science students I have encountered with, have no communication skills." Participant 13 placed a particular emphasis on

synthesizing. As he explained, "After I attended the HOTS workshop, I made a strategic plan to focus on synthesizing; for engineering students, it is a skill that would help them succeed…. Some of them are not used to it… they would rather prefer to memorize concepts…."

RQ2: What assessment strategies connect with HOTS and are the most useful for the Saudi context?

The vast majority of the participants (93%) reported that multiple-choice questions, essays, the performance of answers or tasks, and the provision of explanations or reasons for selections are the most important methods of assessing HOTS. Nevertheless, most of the participants indicated that, even if they are accustomed to supporting the analytical thinking skills of students, they cannot assess these skills at the same time. Some of these participants indicated that, in situations when the students are unfamiliar with the tasks required of them but have sufficient prior knowledge to enable them to apply their HOTS, the endeavor is worthwhile. As explained by participant 9, constructed responses to questions, which are employed to test complex skills and types of knowledge, cannot be tested by means of simple multiple-choice questions (Livingston, 2009). She further stated that "this worked for my nine graduate students in the Master of Health Science program…. The responses I received showed how students articulate their learning."

Some participants found it useful to examine their students' articulations pertaining to different subject matter, and to reflect their ability to develop HOTS in ways that are connected to the faculty members' ongoing overall assessment plans. Participant 5 said that "Using various methods of assessment throughout the term helped me to help those who did not exhibit the abilities to reach HOTS."

Participant 3 articulated three key questions that are precisely aimed at assessing students' use of HOTS:
1. Should students be provided with sound opportunities to complete difficult, open-ended and versatile tasks (rather than structured tasks with too many cues)?
2. Should students be encouraged to apply knowledge in challenging and unfamiliar situations (rather than in rehearsed or routine situations)?
3. Should students be rewarded for demonstrating Higher Order Thinking Skills (such as thinking, formulating and testing a hypothesis, using research materials to analyze and synthesize, etc.)?

The methods listed above would be more beneficial if they were shared with the broader teaching community. This also underlines the importance of holding an open forum after the workshop in order to enable the participants to provide mutual support.

RQ3: What HOTS did the participants find to be inapplicable to the Saudi context?

Even though the participants' feedback was found to be particularly comprehensive, they identified some difficulties that are specifically related to the Saudi context. For instance, many of the participants justified their answers by indicating that the concepts that are relevant to HOTS, such as students' feedback, were inapplicable because, as participant 3 said, "Students are now aware of the importance and value of their words and thoughts when they evaluate a faculty member. They feel they should value the easy professor, the one that gives high grades, A and A+, to the group. Some value male professors over female" (Reda & Alghamdi Hamdan, 2015).

A large percentage (59%) of the participants reported that students' feedback was the aspect that they found to be inapplicable in the Saudi context – unless students receive training in the basics of evaluation. Participant 7 argued that students are asked to rate their professors at the end of the term, at a moment when they are tired of classes. For this reason, they are likely to simply check anything in the questionnaire, without thinking about how well this actually reflects their learning and overall course experience. Participant 5 explained that "This skill, though important, requires professors to take it seriously. Otherwise we will see more grade inflation and popularity contests amongst faculty members…. This negates all of the ministry's and universities' efforts for quality assurance."

RQ4: What was/were the HOTS that were used post the workshop?

According to 67% of the participants, some HOTS are easier to use and apply as part of their teaching. In higher education teaching, it is important that teachers design assessment tasks that promote effective learning. This is why there was a consensus among faculty members that the most heavily used HOTS are creativity and comprehension. Creativity is suitable for all disciplines, including engineering, literature, writing, sciences and the arts. According to 45% of the participants, comprehension is one of the HOTS that leads to students' "deep learning" of the content of their courses. Participant 10 indicated that decision-making skill is the most useful because of its applicability outside the school context. Students can use the ability to make sound decisions in many different situations and thus can

help to develop their life skills. Participant 5 stated that "Prior to the workshop I wouldn't have appreciated how higher education would benefit from teaching students decision-making skills. Now I think what a great advantage it is to help students to mature when they form a decision about class matters or real-life situations."

RQ5: What is a major challenge that the participants' face post the workshop?

The answers to this question revealed that 86% of the participants agreed, through their responses, that the major challenge was to be connected and motivated to use HOTS post the workshop. Participant 7 suggested that it would be useful to hold a virtual meeting on a weekly or biweekly basis to keep the group of faculty members motivated to overcome students' resistance to change throughout the learning process. Participant 11 emphasized that "Soon after the workshop was over, I wrote a plan to implement it in my teaching. However, I could do that after the midterm. The course was huge enough, and I felt I would not have time and the students were a little frustrated as I kept asking them to write reflections [with the aim of achieving metacognition]." As she continued, "This had made me unable to cope and feel frustrated and that was a hurdle I could not overcome." Participant 2 argued that the deanship should have created a group through which faculty members could post their concerns regarding the feasibility of using and implementing HOTS: "Because it got lonely and difficult to maintain, we are in need of ongoing support to maintain a high level of teaching and offer the best learning experience to our students. Eighty-nine percent of participants indicated that there is a great need for effective ongoing PD for faculty members."

Another challenge that gained the attention of the participants is the ambiguity of some of the meanings, definitions and methods of implementation of some of the HOTS. Participant 6 argued that many of the HOTS are becoming mere clichés, with their users having no clear understanding of what they entail. PD in various ways enhances the level of understanding. It perhaps would be more helpful to focus on one skill and to explain how it can be employed in various disciplines and contexts.

6.   DISCUSSION

Higher education is essential for going beyond creating and transmitting knowledge to making meaningful contributions to society. This requires the enhancement of the knowledge-creation capacity of individuals and of professional communities (Savin-Baden, 2011, p. 20). This knowledge creation through higher education can be greatly facilitated by the deep (rather than the superficial) implementation of HOTS. All of the faculty members who registered for the workshop and participated in the survey agreed that HOTS encourage students' conceptual understanding of subject matter. There seemed to be a strong consensus regarding the advantages of implementing HOTS in the classroom, including in the higher education context. Of course, their decision to register for the workshop reflected the fact that they were interested in learning more about HOTS in the first place. The delivery of sound teaching works hand in hand with the concept of effective learning (Prosser & Trigwell, 1999).

In order to properly respond to the demands being placed on the education system in the twenty-first century, it is necessary for faculty members to be immersed in the subjects that they teach. Moreover, they should possess the ability not just to communicate information but also to develop approaches for promoting advanced thinking and problem solving that engage with HOTS. While some faculty members might be able to achieve this objective through reading and other forms of self-directed study and training, others need to attend workshops and professional development sessions and then to engage in continuous planning (Garet et al., 2001).

There was a consensus that the timing of the workshop early in the term was of great benefit to the faculty members who were in the process of planning their teaching. There was also a consensus that the HOTS workshop was very helpful for faculty members coming from a wide range of disciplines. However, 87% of the participants agreed that, after a few weeks of implementing the teaching and assessment strategies associated with HOTS, there was some amount of confusion arising from the need to be teaching for many hours, from some students' resistance and from various administrative issues. This was largely because of routine responsibilities that interfered with the faculty members engaging with HOTS to the extent that they had planned. The participants felt that it would be helpful if they were to stay connected via online discussion in order to support one another in their efforts.

Garet et al. (2001) affirm that there are no established best practices in terms of the PD of faculty members. Nonetheless, sustained and intensive professional development is more likely to positively affect their performance than shorter professional development sessions. Garet et al. argue that PD should be associated with the attendees' field of knowledge; for instance, PD would be more meaningful for STEM professors if the examples were to draw on the natural sciences and mathematics.

A. Implications

Contemporary students face a challenging world characterized by rapid change, advanced technology, work outsourcing, off-shoring and automation. In order for an individual to prosper in the modern economy, he or she must have the ability to think, solve problems, communicate, collaborate, use technology and media, lead, be creative, be innovative, be ethical, be adaptable, be versatile and have a great work ethic (Labatt, 2012, p. 13).

HOTS make it easier for both the teacher and his or her students to make meaningful progress within an educational program. If a student encounters a problem, he or she can request that the teacher explain the material once again. A student is unlikely to be able to independently determine whether what he or she has learned is right or wrong. In this case, it becomes important for the student to make an initial attempt to evaluate the problem in question. Once the student has completed this process, he or she works with the teacher to analyze the problem in greater depth. Students who receive early HOTS interventions have a higher probability of overcoming problems and achieving impressive levels of academic performance than other students. These students become better able to deal with academic pressure and future challenges, as well as with a diverse range of subjects. Students identify new meanings and incorporate new content into their education as part of the process of improving their assimilation and understanding of knowledge. Although many educators debate the advantages and disadvantages of incorporating HOTS into classroom instruction, one factor on which there is a strong consensus is the fact that HOTS are invariably required at least at some point in the learning process. While this might not be necessary at all levels, if the interventions are implemented at an early stage the students have greater potential to benefit from the skills that are thus acquired.

HOTS instruction is based on the nature of the learning process. Some types of learning require an additional process of cognition. These skills involve the analysis of learning, critical thinking and problem solving. HOTS are challenging to teach and learn. However, once acquired, they are of high value and continue to deliver benefits throughout a person's lifetime.

The incorporation of HOTS into the learning process is important in terms of forming a solid foundation for subsequent education. The objective of the literature review in this paper is to identify best practices for assessing the highest order of thinking. The assessment of the relevant academic literature confirms that the acquisition of HOTS can be facilitated by obtaining input from all of the people involved in the HOTS development process. For example, students who are facing problems in mathematics may need verbal backing reinforcement in order to understand the concepts. Higher Order Thinking Skills include the ability to recall memorized facts without having to reflect for a long time. HOTS elevate the learning process to the next level in order to enable individuals to expand their leaning capabilities.

When we reach the adult phase of maturity, there are key moments when we try to retrieve essential elements of information. Yet we often fail to do so. This is because in these situations our mind is unable to retrieve this information from the relevant parts of the brain. It is also because of a lack of exposure to HOTS.

The traits mentioned above are not achievable without faculty members who have been properly trained and are willing to shift students towards HOTS. Currently the common perception of faculty members is that students are ill equipped in terms of HOTS and therefore need a great deal of guidance in order to think about, synthesize and analyze what they have learned and thus be in a better position to address real-world situations and problems. This need was one of the factors that encouraged the faculty members to register for the two-day HOTS workshop.

Planned change, educational reform and the implementation of innovations in education have built up tensions within many faculty members – unless they have actually received preparation in advance. In order to accommodate the paradigm shift, faculty members should teach in ways that develop an understanding of the real-world value and use of curricular knowledge and skills (rather than just learning information) (Webb, 2002). Among other things, this will help students to prepare for meeting the needs of the twenty-first century corporate world (Labatt, 2012).

Having the HOTS participants from one institution would be useful, if university leaders were to encourage an open forum after the training to discuss areas that could be improved in their professional development or yearly evaluation in relation to their training. For this reason, the trend of attending PD (in the form of workshops and conferences or short courses) without a sustainable strategic methodology may not lead to optimal results. At the same time, it is necessary to obtain feedback and to share experiences about difficulties, challenges and possible opportunities associated with the improvement of teaching and learning in various faculties. Although professional development sessions are beneficial for faculty members, without revisiting and reviewing teaching and learning practices it is likely to be difficult to sustain positive change. An open forum would

help faculty members to connect with their colleagues, working collectively to try to change and improve their practices (Garet et al., 2001).

In line with this study, Ebert-May et al. (2011) concluded that the post PD workshop results and expectations were not all met because of a lack of dialogue among participants or because of a lack of use of on-site expert support and feedback. Therefore, it is important to create communities of practice composed of individuals who share similar goals and who can support one another with implementation strategies (Rogan, 2007). This is instrumental for sustaining the advantages of PD and for overcoming unforeseen difficulties. Another recommendation is that of Prather and Brissenden (2008), who suggest a model of situated apprenticeships in order to increase the frequency and success of faculty members' attempts to make positive changes to teaching.

In the field of education reform, an increasing amount of attention is being directed towards preparing professors and other academic staff for the paradigm shift. This includes transitioning "…the education pedagogy from being faculty centered to student centered to engage the students in the learning process" (Alamri, 2011, p. 90). Faculty members are facing multiple challenges, the most prominent of which is related to quality. This issue arises when the institutions focus on maximizing the quantity of graduates, rather than on the quality thereof. The majority of the participants found the workshop to be useful in terms of helping them plan improvements to their students' HOTS. Most of the opportunities and risks were related to the implementation of changes in teaching, as well as to students' resistance to new ways of learning. These can be demanding and time consuming, and require resources to bring about positive change.

Since the PS report gave an overview of the participants' use of HOTS, it is important to highlight the reasons for the faculty members' initial interest in workshops of this kind. The implementation of HOTS in teaching allows other significant skills to emerge: "…through learning in a team, students are prompted to work and to learn in ways that mirror professional life" (Savin-Baden, 2002, p. 23). PS is one skill that can lead to the development of other HOTS such as collaborative learning, critical thinking and analytical skills, and in turn to the integration of multiple practices within a single exercise that requires students to solve a learning problem. This attribute makes it amenable to adaptation by faculty members. PS has proven to be a flexible skill that can be used in the teaching of literature, engineering, mathematics, nursing, chemistry, and virtually any other subject.

Along with numerous studies, such as Garet et al. (2001), this study confirms the importance of sustainable PD and of ensuring that this training is as interactive as possible and is maintained and extended through communication among the participants over the long term. Numerous studies have been conducted in order to determine the best methods of teaching HOTS in the higher education context, taking into account students' changing demographic profiles, rapidly developing and expanding technologies, and increasing pressure from various stakeholders (McQuiggan, 2012). This study highlights the fact that faculty members should consider new approaches to teaching that enable students to develop HOTS to the greatest extent possible. In light of the results obtained, a key recommendation is that other researchers conduct related studies in order to explore additional ways of supporting the professional development of faculty members in regard to teaching in the higher education environment. These studies should provide strategies for ensuing the sustainability of professional development after the training session is over. The reform of the higher education system from within, by among other things providing faculty members with professional development opportunities in which they can exchange experiences and best practices, is what universities should work towards. These measures should be taken at the same time as these institutions increase their level of accountability to key stakeholders.

It is important to note that, if professional development is directed towards improving teaching and learning in higher education, then consistency and sustainability have a reasonable chance of flourishing. The professional development of faculty members begins when individual professors make the decision to register or apply for training. This happens because of an individual's personal interest in developing his or her skills, or when he or she feels a need to improve a skill or an area of weakness. At the same time, department heads and deans must make an effort to recruit experienced providers of PD training. Encouragement to register for workshops should be provided to a wide range of potential participants – including novice university teachers, teachers who face challenges in their communication skills and those whose evaluations have shown a tendency towards lower levels of student satisfaction.

One of the implications of the current study is that future studies should tackle the reluctance of some faculty members to recognize their own need for professional development throughout their career. Future studies also should explore the impact of the implementation of HOTS on students' performance and understanding. Another promising area for research is the influence of faculty members' emotional intelligence on

teaching, research and community services. As Saudi Arabia strives to develop a more diversified and more knowledge-based economy through, among other key policies, the expansion of higher education, it has become more important than ever before to ensure that the traditional emphasis on faculty members' research endeavors is balanced with a growing emphasis on promoting excellence in teaching. Indeed, according to Al-Ghamdi and Tight (2013), "Universities expect their faculty members to engage in teaching, research, and public service as the functions of most universities" (p. 84). Emotional intelligence (EI), which is part of the multiple intelligences theory put forward by Gardner (1983), forms a significant part of an individual's dispositions and abilities. EI is dependent on other forms of intelligence, including the spectrum of cognitive abilities used in various fields of work. One of these fields is of course teaching, and therefore EI training should form a significant component of university faculty members' overall training. This is especially the case because of the crucial role played by emotional intelligence in the achievement of success in many different aspects of life (Goleman, 2000).

7. LIMITATION OF THE STUDY

An obvious limitation of this study is the fact that it focuses on exploring the perceptions and practices of a sample of faculty members drawn from only one institution, whereas a sample drawn from three to five institutions would provide a much better view of the effect of faculty training on university-level teaching. Moreover, three days might not be enough time for faculty participants to acquire an in-depth understanding of the meaning and applications of the various HOTS as well as the ability to instill these skills in their students. Second, the participants in the HOTS training session might not represent the majority of the UoD's faculty members. Third, since the questionnaire was designed to measure the faculty members' perspectives regarding the use of HOTS, it is likely to provide useful information about the impacts of various communication strategies; on the other hand, it seems not to provide enough evidence about these individuals' actual use of HOTS in their teaching. In addition, since the assessment of the faculty feedback took place three months after the workshop was conducted, it follows that a certain degree of subjectivity was unavoidable in this study.

8. CONCLUDING REMARKS

The primary purpose of this study was to explore the extent to which and the ways in which faculty members at a major public university in Saudi Arabia benefited from a two-day professional development workshop geared towards improving their understanding and

teaching as well as their students' performance. The results revealed that, in order to optimize educational outcomes, faculty members need forums that offer opportunities for mutual support. These contexts allow participants to access and revise their assumptions, to engage in reflective discourse, and to take action in their pedagogical practice (Lawler, 2003; Merriam, Caffarella & Baumgartner, 2006; Mezirow, 1991).

Higher education has become part of a worldwide paradigm shift towards a new approach to creating, using and transferring knowledge. The new approach focuses on resolving problems and is sensitive to the needs of the twenty-first century (Ramsden, 2003). Re-envisioning faculty professional development would be a significant step towards achieving sustainable improvement in terms of the promotion of skills and the transfer of knowledge in higher education.

The need to increase the level of focus on instruction is confirmed by multiple research studies that indicate that students' tendency to adopt traditional learning methods can be traced to educators' teaching styles and to students' focus on just memorizing information to pass examinations. Some of the underlying reasons for this tendency are a lack of research skills, experimentation interference, a lack of independent learning, and a failure to search for new sources of information.

Direct application and feedback on the practice of PD can be a great advantage to the learning of students when some of the activities that promote HOTS are put in practice. It is also important to note that the practice of allowing faculty members to teach in isolation needs to be revised, in part by framing and implementing active learning and teaching strategies (with or without on-site networking and support) (Bransford, 2000). Long-term improvement will occur when more workshops and professional development opportunities are offered to faculty members, both nationally and internationally. Universities should sponsor more programs and workshops to sustain faculty members in their endeavor to advance their teaching skills and impact. One brief professional development session is not necessarily sufficient to make a significant improvement to teaching skills. Therefore, consistency is important for ensuring sustainable pedagogical development in higher education.

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APPENDIX A

Teaching Strategies to Achieve Higher Order Thinking

Name: (Optional)

Male   Female

College:

Discipline:

Years of teaching experience:

Qualification:

Have you attended teaching workshops before?

How many?

Based on your experience at the *Higher Order Thinking Skills* Workshop attended last week, please answer the following questions:

1: This is a comprehensive checklist of HOTS strategies/approaches. Please circle the strategies/approaches that were considered in the workshop.

1	Argumentation (debate) strategies
2	Critical thinking
3	Science processes
4	Transmission of knowledge
5	Science processes
6	Technology integration
7	Gaming
8	Simulation
9	Feedback
10	Feed forward
11	Crossword puzzles
12	E-Assessment
13	Biographical reports
14	Drama, role playing
15	Asking about students' learning preference
16	Problem solving
17	Active learning
18	Case methodology
19	Peer learning
20	Social learning
21	Cooperative learning
22	Students' engagement
23	Discussion

2: Which <u>teaching strategies</u> did you find to be most the useful and applicable for higher education? How you plan to use them? Explain your answer.

3: What <u>assessment strategies</u> were mentioned in the workshop and are unsuitable for the Saudi learning system or culture? Explain your answer.

4: Which of the teaching strategies in the workshop did you find to be <u>unrealistic and/or inapplicable</u>? Explain your answer.

5: Which strategies that were mentioned in the workshop do you plan to use in your teaching? Explain your answer.

6: What other HOTS strategies/approaches and resources should have been considered in the workshop? What disciplines would these be appropriate for in the KSA?

APPENDIX B

Workshop Content

UoD: Higher Order Thinking Skills Workshop Schedule

Session	Day 1
Day Topic	**"Learning design and the implications for student learning experiences and the development of higher order thinking skills"**
8:30–10:00 Session 1	Student approaches to learning in higher education: • Levels of thinking about teaching • Student perceptions of teaching • Models of student learning
10:00–10:20	**Break**
10:20–12:30 Session 2	Higher order thinking skills: • 21st century cognition • Knowing vs. understanding
10:20–12:30 Session 3	Outcomes-based teaching and learning • Constructive alignment • Curriculum mapping • Graduate outcomes and program ILOs
12:30–13:00	**Prayer**
13:00–14:00 Session 4	Motivating students to prepare for and engage in active learning: • Student engagement and learning • Cooperative learning • Social learning • Peer learning and teaching
14:00–15:00 Session 5	Engaging students in effective learning experiences using educational technologies: • Distributed

	learning online • Effective learning design • Support of students in online collaboration
15:00–15:30	**Lunch**

Session	Day 2
Day Topic	**"Assessment, feedback and evaluation and the implications for the development of higher order thinking skills"**
8:30–10:00 Session 1	Feedback to promote student learning: • Assessment of learning – summative • Assessment for learning – formative • Peer and expert levels of feed forward
10:00–10:20	**Break**
10:20–12:30 Session 2	Using rubrics to communicate high expectations for higher order student learning: • Criterion vs. non-reference grading • The use of "learning contracts" • Real-world standards in rubrics • Integration complexity, breadth and depth
10:20–12:30 Session 3	Designing assessment tasks to promote effective learning: • Purposes of assessment • Assessing different levels of understanding and types of assessment tasks

12:30–13:00	Prayer
13:00–14:00 Session 4	Problem-based and case-study learning experiences: • Developing problems and cases • Authentic assessments • Facilitating problems and cases in class
14:00–15:00 Session 5	Teaching and learning evaluations to improve quality in higher education: • Scholarship of learning and teaching • Quality assurance and enhancement • Course experience questionnaire • Student expectations
15:00–15:30	**Lunch**