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Prayer: a transformative teaching and learning technique in project management
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Prayer: a transformative teaching and learning technique in project management

Transformative
teaching and
learning

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Abstract

Purpose – The purpose of this paper is to report the perceptions of students taking the Master of Project Management Programme at the University of Botswana regarding their transformative experience called “prayer”. The term “prayer” was coined because of it being the first learning activity of the lecture; and at a conceptual level, to convey reverence towards the gift of learning. “Prayer” as a learning and teaching technique involves each student identifying material containing project management concepts or issues which they present to a class of peers using any appropriate means followed by discussion and peer assessment. The material presented may be an article from a newspaper or magazine. It may be a personal documented story or a story told around a picture, artefact, poster or video relating to a project management issue.

Design/methodology/approach – Students’ perceptions were obtained by means of a self-administered questionnaire containing open-ended questions. Content analysis was used to analyse the responses.

Findings – The results of the study indicated that “prayer” provided students ingredients of transformative learning. It also proved to be a worthwhile technique for inculcating some of the graduate attributes articulated by this university and for incorporating adult learning principles.

Research limitations/implications – The technique can be used to compliment traditional techniques in teaching and learning in project management training. The limitations of the results are due to the self-reporting nature of the approach and the fact that the technique has been tried on one group.

Practical implications – There is a possibility that the technique can be extended to other disciplines such as business administration where students examine cases in the public domain to illustrate concepts learnt in class.

Originality/value – The originality lies in its packaging of a technique the think is worth sharing among project management educators. This is because the learning activity described engages students simultaneously in research, review, presentation, and communication as well as reflection, collaborative discourse and self and peer assessment.

Keywords Project management, Learner-centred pedagogy, Postgraduate education, Project leadership, Project training, Transformative learning

Paper type Research paper

1. Introduction

In the contemporary world, projects continue to play a crucial role in organisations (van Donk and Molloy, 2008). They complement the traditional functional structures in driving organisational strategy (Ramazani and Jergeas, 2014). However, for projects to add value to organisations they need successful implementation (Munns and Bjeirmi, 1996). One of the critical factors for achieving project success, especially at project efficiency and customer levels is the effectiveness of a project leader (Lloyd-Walker and Walker, 2011; Pinto and Slevin, 1987). Based on this premise, the selection



(Pinto and Kharbanda, 1995) and training (Egginton, 2012) of a project leader (or manager) are pivotal issues for organisations. For quite a while it has been suggested in literature that project leaders should not be selected based on their excellent technical skills and experience (Pinto and Kharbanda, 1995; Gray and Larson, 2008). Instead it has been advocated that project leaders should receive project management training (Pant and Baroudi, 2008) that simultaneously address their needs, those of employers, and other stakeholders (Bredillet *et al.*, 2013). The training should emphasise not only project management knowledge, tools and techniques (PMI, 2013) but also project leadership (Ofori and Toor, 2012) in order to increase the likelihood of successful project delivery. Training is critical in managing the turbulence and uncertainty found in most project environments, where often a project leader does not even have full control of the project resources including the team (Gray and Larson, 2008). Navigating through such an organisational political landscape, where persuasion and negotiation are the norm, requires project leaders who possess a high dose of project leadership skills or effective project leadership. An effective leader may be viewed as a critical thinker, problem solver and one who has the ability to engage emotionally with the project team while seizing opportunities to accomplish the project vision (Bass, 1985; Burns, 1985a; Sashkin and Sashkin, 2003). But how should effective project leaders be trained and developed?

Training was traditionally viewed as the transfer of knowledge, beliefs, skills, values and experiences to the learner (Jagero *et al.*, 2012). The instructor played an active role while the learner remained passive, assimilating knowledge from the former (Christopher *et al.*, 2001). The approach is still useful when teaching at lower levels of education. At a higher level of training (e.g. postgraduate level) the contemporary view is that classroom instruction is simply not enough to provide learners with real life examples that challenge their thinking and perspectives to understand and tackle contemporary work issues including managing projects (Hallows and Mason, n.d.). Scholars (e.g. Mezirow, 1991; Taylor, 1997; Cranton, 1994) have proposed that transformative learning holds the key to developing an individual's critical thinking capacity. Transformative learning occurs when learners critically reassess their current perspective and examine whether their present approach to doing things is right for them (Christopher *et al.*, 2001). Critical self-reflection facilitates learners to perceive things fundamentally in a new and different way in order to scrutinise decisions they make based on modified assumptions. There is a high likelihood that when personal perspectives are changed, the individual's view of the world and behaviour are also altered at both the workplace and elsewhere (Mathis, 2010; Gabriel, 2008). Transformation learning experienced at college, practised and developed at the workplace may therefore be the mechanism for developing an effective leader. Innovative pedagogies that enable students to acquire new skills and information while radically transforming their thinking and learning are a necessary introduction in programme delivery (McGonigal, 2005) such as the Master of Project Management (MPM) Programme offered at the University of Botswana.

The MPM Programme started in August 2005 as either a two year full-time or three year part-time programme. With a maximum enrolment of 20 full and part-time students, the programme attracts both local and foreign in-service personnel from public and private organisations in mostly the southern African region (MPM, 2005). Due to its generic nature, the entry requirements permit any first degree. The rationale in accepting all disciplines is that project work takes place in all sectors of the economy, for example, construction, IT, business, or social services (i.e. education or health).

While most students are self-sponsored others are government, donor and business sponsored students.

Given the level of maturity of the entrants, the MPM Programme provided the perfect place to introduce a technique called prayer with a potential for facilitating transformative learning. Prayer is a student centred learning activity that requires students to identify mini-cases containing project management concepts and issues (e.g. from the media, magazines or from their own personal experiences) in order to present and discuss them with their peers in class. The term “prayer” was coined by students because it is the first learning activity of the lecture (prior to that, other names had been considered including “curtain raiser”, “starter or appetizer” and “preamble”). However, the lecturers’ viewed the term from both a legal and educational connotation. In the legal fraternity, legal counsels “pray” to the court that their arguments should be heard and acceded to. Similarly a student requests the class to listen and accede to the prayer material being presented. On the other hand and from an educational sense “prayer” is an appropriate term as noted by Woodruff (2001) to convey the value and reverence towards the gift of learning. Rud and Garrison (2009) additionally noted the vastness of subject matter in human learning inspires awe, wonder and humility which are components of reverence. They add that “reverent educators” are those who listen carefully to understand their students and the subject matter better, while recognizing the limits of knowledge in the pursuit of wisdom that lies beyond their limitations as human beings, yet show strong leadership and include others in their deliberations (Rud and Garrison, 2009). Each prayer presentation was expected to be shared with such mutual awe and humility between the lecturer, presenter, and peers. Prayer has been used for three MPM student intakes and for each intake in three courses offered by at least two different lecturers.

With that as background the main purpose of this paper is twofold. First, it describes some key learning theories to provide context to the prayer technique; and second, it reports students’ perception of prayer as a learning technique for project management education.

2. Literature review

The prayer technique was viewed as an attempt to provide a transformative learning environment. However, prayer also provided an opportunity to demonstrate the achievement of other learning theories and principles which underlie the design of the MPM Programme. These mainly included Bloom’s taxonomy, graduate employability attributes and adult learning principles. They are briefly discussed to provide context to the students’ perceptions.

2.1 Bloom’s taxonomy and project management education

Bloom (1956) noted that the learning of any subject matter (e.g. project management) is progressive and hierarchical in nature. For example, acquiring project management knowledge starts from objectives set at a lower level before progressing to a higher level, increasing with learners’ depth of understanding. Bloom’s taxonomy has been used around the world to develop educational objectives of programmes (Athanasios *et al.*, 2003). A revised Bloom’s taxonomy requires students to remember (or recall), understand, apply, analyse, evaluate and create knowledge based on what they learn (Krathwohl, 2002). The MPM Programme curriculum was also designed in such a way that its outcomes depict an increasing and hierarchical order of understanding of project management concepts (MPM, 2005).

As a way of facilitating curriculum design and easy internalisation, some authors have reduced the six objectives of Bloom's revised taxonomy into small groups. Christopher *et al.* (2004), for example, grouped the objectives into three (e.g. lower, medium and higher level objectives). Blom and Saeki (2011) on the other hand grouped them into two, namely lower level (remember, understand and apply) and higher level (analyse, evaluate and create) objectives. This grouping was adapted in the development of the prayer activities as discussed later in Section 3 of the paper.

Additionally, in most national qualification systems (e.g. SAQA, 1997) postgraduate qualifications are pitched at a higher level of objectives (i.e. analyse, evaluate and create). That is to say, postgraduate students, like those in the MPM Programme, must demonstrate ability to analyse and evaluate project management situations in order to create new ideas, solutions or systems based on the project management concepts learnt in class. However, there has always been a challenge in trying to achieve the depth of learning at this level of objectives. While most postgraduate programmes build upon undergraduate knowledge (e.g. see Bredillet *et al.*, 2013), a good number of students enrolled in the MPM Programme encounter project management concepts for the first time. Students therefore, start at lower level of objectives of Bloom's taxonomy but have to quickly grasp the concepts in order to exit at a higher level of competency by the end of the semester. Interactive and social learning techniques assist to reduce the barriers to achieving the higher level of cognition required to demonstrate learning at Master's level. Prayer was built on this premise.

2.2 Graduate employability attributes

There has been an outcry from employers (Tomlison, 2008), including those in Botswana (Ama, 2008), that most graduates do not have adequate skills to cope with the demands of the contemporary workplace. Employers contend that discipline-specific skills must be developed together with "soft" skills or graduate attributes in order to bridge the employability gap (Moreau and Leathwood, 2006). According to Yorke (2006), graduate attributes are attitudes, behaviours and individual characteristics that increase a graduate's chances of gaining and sustaining employment in order to be successful in the chosen occupation.

In a bid to bridge the employability gap, universities (e.g. UTAS, n.d.) and educational agencies (see Curtis and McKenzie, 2001) have prescribed lists of graduate attributes for integrating into the curricula of university programmes. The purpose of the list of attributes is viewed as twofold. First, the list requires programme designers to integrate graduate attributes in the design and delivery of all curricula of the university. Second, the list sends a message to students, both undergraduate and postgraduate, of the need to develop and enhance the graduate attributes while at university in order to improve their chances of not only finding a job but also achieving success in their careers. This is meant to benefit the students, their colleagues at work, the community and the nation at large (Yorke, 2006).

In line with that educational trend, the University of Botswana promulgated a policy on teaching and learning (University of Botswana, 2008) that included a list of 12 graduate attributes namely:

- (1) self-directed and lifelong learning skills;
- (2) accountability and ethical standards;
- (3) communication skills;

- (4) organisational and teamwork skills;
- (5) interpersonal skills;
- (6) social responsibility and leadership skills;
- (7) cross-cultural fluency;
- (8) information communication and technology (ICT) skills;
- (9) research skills and information literacy;
- (10) critical and creative thinking skills;
- (11) problem-solving skills; and
- (12) entrepreneurship and employability skills.

When the MPM Programme was reviewed in 2009 (MPM, 2009), these graduate attributes became an important guide in formulating its revised learning outcomes.

2.3 Adult learning in project management education

Students who enrol in the MPM programme are considered adults. Several reasons have been advanced why adults such as these desire to learn. Lieb (1991) noted, for example, that adults learn because they want to satisfy an inquiry mind; advance themselves to get a better job; change career; obtain skills to serve the community; comply with a training plan at work; relieve boredom; and network with others. Knowles (1970) further noted that for adult learning to be effective, some key principles of andragogy must be considered and incorporated in the design and delivery of adult programmes. Some of these principles are that adults:

- (1) are goal-oriented and hence internally motivated and self-directed;
- (2) expect to have a high degree of influence on what they want to be taught, how they are taught, and how the learning will be evaluated;
- (3) bring life experiences and knowledge to the learning environment;
- (4) are relevance oriented and hence want to see an application of learning to current social or work environment;
- (5) are practical and problem-oriented and hence want to actively participate in learning activities; and
- (6) desire to have a cordial learning environment that offers prompt and constructive feedback from peers and instructors.

The above principles imply that postgraduate teaching and learning should differ from what happens at lower levels of education. Knowles *et al.* (2005) emphasised that the traditional pedagogical models alone are not adequate to address the learning needs of adult learners, who often want to be in control of their learning. The andragogy principles underscore a need for creative learning techniques such as prayer to cater for adult learning needs.

2.4 Contextualising prayer as a transformative learning process

This study contextualised prayer as a transformative learning technique. Transformative learning can be described in terms of its nature, process, appropriateness of the learning environment, and its outcomes.

2.4.1 Nature of transformative learning. Transformative learning evolved from the principles of adult learning (Knowles, 1970) and experiential learning (Kolb, 1984). Burns (1995b) summarised the two theories as student-centred, experience-based, problem-oriented and collaborative approaches to learning. Mezirow (1991), the key architect of transformation learning, viewed it as a process that facilitates learners in assessing their current perspectives and approaches to life and through dialogue create an opportunity to change these perspectives and approaches. Taylor (1997) added that transformative learning is based on the assumption that a learner's current perspective and consequent approach to life derive from his or her experiences, thoughts, values, knowledge and skills. Therefore, critical to transformative learning is the fact that adults are experiential learners who critically reflect on their perspectives in order to assess the suitability of those perspectives on the current real life issues.

2.4.2 Process of transformative learning. Transformative learning requires several steps to occur. Mezirow (1995) identified ten such steps. However, Taylor (1997) reduced the process to three steps namely disorienting dilemma, critical reflection and action. A disorienting dilemma exposes the limitations of a student's current knowledge or approach, for example, as a result of an assignment at school, work or a social challenge. The next step, critical reflection, allows students to critically assess their underlying assumptions to understand how these influence or limit their understanding of the problem. The last step allows students to participate in a critical discourse with others as the group (peers in class, at work and in social circles or even with their instructor) to examine alternative ideas and approaches. This creates an opportunity to test and apply the new perspectives (McGonigal, 2005). For reasons of simplicity Taylor's steps were adapted in constructing the prayer processes which are outlined in Section 3.

2.4.3 Appropriateness of the learning environment. For effective transformative learning to take place the learning environment must be appropriate and conducive. According to Robertson (1996) and Cranton (1994), it must at least include the following aspects: first, learners who are goal oriented and motivated, second, pedagogies that support a student-driven approach to promote learner's autonomy, participation, reflection and peer collaboration; third, learning conditions that promote a sense of safety, openness and trust (i.e. free from intimidation and victimisation); and fourth, instructors who are empathetic and have professional integrity. The MPM environment in which the prayer was introduced was deemed to attest to these conditions.

2.4.4 Outcome of transformative learning. Anding (2005) noted that transformative learning is a process that turns ordinary students into extraordinary students. While this may be an overstatement, transformative learning facilitates students to develop as autonomous critical thinkers; problem solvers; communicators who put across their revised perspectives confidently in a discourse with school, work and social peers; empowered individuals who make decisions that are appropriate in the context of challenges (Franz, 2002; Gabriel, 2008).

Hardly any study has provided an empirical and causal link between transformative learning and effective leadership. However, some research (e.g. Preece, 2003; Gabriel, 2008; Boyd, 2009) has linked transformative learning and transformational or effective leaders. In addition, Bass (1990) postulated that one of the four dimensions of an effective leader is the ability to use intellectual stimulation to inspire followers to constructively challenge their own assumptions as well as those of the leader in order to find innovative ways to solve challenges, including project issues. This outcome was

considered insightful for a transformative learning technique, like prayer, introduced in the training of project leaders.

3. The prayer processes

In the three years of its existence, prayer has developed into a five-process learning activity namely preliminary-explanation, identification and preparation, presentation, discussion and assessment.

3.1 *Preliminary-explanation*

Four sub-activities are involved at this stage. They are carried out in the first lecture of the course in which the prayer technique is introduced. The first sub-activity involves the lecturer explaining and describing to students the entire prayer processes. This includes revisiting the importance of Bloom's taxonomy and the University of Botswana graduate attributes in learning (both of which are also introduced to students during their orientation).

The second and third sub-activities involve developing schedules of presenters and chairpersons (student names and dates). For both schedules, the dates are randomly picked by the students but ensuring that no student is both a presenter and chairperson on the same date. Prayer sessions are normally held at a rate of two students per week. Each prayer session is allotted a maximum of 20 minutes divided equally between the presentation and discussion.

The last sub-activity involves a lecturer presenting an example of a prayer for students to practically understand the processes. Students also conduct a mock assessment of the lecturer's prayer based on the template discussed later in the paper.

3.2 *Identification and preparation of the prayer material*

The prayer process requires students to identify suitable "material" they think is related to a project management concept(s) with a view to presenting it in class. The material may be in form of an article which appeared in a newspaper (local or international), book, magazine or journal. Students may also select a picture, artefact or a video on which to build and articulate a project management story. For any video presented the student must allocate time to make his or her own interpretation of the video content. Students may also narrate a personal but documented story based on a project experience. Local stories and experiences are often encouraged but classic stories from outside Botswana are also accepted. Students are often encouraged to do more research on the topic, if necessary, to fully comprehend its details in order to effectively articulate the material during the presentation. To score well in their presentation students are expected to demonstrate their own attainment of several Bloom's revised objectives based on the guideline in Table I.

3.3 *Presentation of the prayer material*

Students may send their prayer material in advance to their peers using the class group e-mail. Presenters are encouraged to use any appropriate method that is effective and communicative. So far students have used various methods, for example, videos, PowerPoint presentations, annotated hand-outs of articles, artefacts, sketches, posters and pictures; or a combination of some or all these. Appendix 1 shows an example of a prayer presentation by one student who documented a personal project experience where scope control was lost leading to a spiral of cost and time overruns.

Table I.
Guide for preparing
the prayer

The broad objectives and (the revised Bloom's taxonomy objectives)	Explanation of how to operationalise the objectives in the prayer
Lower level objectives (remember, understand and apply)	Identify any material (as explained) containing project management concepts (to demonstrate recall) Explain the concept(s) identified in the material based on the project management body of knowledge (to demonstrate understanding) Explain the content of the prayer material in the context of the concepts identified (to demonstrate application)
Higher level objectives (analyse, evaluate and create)	Break down the content into various components of the concept(s) identified (to demonstrate analysis) State the challenges, problems, wrongs, rights, differences, etc. in relation with what is considered to be good practices in project management (to demonstrate evaluation) Suggest what can be done (to demonstrate creation) to change, improve, eliminate, sustain, etc. the situation

3.4 Discussion following each presentation

Once the presentation is completed, the floor is open to the class for questions, comments and discussion under the guidance of a student chairperson. Discussion allows the creation of a favourable atmosphere for students to develop their imagination and creativity thus enabling them to process information rather than simply receiving it (Eyler and Dwight, 1996). In fact some educationists (e.g. Wells *et al.*, 1990) claim that when learners work as a group they can share and evaluate ideas and in the process develop their critical thinking.

3.5 Assessing the prayer presentations

When the discussion is concluded the peers assess the presenter. Though peer assessment was emphasised the process actually was construed to include self-assessment too. As noted by Black and William (1998) and O'Donovan *et al.* (2004), peer and self-assessment provide avenues for reflective teaching and learning, among other benefits. Hanrahan and Geoff (2001) identified the main aims of self and peer assessment to be: increase student responsibility and autonomy; strive for a more advanced and deeper understanding of the subject matter, skills and processes; lift the role and status of the student from passive learner to active learner and assessor; involve students in critical reflection; and develop in students a better understanding of their own subjectivity and judgement. All these aims are in line with transformative learning.

Taking cues from O'Donovan *et al.* (2004) we note that for assessment judgements to be effective they must remain objective and trusted by students. So, while in the three years of its introduction, the assessment of prayer presentations had evolved from a lecturer-assessed activity to a student-centred assessed one without a guide, today it is assessed with a guide based on the five items shown in Table II.

The first two areas of the guide relate to the requirement to demonstrate an understanding of project management concepts based on Bloom's revised taxonomy of objectives and how they relate to the presentation. The two items account for two-thirds (18/27) of the points. The other items relate to the manner in which the presentation is conducted, i.e. how it is logically structured, how time is managed and how the presenter answers questions or provides feedback, to the comments. As for

Table II.
Guide for assessing
prayer

Assessment areas				Maximum and minimum points awarded
1. Lower level objectives (remember, understand and apply)				9 (1) points
2. Higher level objectives (analyse, evaluate and create)				9 (1) points
3. Logical flow of the presentation				3 (1) points
Poor	Good	Excellent		
1 point	2 points	3 points		
4. Management of time				3 (1) points
Did not keep time	Kept time			
1 point	3 points			
5. Answering of questions or feedback				3 (1) points
Poor	Good	Excellent		
1 point	2 points	3 points		
Total				27 (5) points

time, if a student goes over the allocated ten minutes, only one (1) point is awarded; otherwise three (3) points are awarded for keeping time – indicating a punitive measure applied to lack of time management. True to the adult learning principle of constructive feedback, no award of zero (0) is given to any of the five assessment items, making the minimum award for each item one (1) point. The award of one (1) point indicates that the student expended the minimum required effort but did not achieve the desired level.

After the peers have assessed the presenter, the lecturer collects the assessment sheets to compute the average points achieved for the presentation. The points are announced in a subsequent lecture. In order to avoid any bias in the assessment process, the lecturer comments on the presentation only after the marks have been handed in by all students – an improvement suggested by students.

4. Methodology

The study was viewed as a two-phase process. The first process was to document the processes of prayer in its current state. This required however, reflecting on its evolution, for example, its name and assessment process typifies the changes that have occurred since the introduction of the technique.

The second phase of the study investigated prayer's impact on the student. The phase was guided by the research question:

RQ1. What was the impact of prayer on students' learning as seen from the lens of selected learning theories?

To get the perception of students, the survey questionnaire method was considered the most appropriate method. Though the interview method would have yielded richer and in-depth data (Saunders *et al.*, 2007), it was considered inappropriate for logistical reasons: it would have required scheduling interviews for students who are all part-time, when they are not at work or not in class.

The questionnaire contained a combination of closed-ended and open-ended questions. The former collected demographic and background data while the latter

sought the perceptions of the students (see Appendix 2). The advantage of using open-ended questionnaire was that students were enabled to express themselves and provide an uninhibited perception of prayer without being restricted by pre-determined responses which are the norm in a closed-ended questionnaire (Malhotra *et al.*, 2010). All the 19 MPM students who had experienced prayer in at least three courses were requested to complete the questionnaire and return it in two days.

Content analysis was identified as the most appropriate data analysis technique. Bryman and Bell (2003), noted that content analysis allows the identification of emerging themes in the responses. All responses were entered in an Excel[®] worksheet. To mitigate possible bias, data were analysed independently by two researchers and later a “research conference” was held to agree on the interpretation of the results.

5. Results and findings

A total of 17 (89 per cent) students completed and returned the questionnaire. Two students did not participate in the study. One was out on a field trip while the other was on sick leave.

5.1 Background and demographic profile

Table III indicates there were slightly more male (59 per cent) than female students. Majority (82 per cent) of students were middle aged (i.e. between the age of 30 and 39 years). However, since all the students were above 25 years old they were regarded as adults for purposes of this study.

Table III also shows that a sizeable number of students (29 per cent) work for local authorities, followed by the private sector (23 per cent). The rest are employed in parastatals (government-owned companies), non-governmental organisations (NGOs) and central government (i.e. 18, 18 and 12 per cent, respectively). In this particular intake there were no students working for development organisations (e.g. United Nations agencies) or foreign students.

Characteristic	Value	Frequency	Ratio (%)
Gender	Male	10	59
	Female	7	41
	Total	17	100
Age group	< 25	0	0
	25-29	2	12
	30-34	6	35
	35-39	8	47
	40-44	1	6
	45-49	0	0
	≥50	0	0
	Total	17	100
Employment sector	Local authority	5	29
	Private	4	23
	Parastatal	3	18
	NGO	3	18
	Cent. Govt.	2	12
	Dev. Agencies	0	0
	Others	0	0
Total	17	100	

Table III.
Background and demographic profile of respondents

Table IV indicates that the top three reasons for enrolling in the MPM programme were given as the desire to advance in project management knowledge and skills (39 per cent), satisfy an inquiry mind (18 per cent) and to change career (16 per cent). The result echoes the assertion by Lieb (1991) that adults seek to advance their current knowledge, perhaps triggered by work related challenges.

Students were asked to rate their understanding of the various project management concepts at enrolment on a scale ranging from very poor (1) to excellent (5). Table V shows that students had low knowledge levels (between very poor (1) and poor (2)) of all the knowledge areas.

While the results have limitations typical of self-report surveys, it provides an insight in the knowledge levels at enrolment, for example, the worst knowledge areas were risk management and project governance (all with a mean, $\mu = 1.47$ and standard deviation, $\sigma = 0.85$). The “greatest depth” of understanding claimed by students was in project monitoring and evaluation ($\mu = 2.07$) but the standard deviation ($\sigma = 1.03$) indicated a variation in the knowledge. This may have been caused by a lack of understanding by some students of what is involved in the knowledge area since it is an optional course.

Reason	Frequency ($n = 17$) (%)
To advance myself and hence achieve a better job	39
To satisfy my inquiry mind	18
To change career	16
To comply/respond to training needs at work	9
To serve my community	8
To network or making new friends	6
To relive boredom in the evenings	3
Other (state)	1
Total	100

Table IV.
Reason for enrolling
in the MPM
programme

Knowledge area	Depth (μ)	Variation (σ)
Project governance and strategy	1.47	0.85
Project risk management	1.47	0.85
Project legal environment	1.51	0.55
Project scope management	1.60	0.83
Project impact assessment	1.60	0.72
Project feasibility study	1.73	0.64
Project time management	1.93	0.77
Project cost management	1.93	0.48
Project communication management	1.93	0.64
Project leadership/teamwork	1.93	0.98
Project stakeholder management	1.93	1.23
Project quality/performance management	2.00	0.62
Project procurement management	2.00	0.86
Project monitoring and evaluation	2.07	1.03

Table V.
Depth of at
enrolment into the
MPM programme

5.2 Student perception of prayer

Perceptions of the students on prayer were guided by the three investigative questions (see Appendix 2).

5.2.1 Concept choice and preparation of prayer. Prayer presentations spanned several knowledge areas of project management as shown in Table VI. However, project management issues were often intertwined for example, what was labelled by a student as a quality/performance issue may be a result of poor scope definition.

Reasons given for choosing a particular prayer fell into two categories: curiosity/inquiry and desire to apply project management principles learnt in class. As for curiosity, some students noted that they became intrigued by specific project management issues in the country after joining the programme and prayer provided the motivation for investigating them. One student, for example, noted “[...] I have always wondered whether people outside my class understood what it takes to plan and implement projects, for example, the parliament annually allots money for projects but many fail each year. Do they have a mechanism for monitoring and evaluating them? I had to read some parliamentary reports dating five years back to understand their disposition”. This comment indicated that prayer gave this student the opportunity to reflect on the effectiveness of parliament’s project monitoring and fiscal accountability mechanisms.

Related to the above, the preparation of the material enhanced self-learning through gathering, organising and preparation of the presentation. One student noted “to me it was a mini-research project. My prayer required collecting information from six sources for the ten-minute presentation. Compressing the volume of information I had gathered was also another challenge that I had to grapple with”.

Prayer also provided another opportunity for students to get closer to the practical aspects of project management as one noted “the prayer facilitated connecting classroom concepts to real-life issues; and to appreciate the challenges in the local project management environment”. Another added “the prayer allowed me to make a quick assessment of the capability to implement projects as a nation [...] and in the process identify the where the gaps are”.

Furthermore, students observed that prayer permitted them to get a deeper understanding of each concept presented as one student stated “I had to understand the concept first in order to apply or relate it to the prayer scenario. In addition, I had to

Project management concept/knowledge area	Frequency (<i>n</i> = 17)	%
Stakeholder management	3	17
Project procurement	3	17
Project scope management	2	12
Project leadership/teamwork	1	6
Project communication	1	6
Project quality/performance	1	6
Project governance	1	6
Using projects to drive strategy	1	6
Impact assessment and monitoring	1	6
Project monitoring and evaluation	1	6
Break-even appraisal technique	1	6
Defining project success	1	6

Table VI.
Project management
concepts presented

analyse the scenario in order to identify the issues which were at stake, then develop some possible solutions even though I lacked full information". Lack of information is typical, especially in project planning. Therefore an opportunity for students to encounter this dilemma and practice the formulation of assumption that take care of information scarcity should have been welcome for practice.

Students observed that prayer made them concentrate on learning project management concepts using familiar contexts as one student put it "[...] the names, organisations, locations and sometimes the projects were often familiar. We did not try to imagine unfamiliar places or struggle to pronounce unfamiliar names often found in text books printed overseas [...] everything came from our environment [*Botswana*]". Additionally, students also noted that prayer motivated them to remain abreast of local current affairs, emphasising how the environment in which projects are implemented affects their delivery.

5.2.2 Presentation sessions. The presentations were perceived by students as held in "[...] an open and free environment whereby we [*students*] were able to interact with the presenter hence allowing for active learning. After all the presenters were one of us with presumably the same level of knowledge". Along the same line students noted prayer offered another opportunity for "some students who are ever so quiet to come out of their closet". They considered this as an excellent process because it brings everyone on board and enables everyone to understand each other's views on certain issues.

Additionally students perceived the presentation as an opportunity to sharpen their communication, presentation and time keeping skills. One student was more emphatic by noting that the prayer "[...] afforded me the opportunity to reflect on my weakness in public speaking. My current work does not allow me the opportunity to give speeches or make presentations in front of many people and hence I [*had*] sort of forgotten this weakness. Now I have to confront and work on this weakness in order to improve myself and become a better communicator". This comment typified a self-assessment process that the prayer offered students.

5.2.3 Practical lessons learnt from listening to and discussing the prayer presentation. It would appear that listening and the subsequent discussion was one of the most engaging activities. For example, one student noted that "it was an opportunity to learn from peers, what works and what does not work when making presentations [...] and I also learnt the different approaches to making presentations". Another added that "[...] time keeping was a nightmare for many but I noted one of my peers had 21 slides to deliver in 10 minutes. I wondered how he was going to do it and in the end he ran out of time".

Apart from such presentation challenges, students also identified areas where prayer deepened and broadened their understanding of the project management concepts beyond their own presentation. This may be viewed as a complementary role of the activity, for example, one student noted "[...] listening to my classmates' presentations, made me understand a number of topics more clearly as compared to when they were taught during class [...]. the exercise also brought out salient issues in project management that would otherwise be difficult to identify in books".

For others the prayer was an inspiration to do better based on self and peer-assessment "[...] the prayer gave me an inspiration to be on top of the material because the feedback I got, though constructive and positive, made me reflect that I did not cover certain aspects, and hence needed to go over them [...] if I was given a second chance I would do a better job".

One interesting aspect was also noted by one student “making a mistake in the prayer was not an issue, what was important is that when the mistake was made, we discussed it, corrected it or agreed on it. For me this gave an everlasting impression of the discussion”. Essentially what this statement implies is that students also learnt through mistakes, a very crucial ingredient of transformative learning and group discourse.

5.2.4 Assessment of the presentations. Students appreciated the fact that they assessed each other’s work as one student put it “the assessment clearly indicated the student-centred nature of the prayer”; while another crucially noted that “[...] because the scoring was done by several people and not one person [*the lecturer*], by the law of averages, the average score most likely reflected the performance”. Further observation was made that “student assessment is good because, the people who assessed were on the same level of understanding as the presenter. They judged the presentation from how the presenter communicated to them and not from a deep analysis of knowledge. However, it is important for the lecturer to have an opportunity to moderate the facts, especially at the end”.

5.2.5 After-effects of prayer. One question asked students whether prayer had any effects after the day of presentation. All students indicated that this was so, for example, one student noted “[...] when I presented my prayer (*titled: break even analysis for Airbus 380*) I thought, it was the end of the story. However, I kept thinking about, the manner I presented it, the facts that I presented and even the feedback I got. Now I often read similar articles on civilian aircraft manufacturing and the airline industry. Incidentally even my classmates send me articles relating to the airline/manufacturing industry”. This response can be construed to indicate a continuing introspection by the student.

Another student noted “it was amazing that both the students and lecturer have kept on referring to some of the prayer presentations to anchor their arguments (and in some cases make jokes). It is also noticeable that the prayer has contributed to bring us together as a group”. This point requires stressing that prayer facilitated group cohesiveness and trust (as evidenced by jokes which did not irritate anyone) which are key ingredients in group learning.

5.2.6 Shortcoming of prayer. It would be foolhardy, to expect the prayer presentations to have no shortcomings. Students pointed out a few things which could be improved. First, they suggested that the scoring system should be changed. They noted specifically that the first two assessment areas requiring presenters to demonstrate an understanding of project management concepts based on Bloom’s revised taxonomy of objectives (see Table II) have an over-allocation of marks. According to one student, “[*the*] first two items test the depth of understanding of project management content while the others (item 3-5) test soft skills [...] [but] content is tested in many [*other*] areas of the programme including quizzes and examinations. Therefore, the last three items [*presenter’s flow, time management, and handling of questions from the audience*] should be weighted equally or more because they assess the soft skills”. The observation seemed quite plausible given the need to emphasise these soft skills in the teaching and learning processes.

The second observation by students was a logistical matter that all classroom presentations have to contend with – that the comments made by the audience benefit those who present later. One student rightly observed that “as the presentations progressed subsequent presenters learnt more presentation skills”; and that “as the semester progresses we become more knowledgeable and hence those who present in

the final weeks have an advantage of having gained a deeper understanding of some of the concepts". There was some truth in the observation but since students cannot present all at once, lecturers could collaborate on the schedule and ensure that students who present in one half of the semester do not do so in another course.

6. Discussion

The implication of the results are discussed from two dimensions namely, the use of prayer as a learning and as a teaching technique. However, the implications must be viewed in the context of the limitations of the approach used in the study. One cohort of students has been used to assess the impact of the prayer. This was because the prayer processes were still evolving in the first two years of its introduction. This led to a cross-sectional approach being applied to provide a snapshot of the perception of students on the impact of prayer on learning. Further research could explore, for example, a longitudinal study and in a different environment other than Botswana.

6.1 Implications for learning

Results from the study have indicated that prayer had various effects on student learning both at individual and collective levels. Prayer provided an opportunity for students to drive their own learning by according them the freedom to present what they want, how they want it and in addition, have the assessment in their own hands. For those who were listening, it was a conducive learning environment where the "fear" of lecturer who is normally "presumed to know more than them" was removed such that the debates and discussion were free from any academic intimidation. Prayer also gave students an opportunity to appreciate that peers, as individuals or as a collective group, can greatly contribute to each other's learning. These aspects resonated well with the principles of adult learning. Elsewhere (e.g. Kasule and Lunga, 2010; Carson and Nelson, 1996) students have been reported reluctant to embrace peer assessment. However, the students in the current study are on the way to accepting that in professional work it is peers who always make the most accurate and well-informed judgment of a project situation; thanks to prayer providing this transformative learning possible.

The presentations extended the students' depth and breadth of project management concepts. Individually, prayer provided students with an opportunity to devolve deeper into their own topics of choice. Judging from the responses students achieved several objectives of Bloom's taxonomy. For some students, prayer facilitated clarifying specific issues in the course content that they had not understood well in class.

Furthermore, the students applauded prayer for enhancing a number of skills, including time management, organisation of thought and information and its communication to the audience including the use of ICT. Prayer therefore, managed to enhance a number of graduate employability attributes.

Lastly and critically, prayer facilitated students in undergoing a degree of transformative learning. Starting with its basic activity of searching for a prayer topic, students went through phases of "disorienting dilemmas" such as where they discovered they had less knowledge about the prayer concept they had selected than they had imagined – an invocation of the awe, wonder and humility as articulated by Rud and Garrison (2009). So they had to conduct further research and make a plausible presentation based on some perspectives (assumptions, beliefs and attitudes). Learning project management concepts became a process of social interaction in which the

student was positioned as an active participant in the acquisition of knowledge, skills and attitudes rather than simply as an act of passively fulfilling a course requirement. Upon presenting the prayer material and getting feedback they found the perspectives in prayer which they thought were correct or in the mainstream can also be viewed from different contexts or dimensions. In both circumstances, students were often thrown in a cycle of critical reflection, which was continuously shaping their perspectives on the project management issues they had presented, what others had presented and in view of the input from the discussion. It is probable that prayer gave the tools for use in the workplace for solving work-related challenges.

6.2 Implications for teaching

More recent theory on transformative learning (see Cranton, 2006; Dirkx, 2006; Taylor, 2008) and other philosophical insights (Woodruff, 2001; Rud and Garrison, 2009) have pointed to the benefits of learning opportunities that accrue from meaningful and genuine relationships between students and their lecturer by engaging students' emotions and thus assisting in the development of participation through critical reflection. Since both student and lecturer are adults, transformative education has also been investigated for evidence that both student and lecturer benefit from transformative learning experiences such as prayer. Cranton (2006) argues that the development of genuine relationships with students is beneficial to learning and teaching. The author then provides guidelines that may result in the lecturer's transformative growth from an authoritative figure that students do not know to one the students know, like, and trust and can therefore interact with and examine "previously uncritically absorbed values and assumptions" (p. 12).

On a more practical perspective, prayer provides a high possibility of relieving the lecturer from the cumbersome task of searching for (locally) suitable cases to provide practical problem-solving exercises for teaching. With prayer, students identify the cases themselves and moreover based on the local context. This enables them to contextualise project management in the local environment. Discussing local issues makes students appreciate the progress, challenges, trends and topical issues in the local project management landscape. In addition, prayer brought to surface salient issues which may not have come out in class notes or textbooks. Furthermore, by accumulating several prayer presentations, year after year, the lecturer can create a bank of prayer activities which can be used as examples or discussion points during class lectures. In addition, and perhaps with some modifications, the bank of prayers can also form part of the quizzes or examination case studies for subsequent groups of students.

As indicated by responses on peer assessment of the presentations, the lecturer's role changed from that of evaluator, final judge or gate-keeper. Instead before, during, and after the presentations, the lecturer was a facilitator playing a key role of encouraging access and participation in project management as a community of practice that has specific concerns peculiar to it. In their discussion of situated learning, Lave and Wenger (1999) observed that the students can access information and gain opportunities for participation on a wide range of on-going project activities as they did in this study.

7. Conclusion

This paper has described prayer as a learning technique which has been used in project management education. It reported and discussed the perceptions of students on its

impact on learning. Generally, the research question that guided the study was answered in the affirmative, i.e. that prayer has had a positive impact on students' learning. Respondents identified several dimensions of learning including adult learning through self-driven and collaborative engagements. In addition, prayer brought students closer to real-life issues in project management; facilitated a deeper understanding of project management concepts moreover with a local context; and the enhancement of graduate attributes, particularly research and communication skills. Critically, it provided an opportunity for transformative learning where students used critical reflection and collaborative discourse for solving self-identified project management issues. In summary, the prayer provides a bouquet of learning facets that include research, reflection, communication and presentation skills; self and peer assessment; and collaborative learning. In the midst of this potential for teaching and learning the paper also cautions that prayer activities play a complementing role, not an absolute one, that is, traditional methods still have a place in training. Lastly, future research could involve a longitudinal study, other settings other than Botswana and application to other disciplines similar to project management such as business and public administration.

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Further reading

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Appendix 1. A sample of a prayer

How I lost the scope of the project when replacing a home electric cooker

(* pictures not provided due to space limitation)

One day, our home electric solid plate cooker blew up. We requested an electrician to assess it and he diagnosed the problem as 'worn out cables touching each other'. While the wires could be replaced he also noted the cooker was too old and needed replacement. Together with my wife we agreed to the replacement though she cautioned that the new one had to be an induction cooker which is 'easy to clean, saves electricity and less prone to accidental burns'. The price of an induction cooker was twice the solid plate cooker which I had budgeted for about P3,000 (US\$357) plus P400 (US\$47) installation.

< picture old and new cooker >

Having bought the new induction cooker, the electrician further noted that the cupboards around the sink and the cooker were all rotten and needed replacement. He gave us a name of a 'good' carpenter. The carpenter made an assessment of the work including the quantities of the needed materials. The quotation for the job was P4,200 (US\$500) inclusive of labour. However, while at work the carpenter had a chat with my wife. He suggested that the top material of the cupboards connecting the sink and cooker area should be replaced with a granite stone. Granite material is more 'aesthetic, lasts longer and is easier to clean' and comes in several colours. I imagined my wife adding that 'it has to be in pink to match the floor tiles'. Pink granite cost an extra P2,000 (US\$238) compared to black granite. The total cost for granite and installation

alone was now P11,000 (US\$1,309). When I tried to oppose the idea, I could see the wife was neither going to settle for the chip board material nor the black granite. I grudgingly accepted.

< *picture worn out cupboards, chip board and granite* > ;

< *sketch of old and new layout* >

The granite, cupboards and components were purchased and made ready for installation together with the cooker. As the work progressed a number of things happened. Several modifications were made, some necessary, others unnecessary, some even abandoned half-way! In the course of the modifications more materials were needed and hence an increase in the cost and time. Furthermore, some materials were underestimated while others were overestimated and hence wasted. The most disturbing aspects were that the work was estimated to take four days but took fourteen days.

< *picture of unused skirting, hinges and nails* >

Meanwhile this was happening, there were disruptions to home tranquillity with various contractors coming in and out of the house as a result the kitchen, living room and veranda had to be cleaned every day after work. A new twin-coil plate electric cooker was purchased and cooking was temporary relocated to the servants' quarters.

< *picture new kitchen configuration* >

In the end, the project cost was P25, 680 (US\$3, 057), eight times the original amount; had taken three times the estimated duration; and had left the sponsor disillusioned. In summary, scope, cost and time span out of control. The only thing that was gained is that some 'stakeholders' seemed happy with project outcomes though the granite is now a serious 'glass-plate breaker'! Lastly some questions still remain unanswered; How did I perform as a project manager or was I even one? How could I have controlled the project scope and its fall out? Was the project a success? What can I do better next time?

Appendix 2. The key investigative questions of the questionnaire

RQ1. What prompted your choice of Prayer item to present?

RQ2. Explain how the following stages of the presentation facilitated your learning:

- (i) collection and preparation of the material;
- (ii) presentation of the material to the peers;
- (iii) listening and the discussion of the presentation with peers;
- (iv) assessment of the presentation by peers; and
- (v) effects of the prayer after presentation (if any)?

RQ3. What did you dislike about the prayer as a learning technique and how can it be improved?

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