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Editorial

This issue of the Journal of Education includes research papers dealing with a number of themes related to curriculum reform such as learners' voice in the curriculum reform and convergences and divergences in curriculum thinking, planning and implementation across contexts and educational levels. As such, the papers reflect research undertaken at various levels of education in the local and international contexts.

The research paper 'Teachers' written formative feedback on students' critical thinking: A case study', by Helena Pedrosa-de-Jesus and Cecilia Guerra, from the University of Aveiro (Portugal), explores innovative practices to promote and assess written formative feedback provided by teachers in undergraduate programmes. It highlights the potential opportunities and challenges of adopting the innovative practices.

Ronan Feehily, from the University of Canterbury (New Zealand), focuses on the use of Problem Based Learning (PBL) as an innovative pedagogical practice in the curriculum of law programmes at University level. His paper 'Learning to think like a lawyer' highlights the potential benefits of integrating PBL in modules of law programmes while pointing out that these benefits would tend to be the outcomes of long-term endeavours.

The integration of PBL is also addressed in Hazel William's paper 'Engaging students in their own learning: Introducing Problem Based Learning in an undergraduate psychology module'. The focus here is on the integration of PBL in an undergraduate psychology course to promote the skills required to become reflective practitioners and lifelong learners.

Faith C. Kyomuhendo and Amar K. Seeam explore knowledge sharing in academia using the SECI model. The paper 'Knowledge sharing in academia: A case study using a SECI model approach' examines the knowledge sharing activities students and academics engage in, relevant technological tools, and the enabling and disabling factors. They posit that knowledge sharing is a key element in the curriculum reform process.

In ' "No one knows where the shoe pinches, but he who wears it": Conversing with an Educator on the curriculum change in the Primary Sector' by Nathalie Congo-Poottaren and Swaleha Beebeejaun Roojee, from the Mauritius Institute of Education, the implementation of the Nine Year Basic Education curriculum in Mauritius is explored from the perspective of a primary school teacher. The authors contend that teachers are one of the most important actors in the curriculum reform and consideration needs to be given to continuous professional development.

The research paper 'An appreciation of learners' voice in tertiary curriculum reform process: A case analysis of Management Studies curriculum reform at *Université des Mascareignes*' by Nirmal K. Betchoo examines the extent to which learners at a local university express their desire to contribute to curriculum reform. It posits that learners need to have their voice heard, understood and considered during the curriculum reform process at tertiary level.

In 'Distributed leadership in the context of Nine Year Schooling of Mauritius', Kenny C. K. T. Lun and his colleagues have captured the perceptions of secondary school Rectors, Heads of Departments and Educators on distributed leadership. They contend that it is important to research and situate distributed leadership within learners' voices in the curriculum reform process.

The paper 'Value orientations of student Physical Education teachers studying on a Diploma course in Mauritius' by Susan Capel from Brunel University London (UK) and colleagues from the Mauritius Institute of Education deals with research in a teacher training institution. The value orientations of student Physical Education (PE) teachers are examined using the value orientation inventory (VOI-2). Findings are discussed in relation to implications for professional development of student PE teachers in view of curricular reform that took place in Physical Education at secondary school level.

It is hoped that the papers in this issue would make a significant contribution to educational research, locally and internationally.

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Editor

Teachers' written formative feedback on students' critical thinking: A case study

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ABSTRACT

This study explores innovative ways for promoting and assessing the effectiveness of teachers' written formative feedback in the context of undergraduate studies. The investigation entails close collaboration with one Biology teacher in the context of teaching 'evolution'. One of the particular challenges was to encourage 88 first-year biology undergraduates to produce critical analyses of a selected press release related to the topic of evolution (i.e., the advent of genetic diseases). The research approach is based on a critical social paradigm, assuming principles of action-research. All written documents produced by participants and semi-structured interviews (at the end of the semester) were used as part of the content analysis of data. Results show that the teacher's written comments increased opportunities for students to search for further information, negotiate and take decisions within their group, auto- and hetero-reflect before sending their critical analyses to the teacher.

Key Words: Written formative feedback; critical thinking; higher education

INTRODUCTION

Constructive alignment is one of the most influential ideas in teaching and learning in higher education. The basic premise is that learning activities and assessment tasks should be aligned with the intended learning outcomes for the course (Biggs, 1993; Biggs & Tang, 2011). One of the challenges for higher education is promoting more student-centred approaches, where students actively construct meaning from what they learn (Pedrosa-de-Jesus, da Silva Lopes, Moreira, & Watts, 2012; Ruiz-Primo, Briggs, Iverson, Talbot, & Shepard, 2011). In actuality, promoting students' higher order competences is difficult where learning tasks have previously been designed as being relatively passive (Chapman, 2001). The study we discuss here explores innovative ways for promoting written formative feedback in the context of undergraduate studies and for assessing the effectiveness of these feedback mechanisms. Our investigation entails close collaboration with one teacher of biology at the University of Aveiro, Portugal,

in the context of teaching 'evolution' over one semester. One particular challenge in this course was to encourage 88 first-year biology undergraduates to produce critical analyses of selected press cuttings related to the topic of evolution (i.e., the advent of genetic diseases). Opportunities for generating learning tasks and assignments to encourage students' higher-order competences in an introductory biology course like this, such as questioning competences and critical thinking, were previously infrequent and rarely taken. In the past this particular course, put a strong emphasis on memorisation of scientific concepts and was assessed through examinations (Pedrosa-de-Jesus et al., 2012).

Critical thinking has emerged as an essential outcome of university learning (Dwyer, Hogan, & Stewart, 2014; Pedrosa-de-Jesus, Moreira, Lopes & Watts, 2014). Ennis (1987) presented one of the most well-known definitions for critical thinking, distinguishing between abilities, attitudes and so-called 'dispositions'. Abilities refer to the cognitive dimensions, while dispositions relate to more affective aspects. These abilities are organised into five areas: elementary clarification, basic support, inference, elaborated clarification, and strategies and tactics. In addition, in the Delphi Project Report critical thinking is said to be 'the process of purposeful, self-regulatory judgment' (Facione, 1990, p. 2). That report formalised a list of core cognitive skills for critical thinking: 1) Interpretation (Categorisation, Decoding Significance, Clarifying Meaning); 2) Analysis (Examining Ideas, Identifying Arguments, Analysing Arguments); 3) Evaluation (Assessing Claims and Arguments); 4) Inference (Querying Evidence, Conjecturing Alternative, Drawing Conclusions); 5) Explanation (Stating Results, Justifying Procedures, Presenting Arguments); 6) Self-Regulation (Self-examination, Self-correction). Critical thinking like this requires students to be engaged actively in the process of conceptualising, applying, analysing, synthesizing, evaluating, and communicating information (Richard & Elder, 2007; Vieira & Tenreiro-Vieira, 2016). Evidence of higher-order competences is usually related to the context of the learning environment and to an effective teaching presence that encourages participation and triggers immersive dialogue and discussion (Garrison & Cleveland-Innes, 2005).

In our case, we were specifically interested in developing critical analysis competency to mobilise students' critical thinking abilities, broadly using Ennis' (1987) taxonomy: (i) to judge the credibility of a source, for example, through the selection of a press cutting; (ii) to identify where clarification was needed during the process of understanding the aims and the scope of the research; (iii) to determine inferential abilities during the evaluation of evidence, research outputs, and the scientific article's recommendations; (iv) to identify the strategic and tactical abilities, described by Ennis (1987) as 'deciding on an action' and 'interacting with others'.

Formative feedback in higher education has positive effects when it facilitates the development of students' reflection and self-assessment in learning (Quinton & Smallbone, 2010). However, the increasing pressures of workload on university teachers make the design of formative feedback strategies more difficult to implement in higher education. The main aim of this study has been to design teaching strategies for appropriate written formative feedback on this analytic task to foster innovation within the constraints of an established undergraduate biology programme, despite the well-known difficulties of doing so. Our work entails close interdisciplinary collaboration between two educational researchers and one Biology teacher from the Department

of Biology of the University of Aveiro. This is just one component of a long-standing project (since 2008) focused on promoting academic development and growth in higher education specifically, in our case, in Portugal. Our work has provided a strong understanding of the dynamics of student-generated questioning, inquiry-based learning and associated academic practices (Pedrosa-de-Jesus et al., 2012; Pedrosa-de-Jesus, Guerra, & Watts, 2016).

One of the assignments in the semester on evolution challenged both teacher and students: the 88 first-year students were encouraged to produce a critical scientific analysis of the press cutting. Needless to say, this required both an understanding of the science involved, and a capacity to see where the press cutting had either 'managed' or 'mismanaged' the news item.

In this paper we: (1) describe the teacher's written formative feedback during the assignment process; (2) evaluate and discuss the quality of teacher's feedback towards the development of students' critical analysis; (3) analyse the teacher's perceptions of what constitutes good feedback in this context.

THEORETICAL BACKGROUND

Feedback: Possibilities and Constraints

Feedback is considered to be one of the most influential factors in the improvement of learner achievement. There is now a strong degree of consensus as to what constitutes effective feedback practice, particularly where assessment is considered as an integral aspect of teaching (Evans, 2012). For instance, Hattie and Timperley (2007, p.102) consider that feedback typically occurs "... after instruction that seeks to provide knowledge and skills or to develop particular attitudes", and Nicol, Thomson and Breslin (2014) think that feedback has positive effects when it facilitates the development of students' reflection and self-assessment in learning. Providing clear requirements for participation, and ensuring approaches to assessment and feedback are congruent with intended learning outcomes, are both important design goals (Orsmond & Merry, 2011).

Figure 1 presents the outline derived from a study by Tunstall and Gipps (1996). Feedback may be evaluative (that is, judgemental) or descriptive (task-related). This results in four types of feedback (A, B, C and D) across a continuum, representing evaluative-descriptive approaches to assessment. Thus, evaluative feedback types are: A1: Rewarding; A2: Punishing; B1: Approving; and B2: Disapproving. Descriptive feedback types are: C1: Specifying attainment; C2: Specifying improvement; D1: Constructing achievement; and D2: Constructing the way forward (Tunstall & Gipps, 1996).

		Type A	Type B	Type C	Type D		
1 Positive Feedback		Rewarding	Approving	Specifying attainment	Constructing achievement	1 Achievement Feedback	
		Rewards	Positive personal expression	Specific acknowledgement of attainment	Mutual articulation of achievement		
			Warm expression of feeling	Use of criteria in relation to work/behaviour; teacher models	Additional use of emerging criteria; child role in presentation		
			General praise	More specific praise	Praise integral to description		
			Positive non-verbal feedback				
2 Negative Feedback		Punishing	Disapproving	Specifying improvement	Constructing the way forward	2 Improvement Feedback	
		Punishments	Negative personal expression	Correction of errors	Mutual critical appraisal		
			Reprimands; negative generalisations	More practice given; training in self-checking	Provision of strategies		
			Negative non-verbal feedback				
		Evaluative		Descriptive			

Figure 1. Teacher Feedback Typology: A Summary (Tunstall & Gipps 1996, p. 392)

We describe our adaptation of this model later. Within the original model, Evaluative feedback includes the teacher’s criticism about the assignment (both positive and/or negative), while Descriptive/Constructive feedback presents teacher’ questions for reflection, aspects that could be improved and suggestions that can lead to the improvement of the critical analysis. Within evaluative types of feedback, judgements are made according to explicit or implicit norms. Within descriptive types, feedback more clearly relates to students’ actual competence. Therefore, Type C feedback shows a mastery-oriented approach to formative assessment and focuses on the idea of work as product, while type D feedback emphasises process aspects of work, with the teacher playing the role of facilitator, rather than evaluator (Willian, 2011, p. 7).

The way a student interprets written feedback comments will also affect what impact the assessment has on learning: praise is not always interpreted in a positive light, just as criticism is not always interpreted in a negative light (Kingston, 2009). And feedback can engender strong emotions (Värlander, 2008). Too often, feedback focuses on failings rather than achievements and can sap students’ confidence levels. Positive feedback brings fewer problems, it is the feedback on unsuccessful work that causes most difficulty to staff and students alike (Peelo, 2002). Going further, Askew (2000) describes co-constructive feedback as a type of feedback with the following characteristics: dialogic, democratic, bi-directional, of sharing responsibilities, reflective, situated, metacognitive, formative, problem solving, enhancing learning. This very close to the ‘generative academic feedback’ model we favour, where teacher- or peer-feedback generates learning that both applies to the immediate task, and also transcends it (Peelo, 2002). This broader, greater goal of feedback picks up from Tunstall and Gipps’s type D feedback, and lies in generating an ethic of excellence (Berger, 2003), of staff and students striving to attain ‘critical being’ (Barnett, 1997).

In this sense, besides the relevance of the teacher's role in providing oral and/or written feedback, it is vitally important that students engage and use feedback. In an important sense, no one can be 'forced' to accept help and so the 'quantum' of feedback needs to be of the right dimensions, at the right level, in the right tone and at the right time to be helpful. Feedback, therefore, should be apt and effective for both teachers and students if both are to prosper in their academic communities. Feedback strategies can stimulate students' motivation to learn in an academic context (Ivanic, Clark, & Rimmershaw, 2000). In fact, when receiving formative feedback on their work, students can deal with their difficulties and improve the next element of their assessed work (Black & Wiliam, 1998; Hattie & Jaeger, 1998; Race, 2005).

Race (2005) has already presented several aspects often referred to as 'feed-forward': details of what would have been necessary to achieve better marks or grades, expressed in ways where students can seek to improve their future assignments or answers; direct suggestions for students to try out in their next piece of work, to overcome problems or weaknesses arising in their last assignment; suggestions about sources to explore, illustrating chosen aspects of what they themselves are being encouraged to do in their own future work.

However, an increasing pressure of workload of university teachers makes the design of formative feedback strategies more difficult to implement in the context of higher education (Black & Wiliam, 1998; Yorke, 2003). University teachers find it difficult to spend sufficient time responding to students and their particular problems; the assessor's time and resources are usually constrained (Race 2005). They stated that producing formative feedback on students' assignments demands considerable effort and may not lead to learning improvements (Crisp, 2007). Externally imposed time constraints due to the reduction in course duration may interfere with the 'feedback loop' (Sadler, 1998) or 'loop of reflection' that is formative assessment (Knight & Yorke, 2003). The danger of a focus on written feedback is that students will often misinterpret the comments as facts to be adhered to, rather than queries to be addressed, and so a key element of the feedback process is lost as the feedback loop is never complete (Gibbs & Simpson, 2004). One possible solution to these problems is to expose students to the whole databank of comments from which their own specific comments derive (Nicol, 2010). Feedback strategies could change in style, purpose, meaning and processes as they move from evaluation to description.

Students often report that they do not understand written feedback comments and/or that the comments they receive do not meet their needs and/or do not help to clarify areas that they do not understand (Nicol, 2010). They also declare that the best way to enhance written feedback would be to support this with one-to-one meetings with the teacher. Adapting individual comments to the students' needs, especially when student numbers are large and personal contact is limited, is a particular constraint that university teachers face in designing feedback strategies (Nicol, 2010). Many teachers find it less satisfactory putting feedback into a written format than when giving feedback in face-to-face contexts (Race, 2005). Tuck (2012) makes the point that the 'lived experience' of academic teachers as they engage in feedback has received relatively little attention compared to student perspectives. Her participants sometimes managed to reconcile conflicts between the need for dialogue with students, and the institutions pressures that inhibit such personalised approaches, to 'carve out' small spaces for dialogue with students.

Although all agree that it is essential to optimise feedback if we want to improve the quality of learning, this concise review shows several contextual constraints. Our study, as referred earlier, attempts to present some concrete suggestions of formative feedback, evaluating the consequences, in particular on students’ critical thinking.

Innovative Formative Feedback and Assessment Strategies

As noted above, our study took place in the teaching context of ‘evolution’ (2nd semester of 2012/2013) at the University of Aveiro. The curricular unit was organised in 2-hour per week lectures, lab sessions (2 hours per week) and theoretical-practical sessions (1 hour per week). The learning tasks and the assessment rules were established from the beginning: 85 percent for the final written exam and 15 percent for the critical analysis group work. Table 1 shows the curricular unit lectures timeline together with the students’ assignment task (critical analysis).

Table 1: Curricular Unit Lecture Time-line

Context/ date		Assignment/Teacher’s feedback
Face-to-face sessions	20 February 2013	Lecture/Debate
	27 February 2013	Lecture/Debate
	6 March 2013	Lecture/Debate
	13 March 2013	Lecture/Debate
	20 March 2013	Lecture/Debate
	3 April 2013	Lecture/Debate
	7 April 2013	Group work final composition and selection of the press note for analysis
	10 April 2010	Lecture/Debate
Autonomous work	21 April 2013	First teacher’s written formative feedback (about 1st task – April 7th)
	5 May 2013	Students’ handing of the first version of critical analysis
	19 May 2013	Final teacher’s written formative feedback of critical analysis (2nd task- May 5th)
	22 May 2013	Final written exam
	10 June 2013	Handing over the final version of the critical analysis together with students’ group written feed-forward

During one week's lectures, the teacher organised several debates around the theme of evolution, the aim being to confront students with controversial ideas about the concept, along with attempting a collaborative definition of this scientific concept. The students' discussions were under the teacher's guidance/ supervision, and had scientific literature support (such as book chapters and papers) available on Moodle and Diigo (web 2.0 tool). As noted, our study was focused on the analysis of the feedback produced along one of the assignments, that is, the written critical analysis, scientifically supported, of a selected press release.

As suggested by the teacher, the 88 undergraduates organised themselves in 21 groups (of 2 to 4 students). During their autonomous work, each group selected an article from newspapers, books or Internet blogs. A supporting learning tool called 'Guidelines' was designed, aimed at supporting the process of critical analysis of evolution. This learning tool was organised like a scientific article, where groups had to write an abstract, an introduction, and specify the materials and methods, present results and discussion, draw conclusions and a list of references. The document also had a brief explanation and some guiding questions in each of the sections and formatting requirements. A word limit of 1000 words was stipulated, approximately 4 pages.

The group work was supported mainly by the teacher's written feedback, by e-mail, and an evaluation grid developed in Excel form. Written comments included questions for reflection, suggestions for improvement (i.e. further reading) and also critical observations. Students had to submit the final assignment having taken account of the teacher's written feedback. All students had also self-assessed their performance in the course of their group work using online questionnaires (individual and group assessment). They had to score either their own performance or each colleague, about the process of group work of each critical analysis.

METHOD

The study was organised in two phases: first, to design and implement strategies for formative feedback and assessment aimed at encouraging students' critical thinking within a curricular unit; second, to collect actors' opinions about those processes in order to evaluate their perceived efficacy. The research approach was based on a critical social paradigm, assuming principles of action-research (Cohen, Manion, & Morrison, 2013). In this study action research implied that the two educational researchers collaborated with the Biology teachers in identifying research problems, their causes, and possible forms of intervention. Our collaboration has followed a co-researchers model (Macaro & Mutton, 2002), which allows each participant to benefit from the enterprise. Consequently, the researchers had the opportunity to undertake research in natural teaching-learning settings. The teacher in this instance was part of a wider study (Pedrosa-de-Jesus, Guerra & Watts, 2016) and volunteered to open his teaching to observation and discussion. He was using the curricular unit 'Evolution' to analyse and evaluate new approaches to teaching and learning in a supported way. Data were collected through naturalistic 'low-participant classroom observation' during informal contacts with the teacher (before or after classes). All written documents were used for analysis, particularly the teacher's written feedback. Semi-structured interviews were undertaken (at the end of the semester) with the teacher. We used content analysis

(Bardin, 1977; Neuendorf, 2016), together with the adapted Tunstall and Gipps (1996) feedback typology (see Figure 1). Table 2 provides the description of each type of feedback.

We assumed that specifying attainment and improvement (Type C) shows a mastery-oriented approach to formative assessment and focuses on the idea of work as product, while Constructing achievement and the way forward (type D feedback) emphasises process aspects of work, with the teacher playing the role of facilitator, rather than evaluator.

Table 2: Quality Feedback for Critical Analysis (Adapted from Tunstall & Gipps, 1996)

First feedback	Category	Indicators	Description
A. Evaluative feedback	A.1 Positive feedback	A.1.1 Approving	To approve students' work or engagement
	A.2 Negative feedback	A.2.1 Disapproving	To disapprove of student's work or behaviour
B. Descriptive/constructive feedback	B.1 Achievement feedback	B.1.1 Specifying attainment	To identify and label aspects of successful attainment
		B.1.2 Specifying mistakes/failures	To identify mistakes/ failures in work performance
		B.1.3 Constructing achievement	To specify how something that is being learned can be corrected.
	B.2 Improved feedback	B.2.1 Specifying improvement	To shift the emphasis more to the student's own role in learning, where teacher is as 'facilitator' rather than 'provider' or 'judge' of feedback.
B.2.2 Constructing the way forward		To give student greater responsibility to make choices for themselves, instead of telling student what to do to improve.	

In order to ensure the quality and reliability of the validation process, the clarity and efficiency of the categorization framework was discussed with an international educational researcher, who was also a team member of this study. This researcher was invited to validate the categorisation of few selected examples. Then, a face-to-face session was undertaken in order to discuss the major difficulties in interpreting the categories and applying the coding system. Some suggestions were taken in consideration and the external researcher considered the instrument as appropriate and innovative for the data analysis.

RESULT & DISCUSSION

Teacher’s Written Formative Feedback and Assessment

Table 3 gives an example of the teacher’s written feedback with Group 1 at different moments of the critical analysis process (initial, intermediate and final). Concerning the Evaluative feedback dimension (A) written feedback was mainly focused at the beginning of the assignment (press note selection and group work organisation - April 6th). Descriptive feedback (B) was used during the intermediate and final phase of the critical analysis process. This single example also shows that teacher’s written feedback was more focused on identifying and amending mistakes, giving clues to improve the group work.

Table 3: Examples of Teacher’ Written Feedback to Critical Analysis of Group 1

First feedback		Intermediate feedback		5 May	Final feedback	
3 April	6 April	19 April	21 April		19 May	2 June
Group Definition of group composition and selection of the press notes for analysis	1st teacher written feedback: (A.1.1); (B.1.1)	1st Group feed forward	2nd teacher written feedback: (B.1.1)	Group Delivery of the first version of critical analysis	3rd teacher written feedback: (B.1.1); (B.1.2)	Group Delivery of the final version of critical analysis 2nd Group feed forward

The same sort of analysis was used for the whole of the teacher’s feedback to the remaining groups (21 groups in total). Table 4 shows the result of the total feedback occurrences in each category, giving an idea of the frequency and the ‘quality’ of teacher’s written formative feedback. To enhance consistency, all feedback categorisation was carried out during a one-week period by a single researcher.

Table 4: 'Quality' of Teacher's Written Feedback during Group-work

Categories of Teacher's written feedback	Moments of Teacher-Group Interaction		
	First	Intermediate	Final
A. Evaluative feedback			
A.1 Positive feedback			
A.1.1 Approving	20 groups	1 group	0
A.2 Negative feedback			
A.2.1 Disapproving	8 groups	0	0
B. Descriptive feedback			
B.1 Achievement feedback			
B.1.1 Specifying attainment	3 groups	1 group	18 groups
B.1.2 Specifying failure	2 groups	1 group	21 groups
B.1.3 Constructing achievement	18 groups	6 groups	21 groups
B.2 Improved feedback			
B.2.1 Specifying improvement	1 group	0	0
B.2.2 Constructing the way forward	0	0	0
Total	52	9	60

Table 4 shows that, at the first moment of interaction, the teacher wrote 58 'feedback statements': 20 positive (approving), 8 negative (disapproving), 23 achievement (Specifying attainment, Specifying failure, Constructing achievement) and 1 improved feedback (specifying). By contrast, at the final moment of interaction, he wrote 60 statements, all of them descriptive feedback. That is, a more constructive and positive form of achievement feedback. During the group-work process (intermediate moment), the teacher wrote 8 feedback statements, most of them in a positive mode. The following examples illustrate some of this feedback written interactions during the first moment:

A.1.1- "O.K. your theme is already registered. Good choice." [Positive feedback - approving - Group 10].

In 33 % of the situations (7 groups), "teacher's negative feedback" was related to group composition. For instance, some groups did not sign in and send the compulsory 'code of conduct' outlining students' responsibility and ethical commitment within the work:

A.1.2 - "Concerning the group composition we are having a problem: one of you did not send the Code of Conduct as established on the assessment rules." [Negative feedback - disapproving- Group 13].

Just one group received negative feedback concerning the selection of the press note. However, the teacher, in a constructive manner, specified the problem stressing that the content of the press note did not fit the topic of 'biological evolution'. Additionally, he also questioned the credibility of the source of information. Above that, he emphasised the students' important role on their autonomous learning. In fact, according to Ennis, (1987), the 'bases for a decision' implies the development of students' critical thinking abilities, such as 'Judge the credibility of a source'. The following excerpts show examples of what we have been discussing above:

A.1.2 -: "It seems to me that your choice of text could give you considerable headaches to elaborate a critical analysis". [Negative feedback - disapproving - Group 3].

B.1.2 - "The press note you have chosen, in my opinion, it is a little on the side of evolution". [Achievement feedback - Specifying failure - Group 3].

B.2.1 - "You should have already thought about your choice, knowing how you are going to discuss the 'news', therefore how to write the critical analysis. So I'm not saying that you should find another text... However, I think the theme is not going to help you... But I believe that you are going to demonstrate that I'm wrong." [Improved feedback - Specifying improvement - Group 3].

The teacher identified aspects of successful attainment from three groups. For instance, Group 7 selected a press note with strong potential for group discussion. Much of the scientific information presented in the text showed the main controversial aspects of evolution theories:

B.1.1- "Concerning the theme, it seems to me that it has a lot of potential for discussion. It is a big challenge because most of the information presented has already been changed/ developed/ replaced...but, for this reason, it will be a challenge for the group." – [Achievement feedback - Specifying attainment - Group 7].

Eighteen groups (86 %) were advised to search for the scientific article that gave rise to the press notes, for instance, write to the authors:

B.1.3 - "My suggestion is that you should find the original scientific article that give rise to the press note. One suggestion is to write to the authors..." [Achievement feedback - Constructing achievement - Group 11].

During the intermediate teacher-group interaction moment, six groups requested further written feedback. For instance, as a consequence of the written feedback, Group 3 decided to select another 'press note' for their critical analysis. This could be seen as a positive consequence of the first teacher-group interaction, explained above. For this case, the teacher approved their new choice:

A.1.1 – "It seems to me that you made a good choice". [Positive feedback - approving - Group 3].

Although they had a supporting learning tool (Guidelines for a critical analysis of a topic of evolution) as noted earlier, Group 5 had a need for additional clarification, such as how to make an abstract:

B.1.3 - "The abstract should reflect your critical analysis. Your critical analysis should follow the structure of a scientific article. In this case, the abstract also synthesizes the entire article. What I want, when I am reading your abstract, is to have a general idea of what you did in the critical analysis." [Achievement feedback - Constructing achievement - Group 5].

After delivering the first version of the work, the teacher sent his final written feedback to individual groups. Broadly speaking, this last teacher's formative written feedback revealed a prevalence of the following within categories: "B.1.1 - Specifying attainment" (18 groups); "B.1.2 - Specifying failure" (21 groups); and "B.1.3 - Constructing achievement" (21 groups).

The next example illustrates a positive feedback concerning the adequacy of the critical analysis:

B.1.1 - "In general, the "Abstract", the "Introduction" and "Results and Discussion" are well done. Congratulations." [Achievement feedback - Specifying attainment - Group 12].

However, all groups showed some sort of difficulties to write their critical analysis according to the teacher required Guidelines. So, the teacher identified mistakes/failures of some kind in groups' work performance:

B.1.2 - "In my opinion, the main problems detected in your critical analysis are related with the "Introduction" (it did not fully frame the theme), the connection between the "Material and Methods" and with "Results and Discussion" (R &D)". [Achievement feedback - Specifying failure - Group 3].

The teacher had to be very specific on how to improve and even change/correct the final critical analysis for the 21 groups:

B.1.3 - "The abstract should be rewritten because it does not describe the scientific study. When I am reading the abstract I must understand what is (are) the problem(s) addressed (s), what was being done to address these issues and what are the main conclusions. This abstract does not do that." [Achievement feedback - Constructing achievement - Group 1].

The overall results show the low frequency of 'improved feedback' envisaging future assignments, such as 'B.2.1 - Specifying improvement' and 'B.2.2 - Constructing the way forward'. This means that, not enough suggestions were provided as to how to improve future assignments in order to promote the development of students higher order competences, such as, questioning and collaborative work.

As referred earlier, it was defined from the beginning that the written critical analysis group work should have 15% of the final marks. Table 5 shows the assessment results of all groups (21), involving 88 students. Students from the same group have the same assessment grade.

Table 5: Assessment Results of the Critical Analysis

Critical analysis [0-3]	n° of Groups	n° of students	% of students
1,9	1	4	5%
2,1	4	15	17%
2,2	1	5	6%
2,3	1	3	3%
2,4	1	5	6%
2,5	1	5	6%
2,6	4	19	22%
2,7	5	20	23%
2,8	1	5	6%
3,0	2	7	8%
Total	21	88	100%

These results show the great involvement of all students despite this being the first time of using this kind of assessment learning task. The global marks were very positive indeed and had, in turn, a positive impact in their final grade on the discipline. Approximately 65% of the students (56) had a minimum of 2.5 values, with two groups having the maximum grade (3 values). The remaining groups (8) were scored between 1.9 and 2.4 values, where only one group had the lowest score (1.9).

The Teacher's Opinions

The teacher's perceptions were collected through a semi-structured interview at the end of the semester. The content analysis allowed identification of important text units, and these were clustered to identify general and unique categories (Cohen, Manion, & Morrison, 2013).

Regarding the innovations introduced in the teaching and learning practices, the teacher confirmed the fact that it has been the first time he has implemented written group's formative feedback by using a critical analysis development process:

- Compared to previous years, this year... in quantitative terms ... I have maintained three values (15%) for the critical analysis. However, some 'nuances' were introduced, particularly the kind of feedback I have sent to groups. In some of

the situations, I made suggestions for changing, in other cases, I even wrote that they should amend or re structure specific sections of the critical analysis. So, I gave some feedback, playing the role of a referee for this critical analysis. And, so, this part did not exist in previous years.

However, he also stated that sending formative feedback to 21 groups involved a huge effort, not only from the point of view of the time spent, but also in the identification of mistakes, and the design of the questions and suggestions for improvement:

- This feedback exercise involved a lot of work to the teacher. Because... the feedback was given as follows: I made an overall assessment... therefore, I had an Excel sheet for each group where a general review of the critical analysis was registered and then I reviewed, in detail, the entire critical analysis. Each document handed in has x text lines and each of my comments were reported to line y or z. Those comments really, in my perspective, were made in order to improve the groups' critical analysis, sometimes aiming at a better 'speech articulation', a better prose. Other times, I simply asked for a better scientific support of their statements. Frequently, I also advised them to add references supporting what they were saying in the critical analysis and, therefore, this gives me some work".

On what concerns the efficacy of this task, the teacher considered that it allowed him to develop various students' competences, such as the selection and evaluation of scientific information, and the group work collaboration:

- Well, I think that this activity promoted students' critical reflection. On the other hand, it also promoted the collaborative group work, since, as you know, the groups could go up to five elements. And therefore only for that it was worth it.

Furthermore, he considered that the self-assessment process could be integrated in the students' summative assessment, making it of mandatory character:

- The self-assessment is also very important. Some students were extremely objectives when doing their own critical analysis. Some even said: that peer/colleague only saw the text at the end. Anyway, here we have some critics and I think that this experience was extremely important for students at this stage. However, the fact of knowing how to work in group, accepting the others opinion ... and that is not always easy. To develop/write text documents, to search ... I think it was worth for all of this.

Also, the teacher stressed how important it is to involve groups during the critical analysis feedback process. He considered that it helped to develop several students' competences, such as argumentation:

- In the end, it was not necessary for students' agreement with my suggestions and opinions, they could disagree with me. However, it was required that they prove/justify their opinion and some groups were looking for extra bibliography in order to argue against what I was saying about their critical analysis.

When asked about new developments for the following academic year, teachers stated that it will be important to continue implementing this kind of learning activity, providing the same sort of guidelines and suggesting scientific bibliography aiming at promoting students critical thinking. Regarding the teacher's role during this process, he considered the importance of acting as a non-participant observer during the group work to collect additional information about their learning process (i.e. using distance web tools):

- If I had the opportunity to be a non-participant observer, when groups were developing their critical analysis, I think it would be extremely interesting for me in order to understand the dynamics of some groups. Obviously, they probably would not feel comfortable with the teacher looking at their work and listening to them. I have the idea that most of the work was developed during the evening interacting through distance web tools, email, etc... I also think ... that the group did it because they had no opportunities to meet. However, I consider that it is also important to know how to use all these new web tools.

When questioned about the influence of this type of teaching and learning strategy on his academic practice, he stated that it was very useful since it helped him to better align teaching with learning outcomes, therefore changing the way he taught "Evolution":

- As a teacher, these strategies are extremely pleasant since I'm going to the lectures always taking something new. I'm not going just to transmit knowledge for students to memorise and then they go to the exam ... no ... this is a deliberate strategy having a specific purpose, where all the intermediate steps are planned in order to maximise the final result [the students learning outcomes]. Therefore, this is what I most value in these strategies being developed during this curricular unit as a result of this collaboration.

CONCLUSION

The overall results show the very considerable involvement of the teacher and all the students. Although the teacher stressed, during the interview, his enormous effort in carrying out written feedback for 21 groups, over a 10-week period, he also faced this strategy as a personal challenge and recognised several benefits for students. As Tuck (2012) indicates, attempts to create greater opportunities for such work, by offering greater support and recognition at institutional level, must take account of teachers' need for a sense of personal investment in student writing in their disciplinary contexts. It must also be acknowledged that some students seem to want virtually continuous feedback (Scott, 2014), with the expectation on the part of students that they should be able to gauge their progress throughout the course – not least because they tend to be 'digital natives' of the net generation (Prensky, 2001).

The students' overall quantitative marks were very positive indeed and, as noted, had a positive impact in their final grade in the discipline. Data show that teacher's written comments increased opportunities for students to search for further information, to negotiate and take decisions within their group, to auto- and hetero-reflect before sending their critical analysis to the teacher. This is a very positive set of results in the development of critical analysis and thinking, the teacher commenting on his perceptions of a strong growth in students' competencies. That said, there was an implicit assumption that students know how to use teacher feedback for future work. The teacher's priority, however, seemed to be aimed at the immediate final product, therefore valuing Achievement feedback (B.1). In this sense, the teachers may have to make students aware of this direct objective explicitly, so that they understand this as the first aim of the learning task.

Group work also created conditions for the development of higher-order competences, such as critical thinking, collaboration and argumentation. Students' most common difficulties here were related to group organisation issues such as different schedules, compatibilities and commitment were identified. This is not unexpected, given that any group work can cause organisational complexities and there will almost always be differences in student motivation and engagement.

The main findings of this study allow us to present some suggestions and recommendations for teachers interested in implementing concrete feedback strategies in higher education, particularly to promote teacher' written formative feedback in the context of undergraduate studies and assessing their effectiveness. The main suggestions are as follows, to: i) decide the type of formative feedback that accords best with the nature of the learning task being designed, and the appropriate moments in the process to give feedback; ii) discuss with students the purpose of written feedback in order to reach a common assessment understanding, and (iv) value students' peer and self-assessment, as part of the whole learning process. Table 4 could provide suggestion as to how to clarify different modes of feedback in order to develop students' higher order competences such us critical thinking. There was much time and effort invested by all participants (teacher and students) so there was an obligation to attain this goal.

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Learning to think like a lawyer

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ABSTRACT

Law schools encounter prospective lawyers at their most formative stage and offer them their first formalised introduction to the legal profession, with their primary role being to teach people to think like lawyers. Problem Based Learning (PBL) activities make classroom settings unpredictable and prepare students for one of the most crucial aspects of professional life; the ability to make judgements in a context of uncertainty. This article analyses the integration of PBL within a master of laws module on International Commercial Litigation and Arbitration. The logic of using PBL in this module is to ensure that the more abstract and less engaging aspects of the course are learned in relation to a close involvement with problems that are highly relevant to students' more concrete ideas of what the course is about and what competence would mean within it. The experience of the students with the PBL activities, captured in anonymous questionnaires, is also discussed.

Key Words:

Problem-based learning; conflict resolution; mediation

INTRODUCTION

Few would disagree that law schools encounter prospective lawyers at their most formative stage and offer them their first formalised introduction to the legal profession, with their primary role being to teach people to think like lawyers (Henderson, 2003; Webb & Boon, 2008; Maharg, 2007). One of the most significant features of law as a discipline of study in higher education that has the potential to impact on the curriculum and the way in which it is taught is the academic/vocational divide (Varnava & Webb in Fry, Kettridge & Marshall, 2009). Traditionally, law was allied to training for the legal professions and it was not until the early to mid-twentieth century that it began to establish itself as an independent academic discipline (Twining, 1994). Consequently the discipline can sometimes appear precarious with regard to its status and focus, leading to on-going debates and disagreements about the purpose of tertiary legal study.

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Academics are divided between those who feel the law school curriculum should cater to the needs of professional bodies and appreciate how it is applied in the real world and those who feel that law is an academic subject in its own right which can be studied in isolation from any vocational concerns or influences and that it is not the place of law schools to prepare students for practice. Reservations have been expressed by some legal academics with regard to the influence of professional bodies over the content of a qualifying law degree and the appropriateness of teaching skills associated with the profession within the undergraduate law degree (Clegg 2004). However, concerns have also been expressed that there is a need to provide opportunities for 'experiential learning' within the current law degree (Directions in Legal Education, 2004; Varnava & Webb in Fry, Kettridge & Marshall, 2009; Hammond, 1999; Mack, 1998; Eckmann, 2003-2004).

It seems that both arguments are so vociferously stated and defended that they are each in danger of restricting the development of alternative positions that seek to draw on the strengths of both by combining academic rigour with an understanding of law in its practical context and in recognition of the fact that if students are to engage fully with law as a subject it has to be studied in all of its forms, both theoretical and applied (Varnava & Webb in Fry, Kettridge & Marshall, 2009, Henderson, 2003).

Shulman describes the characteristic forms of teaching and learning in a professional discipline as 'signature pedagogies', where students are instructed "to think, to perform and to act with integrity" (Shulman, 2005, p. 52). He remarks that while most legal education involves learning to think like a lawyer, law schools show little concern for learning to perform like one (Shulman, 2005). Where clinical legal education does exist, it can be found on the margins, is rarely required and is usually ungraded (Shulman, 2005). Pedagogies that bridge theory and practice are never simple, but once they are learned and internalized, experience suggests that one does not have to think about them, one thinks with them (Shulman, 2005). Such signature pedagogies can make classroom settings unpredictable and surprising, and learning to deal with such uncertainty prepares students for one of the most crucial aspects of professional life, the ability to make judgements in a context of uncertainty (Shulman, 2005). They must also strike the appropriate balance between the various dimensions of practice: the intellectual, the technical and the moral (Shulman, 2005).

Evolving Teaching Methods

Before 1870, law teaching involved the lecture/textbook method. The case method was introduced in 1870 by the Dean of Law at Harvard University, Christopher Columbus Langdell and later spread to other universities. At that time students had to participate in apprenticeships at private law firms and study at private law schools that used a traditional lecturing method. Langdell effectively integrated the practical experience attained by students during their apprenticeship and their increasing knowledge by consistent and thorough instruction, as the case method, in his view, offered fewer inconsistencies than an apprenticeship did and had greater practicality than the lecture method. This also gave law schools prestige within universities as they moved from being largely 'vocational' schools where law was taught mainly by non-academic judges and practitioners to a school of science, entitled to the same respect as other schools (Moust, 1998, Moskovitz, 1992).

One of the key distinguishing features between US and UK legal education is that in the UK a law degree is seen as a programme of general liberal education rather than as a matter of professional formation (Webb & Boon, 2008). Teaching methods traditionally used in UK law schools have tended to reinforce passive and habitual behaviours by students in lectures (Hirokawa, 2009-2010). Many law academics tend to be conservative, teaching how they themselves were taught, adopting the traditional lecture approach coupled, in some instances, with the case method (Gibbs, 1981; Boud & Felletti, 1991, referred to in Havelock, 2013; Orji, 2015). The adoption of this conservative approach also resulted from pressure for tenure (Moskovitz, 1992).

The case method adopted a scientific method style of teaching with Socratic implementation and was criticised as it did not help students understand why litigation was necessary to resolve a dispute, why settlement efforts failed or the decision making processes of lawyers and clients (Hirokawa, 2009-2010; Moust, 1998; Moskovitz, 1992). Students were studying solutions to problems, but not the various ways to solve these problems and this is seen as the key failure of the case method, it does not teach students to develop solutions of their own. While the case method teaches students an understanding of the doctrines, it does not teach them how to apply these doctrines to new situations (Moust, 1998). The move from the problem method to PBL also resulted from an appreciation that the practice of law is closer to being an art than a science (Moskovitz, 1992).

Problem Solving

The concept that practical experience is a more effective means of learning for lawyers has been championed for some time by many jurists and scholars. Problem solving or the problem method is a learning and teaching methodology that has developed in order to bridge this gap and in response to the shortcomings of traditional approaches (Frank, 1933 cited in Hirokawa, 2009-2010). It involves the presentation of a problem scenario to students that requires them to research the relevant law and produce a solution, followed by a class discussion about the "answer" (Kiley, Mullins, Peterson & Rogers, p. 15, cited in McCall, 2010, p. 44).

PBL employs some of the same attributes as the problem method but the focus is on the learning process rather than knowledge acquisition, where students learn not only knowledge but the important skills they need to deal with authentic problems "in general and in their discipline" (Kiley, Mullins, Peterson & Rogers, p. 15, cited in McCall, 2010, p. 44). The problem method often supplements the case method, providing complex hypotheticals that test the application of rules embedded in decided cases, often designed to be used in a medium to large class setting with the lecturer leading the discussion of the assigned reading material (Moskovitz, 1992; Ogden, 1984; Wolff, 2003-2004). PBL, in contrast, uses a tutorial structure where students work on the problem at their own pace and pursue avenues of enquiry as determined by their own thought processes (Flagg, 2002; Tzannes, 1997).

The motivation to move towards PBL also stemmed from concerns about the efficacy of traditional teaching approaches and the consequent failure to meet the subject matter mastery that students are capable of (Flagg, 2002). The case method

involved cases being discussed in class with the lecturer questioning the students about the facts, the decision and the reasoning of the cases in order to improve the students reasoning skills. Views vary on the effectiveness of this approach. It has been suggested that it turned out better lawyers, as interaction with a Socratic teacher sharpened students minds, helping them to think on their feet, to express themselves, to read cases, gain a deep understanding of the rules and the rationale for their adoption and similar lawyering skills (Moskovitz, 1992). Conversely, experience at some institutions suggests that this approach resulted in significant embarrassment for many participants that adversely affected their university experience (Eckmann, 2003-2004). Such varying conjecture aside, there was a tendency by students to over focus on substance and under focus on process when the case method was employed (Bush, 1987, referred to in Mack, 1998).

Lawyers are primarily problem solvers, and the primary task of law schools should be to equip students with the tools they need to solve problems (Garrett, 1998). The paradox of learning a new competence, according to Schon, is that the student cannot at first understand what he needs to learn, can learn it only by educating himself, and can educate himself only by beginning to do what he cannot understand (Schon, 1987, cited in Bone & Hinett, 2002b). PBL involves confronting students with materials and facts underlying a problem from which they have to work out the nature of the problem and an appropriate solution, usually without much prior instruction in the required knowledge to solve it (Varnava & Webb in Fry, Kettridge & Marshall, 2009). Hence problems, tasks and unexpected situations form the starting point of learning. Such learning focuses on the type of problems that are typically encountered in professional life (Ramsden, 2003). The problems themselves become the stimulus and reason for learning and cross boundaries in terms of legal topics that require students to distinguish between different concepts (Grimes, 2014).

As noted above, traditionally in law, information is provided to students in lectures and students are then expected to use the information to solve problems that are then discussed in tutorials. In PBL, the problem comes first and students both define the problem and gather the required information in order to explore it. Students work in self-directed groups taking an active and systematic approach to defining and 'resolving' the problem. The process effectively involves team-based exploration and synthesis combined with individual research and analysis (Varnava & Webb in Fry, Kettridge & Marshall, 2009), with students being the primary agents for learning (Wong, 2003).

This approach has been particularly influential in medical education where concerns about 'taxing the memory but not the intellect' have resulted in medical schools throughout the USA, UK, Canada and Australia adopting PBL approaches in their learning and teaching (GMC, 1994, p. 5, cited in Light & Cox, 2001, p.176). It has since been adopted in fields such as engineering, architecture, nursing and management (Batty, 2013). More recently it has been adopted in some UK law schools. York Law School has for example, since its inception, used a PBL model across all foundation and most optional modules at both LLB and LLM levels (Grimes, 2014). PBL has also been introduced into individual law modules at other institutions (Clough & Shorter, 2015; Havelock, 2013; Orji, 2015; Hirokawa, 2009-2010; Martin, 2003;

Nagarajan, 2002; Flagg, 2002; Moust, 1998; Macfarlane & Manwaring, 1998; Mack, 1998; Sylvester, Hall & Hall, 2004; Berry, 2011). It has also been employed to teach law to non-law students (Batty, 2013). PBL has also been integrated into 'blended learning': a mix of face-to-face and online teaching methods (McCall, 2010; Martin, 2003-2004).

The logic of adopting PBL in an LLM module on international commercial litigation and arbitration and the aim of the exercise, discussed further below, is that the more abstract and less engaging aspects of the course are learned in relation to a close involvement with problems that are highly relevant to students' more concrete ideas of what the course is about and what competence would mean within it (Grimes, 2014, Ramsden, 2003). In PBL, students are required to identify the nature of the problem, collect the information required to tackle it and synthesise a solution (Ramsden, 2003), with knowledge, skills and professional attitudes being simultaneously addressed (Ramsden, 2003). Perhaps one of the more extreme descriptions of PBL vis-à-vis traditional teaching methods characterises PBL as just the opposite of "technocratic training seemingly calculated to knock the moral stuffing out of anyone" (Pue, 2005, p. 220, referred to in Cunningham, 2008, p.328).

The use of the word 'Problem' in PBL has proved confusing for some users, as the use of the word suggests a solution, which is not the point of PBL. Consequently, some have used alternative terms such as concept, enquiry/inquiry, theme or context-based learning (MacDonald & Savin-Baden, 2004). PBL courses are designed around real life problems (Light & Cox, 2001). One of the central features of PBL is that students are not expected to find a 'right' answer as there may not be one (Varnava & Webb in Fry, Kettridge & Marshall, 2009). This helps students to appreciate that the law can be unclear and indeterminate, both a creator and a product of the social and economic conditions within which it is practiced (Varnava & Webb in Fry, Kettridge & Marshall, 2009; Benchmark Statement in Law). PBL also reflects how lawyers work in practice as clients come to lawyers with problems to be resolved, not advice on the law in the abstract (Havelock, 2013; Hmelo-Silver, 2004).

As law is very content heavy, the traditional teaching of it can instil a surface approach to learning, with insufficient time to reflect on, question and analyse what is being taught (Biggs, 2003, Fry, Ketteridge & Marshall, 2008). There is a significant body of evidence that the use of PBL in such courses increases the use of deep learning approaches, improves the retention of information and develops student independence and motivation (Ramsden, 2003; Wong, 2003). This includes studies on the capacity of PBL to increase the problem solving abilities of surface learners with low level cognitive skills and weak problem solving strategies and the capacity of the process to encourage the development of a deep approach to learning that promotes effective problem solving (Baron, 2002).

PBL can assist students to cope with the course content and analytically apply it to problems while developing problem solving skills, self-directed learning skills and team-working skills. As PBL requires that knowledge is something that learners construct for themselves, research has shown that students learn more effectively when their prior learning is taken into consideration, where they use and acquire knowledge already attained to contextualise and embed new learning (Ramsden, 2003). PBL also enables students to be partners in the learning process rather than simply recipients of it, with the tutor playing a facilitative role, allowing students to explore a range of avenues rather than prescribing a specific path (Varnava & Webb in Fry, Kettridge & Marshall, 2009).

METHOD

The Class Profile

The participating class that completed the PBL exercise comprised 28 students who were studying a module on International Litigation and Arbitration as part of the first full time commercial law master's programme at Middlesex University, Mauritius Branch Campus. In terms of gender profile, 57.14% of the class were male (16 students), and 42.86% of the class were female (12 students). The age profile of the class ranged from 22 years up to 71 years, with a mean age of 28.39 years. In terms of ethnicity, 92.85% of the class (26 students) described themselves as Mauritian, 3.57% of the class (1 student) described herself as British/Mauritian and a further 3.57% of the class (1 student) described herself as being from mainland Africa. 28.57% of the class (8 students) described themselves as full time students, while 17.86% of the class (5 students) said that they worked in the legal profession. The rest of the class worked in varied professions from journalism to civil service administration. Seventy five percent of the class (21 students) studied law at undergraduate level in some form, whether as a full law degree or as law modules within a course of another discipline.

A descriptive approach was adopted to capture the experience of participants with the PBL exercise by collating the relevant data from anonymous questionnaires (Greene, 2008; Greene, 2007; Creswell, 2003; Brookfield, 1995 referred to in Havelock, 2013). The information gleaned from the questionnaires is discussed below. A majority of the class, 53.57% (15 students), said that they had never been involved in a PBL exercise before. Those who had, 46.43% of the class (13 students), experienced PBL when studying at undergraduate, postgraduate or professional level in various disciplines including finance, psychology and law in both UK and Mauritian institutions.

The Problem Process

The class was divided into 6 groups, with 5 groups comprising 5 students and 1 group comprising 6 students. While PBL may be implemented in many and varied ways (Prince, 2004), smaller groups are generally advocated (Moust, 1998; Macfarlane & Boyle, 1993; Race & Brown, 2001). Each group was organised in order to ensure that it reflected the ethnic, gender and age profile of the class. Student composition within a Master's level law class can have a significant impact when designing learning strategies (Nagarajan, 2002) and proponents of diversity believe that differences among group members give rise to varied ideas, perspectives, knowledge, and skills that can improve their ability to solve problems and accomplish their work (Polzer, Milton & Swann, 2002).

The logic of putting students into teams in PBL activities is that in life individuals invariably have to work in teams and there is little in the educational system that equips students for this. It has been suggested that investment in team learning should be a vital component of higher education and PBL enhances this goal (MacDonald & Savin-Baden, 2004). Many law students see the study of law in an individual, idiosyncratic way, and group work for such students can prove, initially at least, quite challenging (Evensen, 2003-2004).

While each group took ownership of the problem, the author was available to facilitate. Experience with PBL suggests that tutors often have a greater difficulty than students in adapting to PBL. For example, it can seem counter-intuitive for some tutors not to provide the answers to students. Consequently it was important that the author remained mindful of his role in the process as 'facilitator', rather than 'expert' (MacDonald & Savin-Baden, 2004; Hirokawa, 2009-2010). This was important in the light of the impact that the author's role as facilitator can have in the process, as the understanding and skills of the facilitator can amount to an 'unplanned variable', which can have a potent effect on the quality of PBL (Barrows, 1986; Boud & Feletti, 1997).

The groups met for three two hour sessions during class time when the author was present. They were also encouraged to meet privately in their own time if the discussion and resolution of the problem was to take the group more time. While some of the members of some groups may have been more committed than others, this is very much part of the 'real world' experience that PBL aims to introduce students to and no doubt proves to be an important part of the learning experience. Group work in a PBL context always carries some risk of unfairness (Flagg, 2002). Meeting privately in this way is also a means through which students may participate in a low risk setting and this is a major way in which PBL diverges from the traditional Socratic/Case method of teaching, and research suggests that this approach should assist in enhancing student self-confidence and interest in the subject (Hirokawa, 2009-2010).

The problem given to students involved a dispute between business parties. After identifying the issues in the dispute, students were required to address the type (or types) of dispute resolution process(es) that could be applied to resolve the dispute, and ultimately what the outcome may be. Students were expected to draw on prior knowledge that they would have gleaned in undergraduate law subjects such as tort, contract and equity in order to define the legal limits of the various dispute resolution processes, and the consequent limits on any outcome that may result. Non-

law graduates exceptionally admitted onto the programme as a result of possessing sufficient relevant industry experience, were required to complete an Introduction to Law course that covered similar elementary legal themes.

While the module deals primarily with litigation and arbitration, the class received an overview of one hour lecture covering the different forms of dispute resolution processes, including mediation and arbitration, processes that business parties are encouraged to engage in as an alternative to resolving their differences in court. Such processes have gained significant prominence in the UK in the past 20 years (Warne, 2010). The lecture also covered the relevant considerations in determining the appropriate form of process (or processes) to be applied. This type of PBL is effectively what Boud and Feletti call problem based curricula, where students work on the problem as part of the course (Boud & Feletti, 1997). This may also be referred to as a "hybrid method", with PBL being used in addition to the traditional teaching approach (Wong, 2003 p. 169). PBL does not refer to a specific educational method, and can have different meanings depending on the design of the educational method employed and the skills of the teacher. The variables can produce wide variations in quality and in the educational objectives that can be achieved (Barrows, 1986). While there are various ways to implement PBL, the common element involves learning by doing as PBL places students in an active role as problem solvers (Hirokawa, 2009-2010). Even when implemented in a short intervention type context or partially, PBL can promote deep learning or assist in narrowing the gap between academic law and law as practiced (Liddle, 2000; Havelock, 2013). Indeed, various teaching methods adopted as part of a law school curriculum need not be seen as fundamentally incompatible (Hirokawa, 2009-2010; Nathanson, 1989). The exercise was aided by the fact that 68.86% of the class (19 students), had practical experience with litigation or an alternative dispute resolution process.

The introduction of PBL can be resource intensive and consequently, it is more palatable and viable to integrate it as part of an established module. Some puritan PBL commentators have suggested that the term "problem methods" should be used when integrating it in this way as they contend that it is not a PBL course in the strict meaning of the term (Havelock, 2013, p. 389). It was originally suggested that it is a purely PBL method only if it exposes students directly to a problem from the outset, without prior exposure to any background information. However, consistent with the comments above, PBL can be viewed as incorporating a range of problem based learning options (Flagg, 2002).

The author was also aware that introducing a PBL exercise would be placing demands on some students unlike the demands these students were accustomed to in their previous educational experiences and would consequently result in a degree of culture shock. This is similar to the experience that students have had with PBL in Hong Kong (Macfarlane & Boyle, 1993). Consequently, in a context where postgraduate students were experiencing PBL for the first time, the author believed it was best that the PBL exercise be used as part of a suitable mix of teaching methods (Ogden, 1984). Experience suggests that this can also promote a "deep approach" to learning where the mix of methods considers the individual interests, needs and abilities of each individual student (Danov, 2011).

Students were comprehensively orally briefed about the PBL exercise to ensure that they understood the process and their role in it in order to enhance student motivation (Eggert, 1999, as referred to in Clough and Shorter, 2015). They were also informed of the rationale as to why PBL was being employed in order to encourage full participation and commitment to the process (Race, 2001, as referred to in Clough and Shorter, 2015). Such “scaffolding” support makes the exercise more accessible and manageable for students (Batty, 2013, p.250).

In an effort to see the problem from different perspectives and to simulate the different approaches adopted by the various participants in the dispute resolution processes in practice, each team member was encouraged to role play, taking turns at playing the role of the lawyers for each of the parties and the independent third party, whether as judge, arbitrator, mediator or conciliator (Mack, 1998; Moskovitz, 1992).

The initial problem was provided in the first session. During the first session as the groups were discussing the problem, the author ensured that the groups were aware that he was available to provide feedback on any queries that they had regarding the exercise. The author also checked with each of the groups to ensure they were clear on what the exercise required of them. This immediate feedback was important in supporting learning as any misconceived ideas could be corrected instantly (Orji, 2015). Interim feedback is critically important to ensure that students can correct errors during the process (Flagg, 2002). As noted above, other than interventions such as this to provide clarification on what the exercise involved, the author did not approach any of the groups or get involved in their discussions unless requested by them to do so for clarification purposes.

In the second session, the author introduced further information that revealed background context about both parties respective interests. Students spent the rest of that session and the third and final session discussing the problem in the light of the additional issues and were, as mentioned, encouraged to meet in their own time to attempt to find a resolution to the problem if they believed they needed more time to reflect on the impact that this additional information had on the dispute resolution process(es) to be employed.

RESULTS

Student Perceptions of the Exercise

The majority of the class (85.71%; 24 students), said that they enjoyed the PBL exercise more than standard lectures. 71.43% of the class (20 students), believed that the PBL exercise was more realistic than standard lectures and 92.86% of the class (26 students), believed that it made them more interested in the subject.

Despite my presence in the class throughout the exercise and my willingness to respond to student queries regarding the exercise, a majority, 57% of the class (16 students), said that they would have liked more involvement from the facilitator. However, despite this perceived weakness, 96.43% of the class (27 students) felt engaged during the PBL exercise and 75% of the class (21 students) believed that the PBL exercise should be a compulsory part of the module. 78.57% of the class

(22 students) said that they would prefer if more classes were taught using PBL in the International Commercial Litigation and Arbitration Module and 89.29 % of the class (25 students), said that they believed that PBL should be used in more classes in other modules on the master's law programme.

DISCUSSION & CONCLUSIONS

As the law is an integral and influential part of everyday life, it provides a rich source of materials and ideas that shape and reflect societal rules, norms and values with increasingly indistinct boundaries, drawing on other areas such as philosophy, politics, sociology and economics. This provides ample opportunities to move beyond a narrow construction of the law school curriculum to a wider consideration of the place and status of the law in society. It is within this context that the primary challenge facing a law lecturer is to take students beyond their own assumptions about the parameters of the subject and provide them with new opportunities for exploration and a broader vision to enhance learning (Varnava & Webb in Fry, Kettridge & Marshall, 2009).

Employers and professional groups are placing expectations on institutions to deliver graduates that can more effectively cope with the world of work and students are beginning to realise that they can have considerable influence when they are contributing a greater proportion of university budgets (Boud in Bryan & Clegg, 2006, referred to in Clegg; Bone & Hinett, 2002a). Employers say that they want workers who can take the initiative and solve problems (Stern & Huber, 1997; Martin, 2003). Designing appropriate educational methodologies for legal practice courses that synergise with the objectives and outcomes of the learning experience will prove instrumental in responding to industry and student demands (Sherrin, 2006).

Aristotle believed that teaching is the highest form of understanding (Boyer, 1997, cited in Greaves, 2015, p. 23). The PBL approach requires that students construct and develop their own knowledge through researching and developing solutions to open-ended, real-life problems (Clouston, in Hartley, Woods & Pill, 2005, cited in McCall, 2010). The feedback from students demonstrates the success of the approach. 96.43% of the class, all but one student, believed that the exercise helped them to develop their problem solving skills. 92.86% of the class (26 students), said that they believed that the PBL exercise assisted them to develop their lawyering skills. All students believed the PBL exercise helped them to learn about and critically analyse the subject area and relate the theory they learned in class to practice. While the PBL approach involves a focus on learning strategy as well as knowledge acquisition, students still have the opportunity to acquire relevant knowledge by adopting the strategy to recognise what they already know, identify what they need to know to tackle the issues or problem and then attain the information to address or ideally solve their problem (Le Brun & Johnstone, 1994; Kiley, Mullins, Peterson & Rogers, cited in McCall, 2010).

The feedback received from the PBL exercise in the questionnaires is generally positive, but the extent to which PBL exercises such as this are effective in enhancing the problem solving skills of students will only be truly assessable with the passing of time and the graduation of the students involved from university to practice or

industry (Hammond, 1999). The acid test for the success of this initiative will ultimately be demonstrated through the graduation of students who have learned to think like lawyers.

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Engaging students in their own learning: Introducing Problem Based Learning in an undergraduate psychology module

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ABSTRACT

The diversity of the relatively new discipline of Psychology has meant that teaching can take a tutor focussed approach. The student becomes a passive learner, with focus on the grade at the end of the course and disengagement from the learning process. Problem based learning (PBL) is a pedagogic theory of teaching that encourages the student to take an active role in their learning, to develop an understanding of the material being presented to them and put this into context by engaging and sourcing solutions through independent research and team work. This process can be encouraged through a professional practice module, enabling students to engage with and develop what they are learning in the classroom and adapt this to the field. The aim of this article is to discuss the integration of PBL as part of an undergraduate psychology degree, in order to encourage students to learn the skills to be reflective practitioners and lifelong learners in a Mauritian context.

Key Words:

Problem based learning; psychology undergraduate course; professional practice; active learning; reflective work

INTRODUCTION

The study of psychology is broad and vast, relating to a range of disciplines, behaviours and characteristics of people and organisations. Combined with the constant research and development in the field, the study of psychology provides a rich source of resource. It collaborates and provides material to areas of study that incorporates human behaviour and interaction, including philosophy, law and social media (Martin, Carlson & Buskist, 2010). The research and consequent theory of psychology is said to originate from the western world (Korhonen, 2006). However, psychology is now being taught and researched internationally. UK overseas campuses, with westernised concepts are being taught to a culturally diverse population. This is the current case for Middlesex University Mauritius Branch Campus (MUMBC), teaching psychological concepts to students living and studying in East Africa, specifically Mauritius. In 1988 The Mauritian Tertiary Education Commission was established; at that time there was only one university in this developing county, The University of Mauritius (Reisz, 2016). Middlesex University opened its branch campus in 2010 (Reisz, 2016) and has now become part of the smart cities and the government's vision to develop a centre of

knowledge on the island (Reisz, 2010). The aim of this article is to introduce Problem Based Learning (PBL) as an approach to help ground the theory of psychology into a Mauritian context for students undertaking an undergraduate psychology degree.

The diversity of psychological phenomena means that the undergraduate modules for this domain are vast. Branched teaching of psychology specialises to applied areas of research and vocation, for example socio-biology, cultural and developmental psychology, cognitive neuroscience, health and clinical psychology. This means that the domain is continuously evolving (Martin et al, 2010). Continued professional development in the field of psychology encourages the division between study and applied work life to blur; helping to maintain, improve and develop knowledge for the applied workplace (Guly, 2000; Langendyk, Hegazi, Cowin, Johnson & Wilson, 2015; Tame, 2012). An understanding of one's own learning and knowledge is important for this continuation in psychology. It is important for learners to recognise the connections that surround the psychology domain, be interested in what they are studying, build on previous knowledge and develop skills when reflecting on their professional practice (Dolmans, Loyens, Marcq & Gijbels, 2015; Hermsenac & Embregtsabc, 2015; Schön, 1983). A general implementation of independent learning, from the first stage of the undergraduate degree in psychology, will aid the continued development of lifelong learners in this domain (Dolmans et al, 2015; Guly, 2000; Lunt, 2011). A way to incorporate the cultural context into this learning is the adoption of a professional practice module; which takes the theory from the classroom and applies it to the field of work. A professional practice module bridges the gap between theoretical psychology and relevant practice. The MUMBC introduced this module in 2014 to their undergraduate psychology programme. This module is aimed at encouraging students to apply their knowledge while developing skills appropriate to their professional field of work. It requires a learning technique, such as PBL, that will encourage retention of knowledge, confidence development and autonomous motivation for learning. Clinical application of skills encourages safe practice and is an important aspect of teaching (Müller, Hänsel, Stehr, Fichtner, Weber, Hardt, Bergmann & Koch, 2007). The module involves placing students in clinical roles in a range of non-governmental organisations (NGOs). It aims to develop awareness of how theory and practice interact; developing communication skills and independent learning, through reflective practice. The field work is supported by seminars, which address a number of topics that may arise in placement. This module presents the opportunity to inform students of real life scenarios in preparation for their field work and encourages self-directed learning, a skill that will need to be implemented on the field.

The approach students take when learning will help to define what they achieve. Research in educational psychology has aided the way that teaching approaches this (Dolmans et al, 2015). Biggs & Tang (2007) popularised the concepts of deep and surface approaches in learning, with deep learning approaches suggesting students achieve a comprehensive understanding of a subject and surface learning approaches suggesting students learning is dependent on memorising facts, with no necessary understanding. Although there has been much work completed, there is recent criticism of the dichotomy of the deep/surface learning model and suggestions it is undeveloped (Godora, 2016), with ambiguity in the definition of its terminology (Dinsmore & Alexander, 2012). The Biggs & Tang (2007) deep/surface learning model became prominent in the field of education, but was not developed consistently (Howie

& Bagnall, 2012). There is limited evidence for the model implementation in tertiary education and little critical debate surrounding the model use and development (Howie & Bagnall, 2012). The model points to the assumption of a beneficial method; deep level learning, verses an inferior method; surface level learning, when introduced to new material. However research indicates suitable academic grades can be achieved through the use of surface learning (Howie & Bagnall, 2012).

With regard to the professional practice module in the psychology undergraduate programmes, the expectation of the students is to apply their knowledge from the classroom to that of the field. Therefore the taught information needs to be understood and applied to different contexts. Deep level processing can be defined as the student's ability to understand the context and concepts of new information and his/her interest in the area of study (Dinsmore & Alexander, 2012). This can be influenced by autonomous motivation; students having an interest in the subject or associate the learnt material with personal meaning. This process has been linked to improved outcomes in education (Wijnia, Loyens, Derous & Schmidt, 2015). In this article, surface learning will be defined as rote learning/memorised text and consequently limited understanding of the material (Entwistle, 2012). Learning techniques are influenced by the education environment, the competition of achievement, academic assessment goals and students not understanding expectations of the course or having limited time to complete work (Howie & Bagnall, 2012). The assimilation theory devised by Ausubel, Novak, & Hanesian (1978), states that meaningful learning is achieved by the student who can associate new information with pre-existing knowledge, this aids long-standing retention and application of knowledge. However rote learning is not considered meaningful because it remains unrelated to previous experience, providing difficulties in its application to a new situation. Based on this educational theory, meaningful development in learning should encourage the connections with previous knowledge and provide a context that will help to cultivate deep level learning (Ausubel et al, 1978; Entwistle, 2012). Other influences in one's learning approach includes confidence in ability and controlled motivation; in which people experience external pressure or internal feelings of responsibility to achieve; increasing the utilisation of surface learning approaches (Entwistle, 2012; Wijnia et al., 2015). Learning styles can be influenced by the teacher's abilities, approach and understanding of the subject, for instance a piecemeal method may limit the adoption of a deep learning style (Howie & Bagnall, 2012). This recognition of varying contributions to learning is important in devising a teaching approach that promotes long term retention and application of knowledge in psychology.

Psychologists are exposed to numerous contexts, people and variations of professional work, much of which includes problem solving. Resolution is often based on reflective practice and adapting or researching new knowledge to address the problem. Therefore it is important that students studying the theory of psychology are able to retain knowledge, understand their own learning approach (Karpaik, 2011) and have the skills to transition learnt theory to practice (McKeachie (2002). A pedagogic theory that can inform and enhance self-directed and student centred learning, is that of problem based learning (PBL) (Muehlenkamp, Weiss & Hansen, 2015). It has been suggested that the PBL approach works well with psychology students; improving critical thinking and engagement, in a small class size and with students who have similar ability levels (Muehlenkamp et al, 2015). However despite the influence of

educational psychology on the development of PBL, there is limited research in the application of PBL to psychology courses (Hays & Vincen, 2004) and none to the author's knowledge in Mauritius. Psychology courses do not use PBL enough, making the examination of its effectiveness hard to measure (Muehlenkamp et al, 2015). The challenges of implementing PBL should be considered. These include increased resources compared to traditional learning; with tutors facilitating discussions and feedback classes and providing contingency opportunities for missed sessions and assuring consistency in PBL implementation. The lecturers feeling threatened because this approach removes their role as the educator and concern for student preparation for participation because the student takes the lead role in their learning (Dunsmuir & Frederickson, 2014). The institutional support is a concern that would need to be addressed before implementing PBL. However PBL was initially introduced for use in a professional setting in the 1960's at McMaster University in Ontario, Canada and now has become widespread, proactively used in the teaching of medicine, related clinical fields and other areas of teaching, such as law and education (Flagg, 2002). PBL is student centred and has resulted in the achievement of effective self-directed learning, achievement in a deeper understanding of material and concepts, long term retention of information, increased student satisfaction, engagement (Gallagher, 1997; Hays & Vincent, 2004; Purichia, 2014) and improved critical thinking (Muehlenkamp, 2015). PBL students have reported development in research skills, presentation skills and knowledge acquisition (Hays & Vincent, 2004).

Applying PBL to the Professional Practice Module

Traditionally, psychological theory is taught through the medium of lectures, labs and seminars by an assigned tutor and students are given a formative or summative task requiring them to use this information. However, as previously noted this may encourage surface learning, retaining information for a limited time. Critical analysis of teaching practice suggests that students are dependent on feedback and support from tutors. This limits the achievements of student centred learning. Problem based learning is designed to be student centred (Wijnia et al., 2015), provide a variety of possible answers, avoiding students remembering the current correct answer (Hays & Vincent, 2004) and encouraging reflection on the learning process, developing skills for self-directed learning (Schmidt, Van der Molen, Winkel & Wijnen, 2009). The set problem is given to the student, before the possible solutions are revealed during formal teaching. Previous knowledge will not be sufficient to address the task; therefore students will need to complete independent research and formulation (Schmidt et al, 2009). Students work in groups to gather information independently of the tutor, they formalise, address and create their own solutions to the identified problem with the tutor facilitating and asking appropriate questions (Glenn, 2001). Once the problem has been addressed the tutor will then hold a seminar to discuss findings and incorporate the students' formulations (Flagg, 2002). This removes the student's status as a passive receiver of information and instead encourages active learning. The students have a role and are part of the teaching; PBL encourages self-governed learning and has been found to improve performance, encouraging the use of transferable skills outside of the classroom (Glenn, 2001). Students are able to select their own learning materials, improving their perceived competence and have reported autonomous motivation

(Wijnia et al., 2015). The positive effect of PBL has shown it is an innovative learning tool to encourage teaching practice in aiding lifelong learners by helping students to understand how they learn and aiding the application of learnt theory to practice. PBL in this professional practice module will focus on promoting independent learning through research and reflection of necessary skills in psychological practice, that of communication and the therapeutic relationship between a mental health practitioner and their client in the clinical field. PBL focuses on the learning process of the students (Flagg, 2002).

Communication and interpersonal skills is an essential taught session in this undergraduate professional practice module. On the field, conflicts can arise, especially when working with vulnerable clients, and often are due to miscommunication. If students use the PBL framework to consider different solutions in the communication approaches, it will help to develop their practitioner skills on the field and aid the development of successful therapeutic relationships with the clients. Currently the professional practice module at MUMBC has two self-selecting seminar choices available to students; which could be used to engage students with PBL. The formative work includes keeping an individual reflective diary in placement. The formative diary will be adapted to include an individual placement pre-entry that focusses on the PBL workshops and encourages clinical reflection. This approach will lead to encouraging the student to focus on what they have learnt in the classroom, remembering there is no one correct answer to the problem and applying this approach to the field. They will reflect on the learning process and put this into context themselves.

METHOD

The Presented Problem

PBL will take place prior to the final seminar for the professional practice module; this is entitled 'communication and conflict'. The problem presented to students is adapted from Yoo and Park (2015) case base learning approach and will be set in a clinical setting and involves observing a role play of conflict between a mental health practitioner and a client; a person receiving support from mental health services in Mauritius. The tutors facilitating the course would enact the roles, 10-15 minutes, which would be scripted, to keep the role standardised and realistic to that of a clinical setting. The students will be set the task of firstly identifying the cause of the conflict and then devising possible plans to resolve the dispute and maintain the therapeutic relationship; for example what type of clinical skills could be useful to implement? What clinical concerns need to be considered? What are the practicalities of putting this plan into place in the mental health setting?

For this to be achieved, students will need to use previous knowledge from core modules collated in first and second year subjects, including foundation counselling skills and theory, counselling and psychological therapies and social psychology. They can also use resources from other related modules and include the optional third year 'mental health, well-being and consciousness' module. This will provide material which considers different applications of counselling skills and the limitations of the mental health worker's role. They will also be asked to use the knowledge acquired in the professional practice module up to this point, encouraging and incorporating knowledge about the clinical setting, client and team difficulties that may be faced and the importance of the therapeutic relationship. One of the important elements of PBL is that the students will need to complete their own research, because the information required to provide different possible resolutions to the problem will be varied and no direct answer will have previously been given to the students.

Students will be placed into groups of five; this concept is based on the McMaster PBL design, encouraging group work and communication, in a collaborative context (Flagg, 2002). This simulates a clinical multidisciplinary team, in which members from different professions work together to address client's needs. This provides students with the opportunity to work with one another, considering group roles and interactions. Critical review of group work has suggested that individual competition is rife, with students aiming to achieve higher grades compared to their peers. However investment in team learning is stimulated by PBL and can be a valuable concept for higher education (Flagg, 2002). The tutor will work as a facilitator, providing appropriate questioning; this will take place after the role play during a 1.5 hour class session. The problem presented in the role play will stimulate the process of learning. The students will be asked to meet in their own time to continue to work on the problem. The second 1.5 hour PBL class will introduce a further influencing factor through a paper based scenario, which will add additional information to the original problem. An example would be to inform the students that the client had stopped taking their prescribed medication or a member of staff involved in the dispute has been accused of bullying. In their own time, students will need to rework their formulation, to include this information to create a solution. The PBL aim is to encourage the students to learn through research, group work, discussion and creates a medium for continued professional learning (Barrows & Tamblyn, 1980). It therefore avoids immediate goals such as one correct answer and focuses on the journey of student based learning. This approach will encourage taught psychological concepts to be adapted to the Mauritian field of mental health.

Assessment of the Students PBL Engagement

The formative assessment would be an individual piece of work based on McMasters design by incorporating a pass/fail system; this would encourage student collaboration and support of one another (Barrows & Tamblyn, 1980). PBL allows students to build confidence addressing problems without the fear that they will get a question wrong. It encourages listening, empathy, negotiation and cooperation skills; all of which may well be encountered in the professional context (Flagg, 2002).

The PBL concept and the assessment criteria will be discussed with the students for transparency before the work begins. The first assessment point will focus on the student's view of the initial problem and the primary concerns from the role play they watched, the second point will focus on their role in the group and their contribution considered, and the third point will focus on how contributions by the students were made to aid the resolution devised by the group. The last point will focus on the students reflective work, how did they critically view the process and what have they learnt from being involved in the work. Highlighting the importance of the learning process will reduce the risk of the student focussing on the end product. The reflective contribution will be incorporated at the start of the student's reflective diary, which is a requirement of the course currently. Students will submit this abstract for review, considering points such as the initial problem and the primary concerns, what worked well in the group, things that could have been improved, what worked well in the process and their reflections on the formulated solution. The feedback to the student will consist of a meeting with their university supervisor, to discuss the formative work. A one to one meeting will allow for discussion and therefore encourage understanding of the learning process, follow up queries and further reflections. This preparation and feedback before clinical placements will help to foster confidence in the student's self-directed reflective work, which they need to engage with for their professional practice and summative assessment on this module.

Evaluation of the PBL Intervention

The evaluation will entail voluntary focus groups and semi structured interviews to collate student's opinion on PBL. The questions will focus on the student's experience of the student centred/independent learning process; assessing the students' perceptions about their self-directed study, group work, involvement in the process and whether their confidence and motivation, as regards their application of theory to practice, increased. To objectively measure this, a mixed methods approach would incorporate pre and post-tests that have previously been implemented by Yoo and Park (2015) when they evaluated the effectiveness of case base learning. The effectiveness of PBL on the development of the student's self-directed learning; specifically problem solving and their motivation to learn, will be evaluated. This will be measured by calculating any improved ratings in self-reported problem solving skills using the problem solving inventory (Heppner & Petersen, 1982) and any improvements in the students motivation to learn will be measured using the learning motivation tool (Instructional Materials Motivation Scale; Keller, 1987). Voluntary participants would be asked to complete both questionnaires before they take part in the PBL sessions and again after they have completed the PBL approach. The results would identify any significant differences in the pre and post PBL session scores and would help to indicate if the teaching approach was effective in increasing the students' self-reported ability to problem solve and/or increase their self-directed motivation to learn. Secondly improvement in the student's practice base skills will be measured using the communication skills tool (CAT) (Makoul, Krupat & Change, 2007). Pre and post PBL intervention scores would be collated and significant changes in scores will be evaluated; an increase in scores for this measurement would indicate better communication skills.

As regards the development of the third year student's current and continued learning, this proposed PBL technique for Middlesex University students, demonstrates a critical evaluation of the UK professional standards framework (PSF) (The Higher Education Academy, 2011). The MUMBC is aligned with a UK curriculum therefore the development of teaching needs to reflect the PSF. The area of activity is evaluated, with students making use of other university support such as the library staff (A4) and the e-learning professionals who may help to provide resource to address the appointed PBL exercise (V3). They can consider the core knowledge in relation to the theory and research they encounter (K4) in devising solutions to the problem presented within the general domain of psychology (K3). Creating a professional community is an important part of professional practice. Through group work and community practice, they are creating the professional values that are involved in the world of work. PBL demonstrates and aims at encouraging students to be active learners and to share information with one another (V1). PBL has considered the area of activity and moved from a standard teaching environment, encouraging the students to continually develop their professional standard and in their pedagogy, including having to engage in their own research and reflect on their own practice (A5). Understanding the wider context and applying the knowledge from university learning will be addressed in PBL and will aid the application to a real life situation of psychology in practice (V4). The assessment of the proposed projects provides an appropriate way to learn professional skills and use a reflective formative task that adds closely to the current formative and summative assessment of the teaching programme (PSY3024: professional practice module) (K2). One to one meetings with the university tutors will aid the feedback and understanding of the learning process for the student (A3). Evaluations of the teaching method will take place through the use of standardised tools and the opinions of the students themselves (K5) to help enhance the learning of future students (V2). The students will continue to use the skills learnt in PBL and apply and continue to use the skills in the world of professional practice (A5).

CONCLUSION

This article has discussed the move from a traditional teaching approach, to one that encourages students' active learning. This article has focused on the implementation of a PBL approach for a professional practice module at a UK institution in Mauritius. This current PBL application as regards the professional practice module is a proposed approach to develop lifelong learners and facilitate new opportunities for student learning in the Mauritian context. Understanding how PBL can benefit student learning is relevant to all international educational settings and the findings from this research can help to create new learning resources for a range of modules in psychology undergraduate programmes. Evaluating the experience of the students' PBL approach will enable first-hand accounts of how the learning process was experienced and this could develop further research into good practice approaches for teaching psychology. Initiatives such as the integration of PBL into creative new modules such as the professional practice module, is an excellent first step for evaluation in this endeavour.

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Knowledge sharing in academia: A case study using a SECI model approach

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ABSTRACT

Knowledge has been seen to be a valuable asset and resource in the rising economy, evidenced from recent developments (May & Stewart, 2013). The philosophy in this new economy is to acquire, capture, create knowledge from what has and could have been learned. Knowledge sharing is commonly seen as a part and parcel activity in almost all institutions in the field of academics such as seminar classes, workshops, training and publications where knowledge is effectively shared. The goal of this paper is to probe knowledge sharing in academia with the use of the SECI model (Nonaka & Takeuchi, 1996). The SECI model for knowledge creation is based on four quadrants of knowledge transfer namely Socialisation, Externalisation, Combination and Internalisation (SECI). This paper looks towards pointing out the significant activities students and academics take part in as part of a case study; the technology used to aid in sharing knowledge; the plausible factors that encourage knowledge sharing; the hindrances that affect knowledge sharing within academia. Findings conclusively disclosed that incentives, attitudes and individual expectations are vital factors in encouraging both students and academics to engage in knowledge sharing activities and also that knowledge sharing is a vital factor in the success of academic institutions. For instance, knowledge hoarding can be detrimental, and unfortunately is often inherent within academia due to pressures in publishing. Hence, successful knowledge sharing is an indispensable factor within the academia, particularly with regard to enabling successful curriculum reform, which depends on good research acumen.

Key Words:

Knowledge management; knowledge sharing; university; academia

INTRODUCTION

This paper probes knowledge-sharing activities within academia using Nonaka and Takeuchi's SECI Model for knowledge creation. (Nonaka & Takeuchi, 1996). Academia is centred around creating an impact on educational productivity by training the next generation of knowledge workers as well as the knowledge economy by conducting research activities in terms of what motivates the academia in sharing knowledge, what knowledge is shared, as well as the attitudes associated with sharing this knowledge. This paper focuses on outlining and stating the benefits and influences of knowledge sharing within organisations and universities as knowledge sharing has been shown to influence organisations and teams (Polanyi, 1996; Nonaka & Takeuchi, 1996). It also identifies an organisational or team framework for future and current needs by placing emphasis on research with the use of the SECI model (i.e. knowledge sharing intention, encouraging sharing of knowledge and knowledge sharing behaviour). Research on knowledge sharing is influenced by those fixated on the practice of knowledge sharing in business-oriented organisations which obviously are motivated by profits. Nonetheless the process of knowledge sharing in academic arenas encompasses knowledge creation, capture, application and dissemination are innate within the institution. While there is not an explicit way to calculate the impact of knowledge sharing in academia, it is worthy of further exploration and this paper aims at exploring this using the SECI model, which clearly marks four quadrants of knowledge transfer and assimilation of knowledge.

LITERATURE REVIEW

This section reviews current literature on knowledge sharing in academic settings with a short introduction of the SECI model.

Nonaka's SECI Model

The SECI Model was introduced by Nonaka and Takeuchi and has become the vital element of knowledge creation and transfer (Nonaka & Takeuchi, 1996). They proposed four ways in which explicit and tacit knowledge can be created, combined, converted and shared in an organisation. The acronym of the SECI stand for Socialisation, Externalisation, Combination and Internalisation and are phases that occur when tacit and explicit knowledge interact. According to Nonaka and Takeuchi (1996), Socialisation involves sharing knowledge in face-face interaction; Externalisation happens when tacit is converted into implicit knowledge. Tacit knowledge is what people carry in their minds and we find it difficult to access. Explicit knowledge on the other hand, is what is documented or codified and can be transferred easily to others. Combination involves tacit knowledge transferred into explicit knowledge and explicit knowledge to explicit knowledge is Internalization. The cycle then continues. Figure 1 shows a graphical representation of the cyclical model of knowledge conversion by Nonaka and Takeuchi.

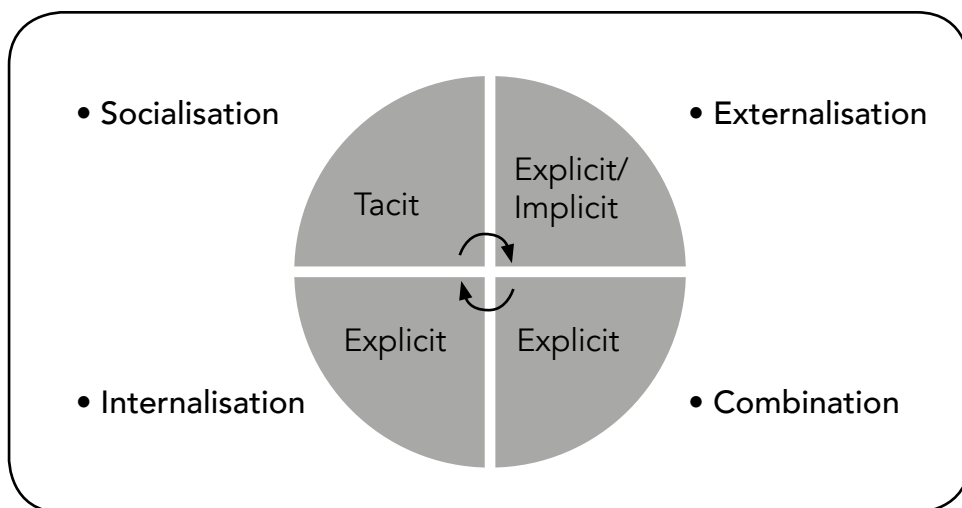


Figure 1: The SECI Model (Source: Nonaka & Takeuchi, 1996)

Academia and Knowledge Sharing

In any knowledge-based economy, knowledge sharing guarantees that the staff are updated all the time with current knowledge and therefore ensures that academic institutions play a major role in creating knowledge. The intellectual capacities of the academics act as storehouses for the institutions. Ismail and Yang (2006) add that not only are the academic institutions equipping students with knowledge but also merging together the existing and current knowledge and experience for the new generation (Ismail, Chua., & Yang, 2006). Higher institutions of learning have existing knowledge management systems and it is essential to recognise these for further development. Moreover, the staff of these academic institutions and the institutions themselves need to acknowledge and pay attention to the changing nature of their roles in society (Yang & Ismail, 2008).

The following types of people stakeholders are involved in knowledge transfer in universities; the students that accept, study and apply the knowledge received in the universities; the faculty who designs, teaches and disseminates the content to the aspiring students and mentoring them and also conduct research to discover new knowledge; the administrators who manage the university's tasks, market the institution, register and manage the students; the financial sponsors who sponsor the students, researchers and the university such as parents, financial aid which comes in the form of scholarships and bursaries/grants (Ayman & Shahizan, 2010). These types of people with contrasting qualifications, skills and experience collaborate in their endeavours to create a new knowledge-based environment.

Because of the results realised through teaching and research and their importance and applicability to the labour market, it is significant that knowledge management be included in the academic sector (Maponya, 2004) and since the universities preserve and generate new ideas as well as teach it is imperative that

knowledge is promoted, bolstered and publicised and for that reason continues to be a sole aim and focus of universities. Recently universities are branching out further and creating overseas campuses which make the issue of knowledge management even more pertinent (Dessoff, 2007). Knowledge has to be transferred from the host to branch campus in much the same way as car manufacturers branch out to other countries. Therefore academic institutions should no longer be excluded since undoubtedly knowledge is a primary asset and therefore should be taken as a crucial asset to be tapped into and distributed in the institution (Gupta, Iyer & Aronson, 2000); Abdullah, Selamat, Jaafar, Abdullah, & Sura, 2008; Maponya, 2004). Maponya adds that, same as the business oriented organisations, academic organisations also face hindrances such as advancement in technology, roles of staff altering, different cultures of students (Maponya, 2004).

To improve sustainability, it is important that academic institutions use knowledge management to share knowledge and realize growth benefits. But that is not all, there are some other reasons that could motivate other institutions to apply knowledge sharing such as high tech modernised technology; the need for reputation and recognition by their individual nations; continuous publication of research; and the need to improve and accentuate the needs of the environmental/ community demands (Ayman & Shahizan, 2010). Also, these institutions have new improved knowledge and information. They can count on the readiness of the students to accept the knowledge transferred to them as well as the eagerness of the tutors to exchange and transfer knowledge and these make academic institutions a great environment for disseminating knowledge (Ranjan & Khalil, 2007).

Knowledge Sharing Among Academics

With regard to the involvement of the universities in this quest for knowledge management, it is imperative that academics take part in activities and favourable circumstances to improve commitment and participation in the knowledge-based economy. The explicit knowledge that was developed earlier is then documented and published in the form of reports, periodicals and/or in conferences (Ayman & Shahizan, 2010).

Ideally, for an effective and successful knowledge share and exchange among the academics, positive factors are needed to influence the success. Studies report that to improve performance and productivity among the academics, there need to be motivations and incentives, for instance, a mutual relationship where fellow mates reciprocate to one another, build a trusting environment for sharing activities. This not only increases performance, but also builds individual reputation, increases both active and passive participation and increases productivity among the academic participants (Bock, Zmud, Kim, & Lee, 2005; Chennamaneni, 2007; Luo, 2009). Furthermore, once individuals believe that sharing their ideas and knowledge amongst one another builds their reputation, they will be more than willing to share. Therefore, once this behaviour pattern is noticed, then the administrators need to encourage this behaviour among staff and to also take into consideration the views of the staff on the ways and means to improve knowledge sharing practices (Jain, Sandhu, & Sidhu, 2007; Wasko & Faraj, 2005; Zhang, Pablos, & Zhou, 2013).

Luo, (2009) adds that, giving of rewards is a great determinant in the success of knowledge sharing among academics. Rewards such as recognition awards do really influence the way academics participate in knowledge sharing activities. Once staff are recognised for their participation in sharing knowledge, this actively increases performance and enhances productivity. Moreover, the availability of information technology services aids in the knowledge sharing practices. It allows staff to share and avail knowledge to their recipients and also to mentor one another. Furthermore, cultivating a support management team of the administrators has seen to yield a satisfactory knowledge sharing activity among staff (Supar, 2006; Seonghee & Boryung, 2008). Zawawi et al. (2011) mention that absence of the mentioned incentives does and could hinder a knowledge sharing practice among academic staff in institutions of higher learning. Therefore, staff need to be recognised for their efforts at sharing knowledge, be provided advanced technology to aid in their sharing and to build on new ideas, to also cultivate trusting environments by support management as all these factors would encourage knowledge sharing thus productivity and improved performance, improved research and hence a reputation for the institute (Zawawi, et al., 2011; Alsaleh & Haryani, 2013).

Knowledge Sharing Among Students

As is the norm in Universities or Higher Institutions of learning, students are part and parcel in the partnership. For any learning to happen and knowledge exchanged, the receivers of knowledge have to be there. However, the context in which students share knowledge among/between each other has been and still is an interesting topic of debate.

Students have preferences for different learning techniques. These techniques when adopted describe how students process and understand the information given to them (Mills, 2002). The different learning techniques that could be used include face-to-face tutoring where educators or tutors interact with students individually or in groups (McShannon & Derlin, 1999). The group tutoring techniques provide opportunities for students to participate, counter-argue and collaborate with each other, thereby improving communication skills, individual achievement and group dynamics (Emmer & Gerwels, 2002).

Realising that the knowledge being shared creates value to respondents, this impacts the behaviour of the parties involved in knowledge sharing. Studies show that, once students are encouraged to share knowledge and information especially for those deemed more intelligent to the less knowledgeable, once the less knowledgeable feel trusting and willing to accept and receive, students are found to be more participative and eager to share knowledge (Forman & Cazden, 1985; Franz, Larson, Lavery, & Winqvist, 1999; Sharrat & Usoro, 2003). Additionally, reciprocating and trust have notably been evidenced as promoters to knowledge sharing among students and motivates individual students to participate. Also, recognising student efforts by giving feedback and relevance, does also promote knowledge sharing (Majid & Yueng, 2007; Droege & Hoobler, 2003; Cheng & Ku, 2009). The free and voluntary willingness to share knowledge is a significant component in successful and active knowledge sharing among students. In discussion groups, students are able to socialise and interact where tacit knowledge could be shared and transferred through experience gained by observation, imitating and training as is done during a face-face technique (Al-Hawamdeh, 2003; Yuen & Majid, 2007).

Further, explicit knowledge information can be seen shared on internet platforms such as blogs, wikis, different chat forums where students are more engaged and are seen very active in sharing and receiving knowledge to and from one another. Students being engaged on these platforms could suggest that social networking tools can be effective knowledge management tools for sharing knowledge (Boulos, Maramba, & Wheeler, 2006; Tan, 2009; Lesley & Gillian, 2013). Despite the success stories associated with knowledge sharing amongst students, there is no doubt that as in most times, there are instances that could hinder the success of knowledge sharing among students in institutions of higher learning. These could be credited to factors such as the different personalities of students; the culture and social norms; the physical and intellectual abilities of the students; the lack of a knowledge culture; the technological attribute, time, personal relationships and the goals of the students. These factors could hinder or factor the success of knowledge sharing and therefore should be taken into consideration (Riege, 2005; Yuan, Fulk, & Shumate, 2005; Alstyne, 2005; Ikhsan & Rowland, 2004; Cross & Baird, 2000).

SECI MODEL ANALYSIS

This section explores the mechanisms of knowledge transfer within an academic context using the SECI model.

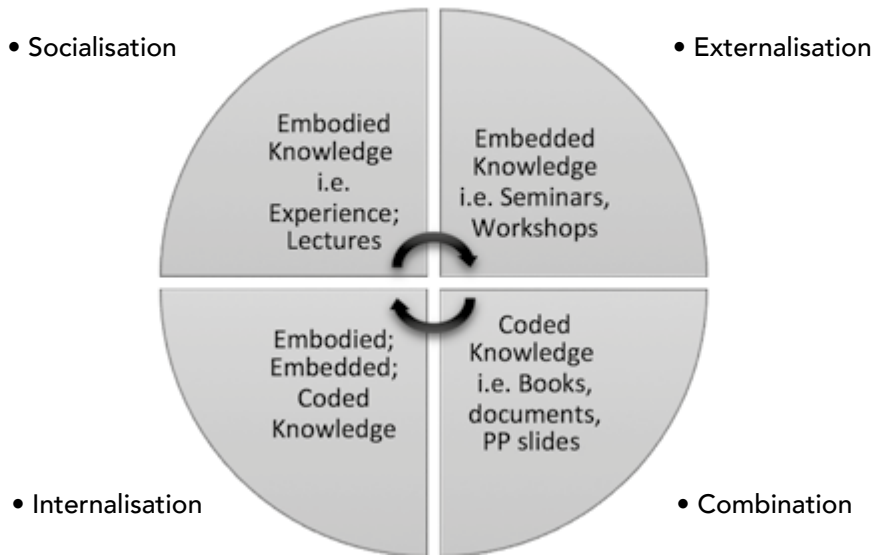


Figure 2: Conversion Processes of the Knowledge Quadrants Using the SECI Model.

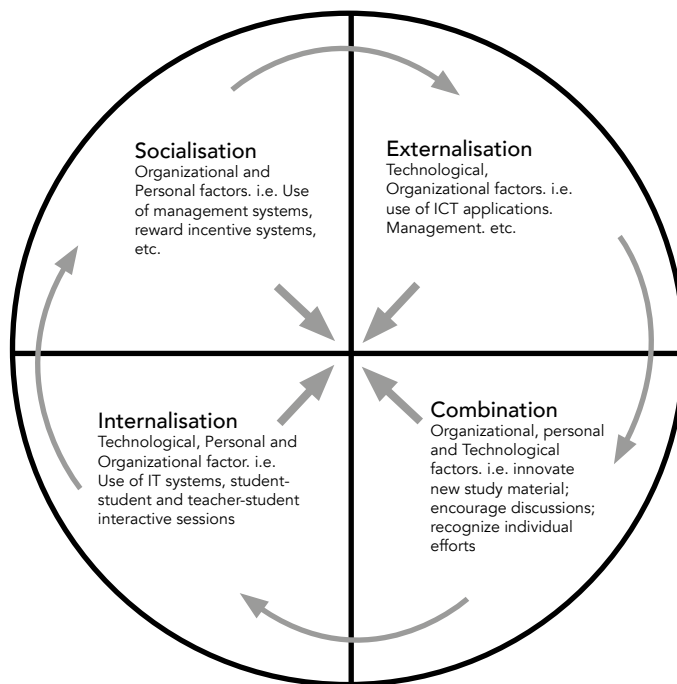


Figure 3: Knowledge Sharing with the Use of the SECI Model in Academia.

During the knowledge conversion process where knowledge is captured and converted into useful documented and stored data, the Nonaka and Takeuchi SECI model is a relevant model (Figure 2). The Socialisation phase happens when knowledge that is exchanged is received through face-to-face interactions. This knowledge is tacit in nature, meaning that tacit knowledge is intuitive in nature and hard to define. It is majorly experience-based knowledge. Tacit knowledge being experience-based holds a great deal of value and enhances growth of any organisation. Socialisation can happen in a university to aid in knowledge sharing i.e. during seminar classes where lecturers using experiences gained to transfer knowledge to students in the form of new ideas, inspiration and debates. Moreover, administrators of the university deliver the mission and vision of the academic institution during meetings, workshops where they delve deeper into what is required of every individual to the betterment of the institution. Employees are, thus, given a chance to share ideas with the superiors of the institution, leading to innovation and competitiveness as well as knowledge being shared. The Externalisation phase of knowledge conversion happens when knowledge captured is changed into codified knowledge. This knowledge can be documented and therefore easy to store, identify and retrieve. This type of knowledge is called explicit knowledge. During Externalisation, tacit knowledge is changed into explicit knowledge. This means that the all the experiences, and intuitive knowledge are documented and stored into accessible storage areas such as documents, databases, manuals, etc. this is done so as to spread knowledge efficiently and effectively throughout the institution. Here Management aids in this process by encouraging partners, lecturers to document their findings so as to express new ideas that would bring value to the institution but also share knowledge as well. ICT systems/applications would be beneficial to the institution such as computer systems for retrieving such information and knowledge, databases for storage of the knowledge. This not only aids students to access knowledge from their lecturers but also, access knowledge from other professors or academics, thus achieving a knowledge sharing culture. Also, representatives from industry can distribute the ideas where their interest lies so as to guide universities in creating study material that fit graduates for the job market.

Furthermore, the third phase of the SECI model, the Combination phase, is a combination of the explicit knowledge. New knowledge is created when explicit knowledge is combined to form new ideas thus innovation. For instance, reviewing of relevant literature related to a certain study, for example, community psychology can lead to new knowledge exchanged and received. By combining different scholarly works and distributing them among students during lecture sessions and creating debate sessions, students are able to participate in knowledge sharing activities with the lecturers' encouragement. In addition, during department meetings held by the university, when colleagues get together, they can combine the knowledge they have to create better teaching modules, improve their personal reputation and also improve team cohesiveness among departments. In addition to the module creation, knowledgeable ideas received from industry practitioners allows departmental heads to use these ideas to innovate new lecture notes and offer direction to students. The final stage of the SECI spiral model is the internalisation phase of knowledge conversion which happens when codified knowledge is internalised within oneself. For example, when students take part in discussion forums either in groups or during coursework assignments and also on discussion platforms on virtual learning environments (e.g.

Moodle, Blackboard), this helps students to internalise the knowledge they have gained based on their understanding and allowing them to modify it. The more they indulge in discussion forums while interacting either on IT platforms or face-to-face, the more knowledge is shared amongst the students. The same applies to academics. With the use of Nonaka and Takeuchi model of knowledge conversion, the SECI model, as discussed, at least all factors are taken into consideration to encourage knowledge sharing within academia. Figure 3 gives a brief summary of what has been discussed and represents how when knowledge is converted, it is exchanged and shared. The rest of the paper takes a look at analysing a university institution's actual depiction of knowledge sharing, and adherence with SECI model conventions.

METHOD

A survey was implemented for data collection. Collection of data for this research was held during the month of August 2016 at Middlesex University Mauritius. A questionnaire was used to collect and gather data for this research and the samples were divided into three sections. Section One of the student survey pertained to the personal information of the participants, for example, the age, gender, the current year of study at the university. Similar to the student survey questionnaire, the academics survey had items relating to the departments/ faculty the academics belong to. The second section had items relating to the success factors that favoured both students and academics alike in sharing knowledge; the success factors were a myriad of both positive and negative attitudes that they have towards knowledge sharing. This section also had questions on the motivations towards knowledge sharing, any barriers in knowledge sharing and the most common knowledge sharing activities that they carry out. These questions were given in statement form and participants were asked to indicate whether they agreed or disagreed with the statements. Most of the questions were adopted from the review of literature on knowledge sharing. The third section contained items about the channels or models of communication that were used by both students and lecturers to aid them in knowledge sharing.

RESULTS

Based on the returned survey questionnaire from students, 50% were between the age group of 21-25 years and 31.8% between the age group of 16-20 years. Among the academics, 57.1% were between the ages of 30-39 years. Most of the participants were female (academics - 66.7%; students - 77.3%). A majority of the academic participants were from the department of computer science (71.4%), 14.3% from the psychology department and 14.3% came from other departments. The student breakdown was as follows: 50% were year two students, 27.3% were from year one and the remaining 22.7% were in their third year.

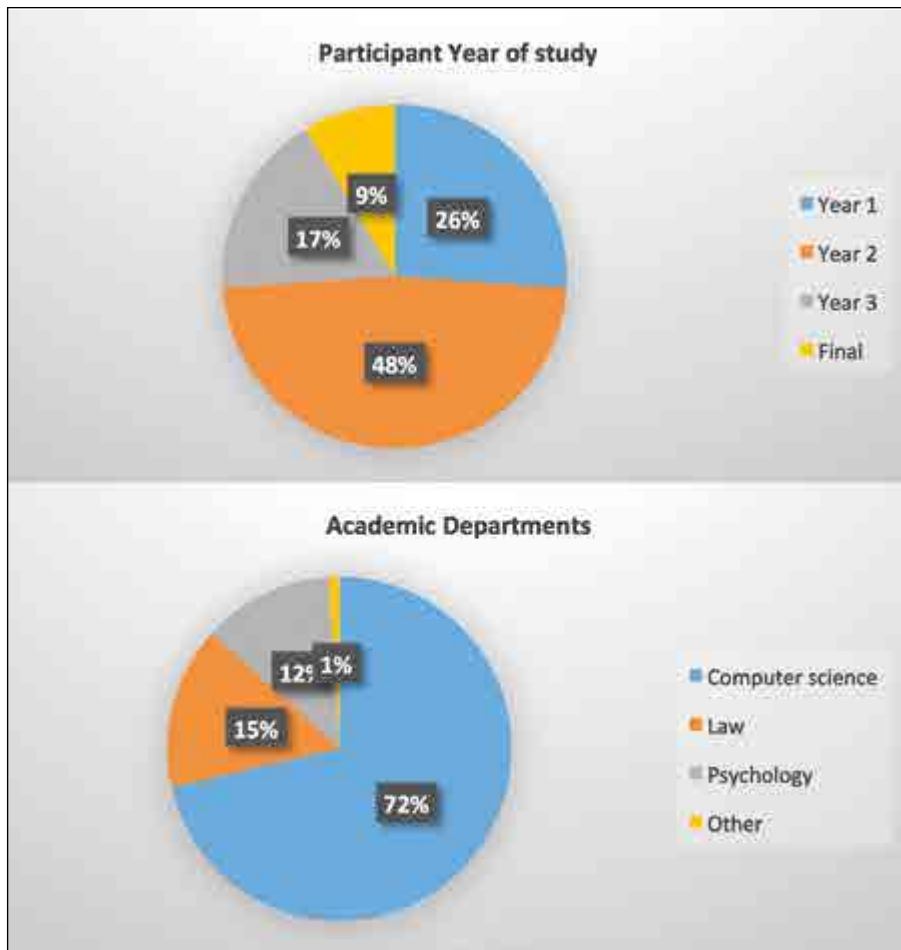


Figure 4: Profile of Student and Academic Participants

Figure 4 represents the student participants in relation to their years of study and also academic participants in relation to the departments they belong to. Year 2 students participated highly as well as academics in the computer science department. It should however be noted that participants were chosen anonymously and participation done voluntarily without coercion.

Figure 5 represents the extent of the views of the academics in relation to knowledge sharing. The participants' views are mean averages (an average was added up and divided up to get the means of each series) of what an academic thought about the knowledge received or exchanged amongst one another daily, once a week and two-three times a month. As illustrated in Figure 5, academics are seen to exchange knowledge daily and once a week more often showing great significance in knowledge sharing among the academics.

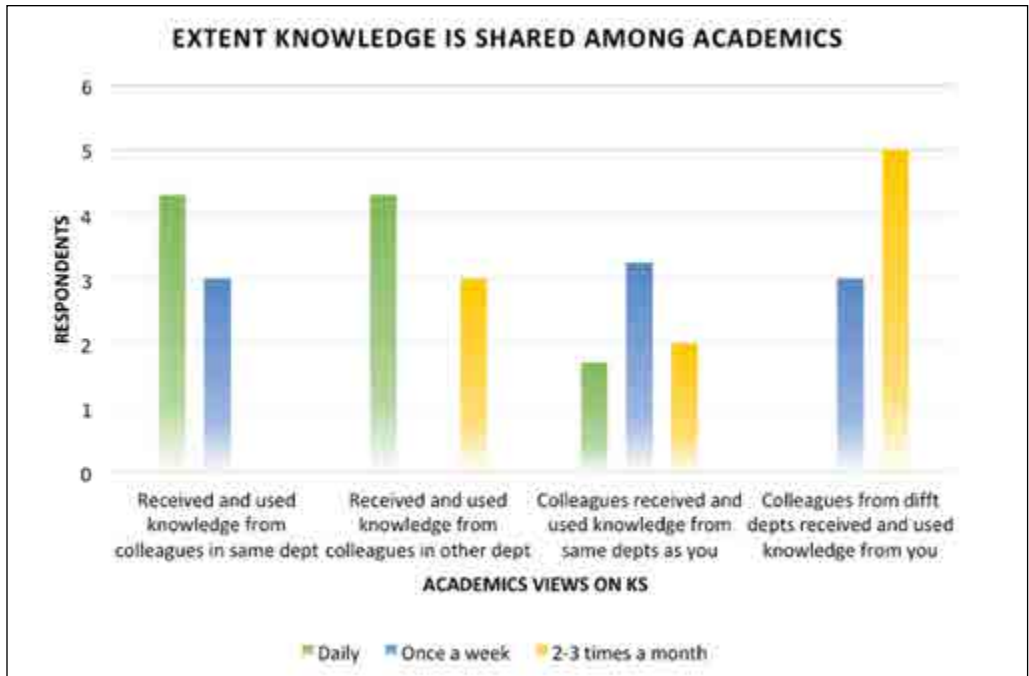


Figure 5: Knowledge Sharing Extent among Academics

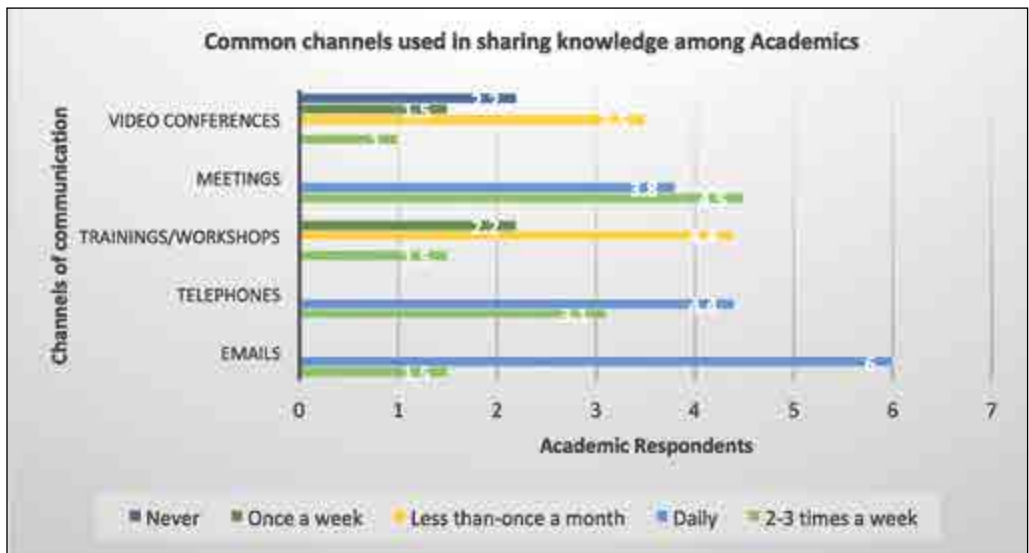


Figure 6: Common Channels Academics Used to Share Knowledge

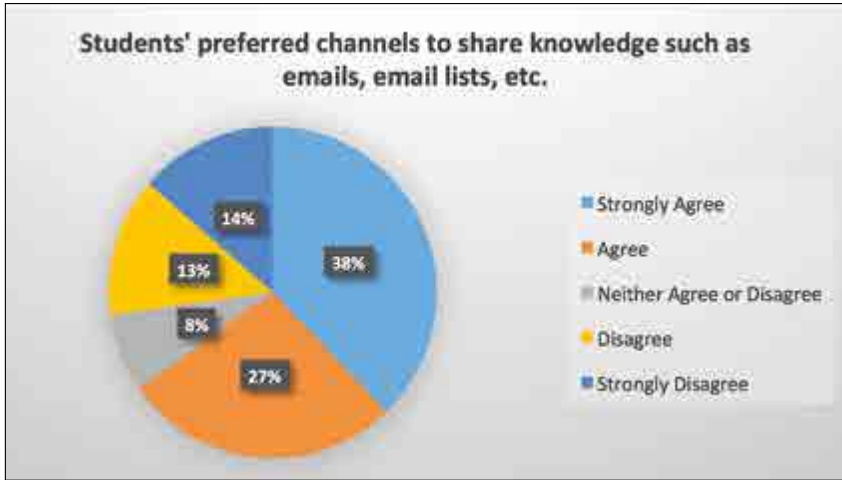


Figure 7: Students' Perceptions on Preferred Channels of Communication

Figures 6 and 7 represent the communication channels that both the academics and students prefer to use in sharing, exchanging and transferring knowledge to one another. As seen in the bar graph, the academics often use emails, meetings, workshops daily to share knowledge amongst one another. Some of the academics mentioned, in a section where they were asked to give their own opinions, that in some of the meetings, the academics had a chance to brainstorm new ideas, exchange and discuss critically ideas. Furthermore, students gave their views on which they strongly agree to prefer using communication platforms such as email lists, discussion forums, to mention but a few. Students mentioned that during seminar classes, the classes were interactive and engaging in nature allowing the students to share, brainstorm and exchange new ideas.

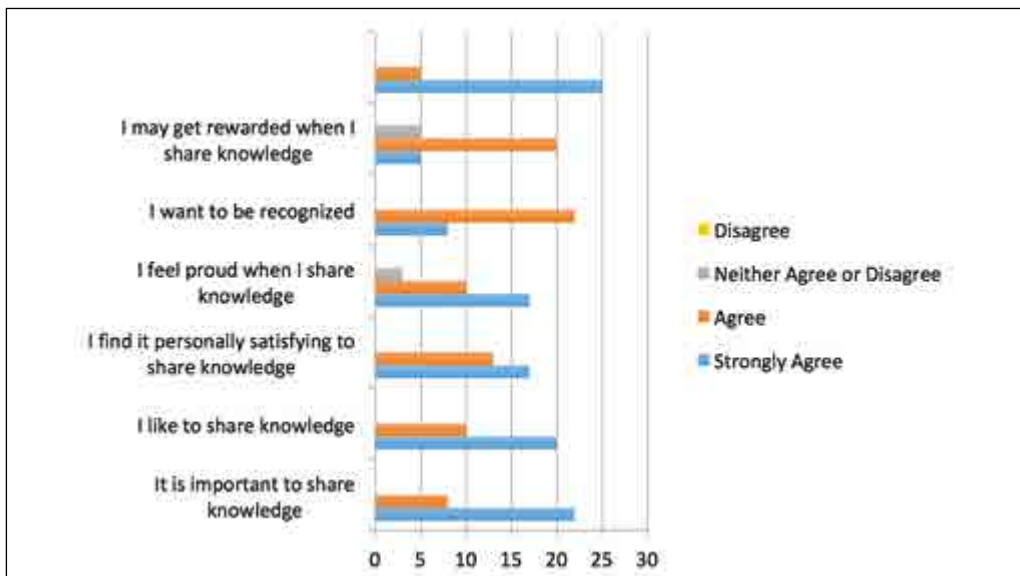


Figure 8: Behavioural Aspect on the Need to Share Knowledge among Academics

Figure 8 shows the behaviours and reactions of academics with respect to sharing knowledge. As seen, most academics share knowledge freely if they feel there is a trusting relationship amongst each other for fear of being ridiculed or over judged. Additionally, some of the academics mentioned that sharing knowledge to fellow colleagues is out of willingness and they find it significantly gratifying to share knowledge. Many of them agreed that sharing knowledge gave them a sense of gratification, significance and willingness but also made them feel appreciated.

In conclusion, participation was voluntary and returned a 75% response rate. Preferred channels of sharing knowledge are email lists, meetings, workshops, trainings among others. Further, views on sharing knowledge among the respondents showed that having motivational factors is a great incentive to encourage exchange of knowledge among one another but also a need to improve and create value and growth to the Institution were among some of the factors that lead to knowledge sharing in academic institutions.

DISCUSSION

The results show some interesting factors that motivate and likewise hinder individuals in academia to share knowledge within the institution. To clarify knowledge in this context, it can be anything from actual academic scholarly knowledge, to general university activities (e.g. events, seminars).

Factors such as the organisational culture, shared beliefs, values, behaviours and principles aid in the process of knowledge sharing. If a university has a strong and unified culture, the organisation is able to align its ideals towards achieving the said goals, mission and vision. For instance, with a strong culture at hand, individuals within the academia feel compelled to work hard in their various departments. This strong culture encourages tutors to drive their students to their capabilities, encouraging students to participate in discussions giving credit where it is due. Moreover, during free times, sharing and exchanging views with fellow colleagues, takes place, thus enhancing high motivation and loyalty, team cohesiveness which encourages knowledge exchange. Similarly, personal factors also affect knowledge sharing; factors such as individual attitude and expectation. Therefore, individual attitudes and expectations are a significant factor in knowledge sharing. For example, a selfless attitude and willingness to share knowledge contributes to the knowledge sharing practice but if there is a reward system or rather recognition award system in place, this will encourage academics and students more to engage in the knowledge sharing practice. Moreover, Muller, Lenz and Spilioulou (2006) add that having an incentive system in place affects individual behaviour positively. Therefore, universities should aim at implementing motivational incentives to encourage both students and academics to exchange and share knowledge. The technological factors as is well known have to be acknowledged. The world is continuously changing with advancements in technology and thus technology is seen to exert considerably a more significant effect on the success of any business venture than it did years ago especially if the business venture keeps up with the latest. Internet connectivity, computer circulation and availability are some of the technology factors that would enhance knowledge sharing in universities.

CONCLUSION

This study revealed that knowledge sharing is an essential factor in the success of knowledge management within academic institutions of higher learning and therefore can be beneficial to the institution and curriculum reform activities. It is paramount that knowledge sharing processes are nurtured and encouraged in order for such activities to take place. The study also reveals that organizational, personal and technological factors are significant in determining behavioural patterns of both students and academics involved in sharing knowledge. Knowledge sharing among students encourages team work and improves interpersonal skills, thereby helping the students in their search for a job once they graduate.

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“No one knows where the shoe pinches, but he who wears it”: Conversing with an Educator on the curriculum change in the Primary Sector

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ABSTRACT

Curriculum reforms have always brought in their wake passionate debates from different stakeholders. This article seeks to explore the implementation of the Nine Year Basic Education curriculum in Mauritius (2016) from the perspective of a teacher. For a reform, to be successful, it is imperative to see how this is filtered down at the classroom level. For that reason one of the most important actors in the reform script is the teacher. To understand what is happening at the enactment end, we opted to have a conversation with a female teacher who had baffled us with the ‘shoe’ metaphor when speaking of the curriculum. Being involved in the conceptualisation phase as well as in the development of curriculum material, we opted for the conversational interview approach as we wanted to have verbal data without the participant feeling any kind of intimidation due to the researchers’ position. Also, we are of the opinion that a thorough understanding of the ‘micro’ would provide the necessary insight for the ‘meso’ and ‘macro’ and that giving voice to one teacher is as important as listening to voices of many which are often diluted and lost. The findings demonstrate that although the teacher is enthusiastic about the new curriculum, her implementation efforts are constrained by various challenges. The conversation also disclosed the hassles that the teacher had to go through in her effort to translate the new curriculum into classroom realities. For curriculum implementation to be successful the authors contend that more effort has to be put into the implementation process and this should be addressed through continuous professional development. Moreover, issues on curriculum reforms should be included in teacher education programmes.

Key Words:

Curriculum reforms;
challenges;
implementation
efforts

INTRODUCTION

Since 2015 the Mauritian education sector has been engaged in a grand educational reform which includes the development of a new curriculum for the various disciplines. This curriculum change is intended for students aged 5 to 11, that is Grade 1 to 9. The new curriculum for the primary schools (Grade 1-6) has been recently developed and implemented nationwide. A change in the Mauritian education system has been long warranted as the old system had outlived its use and this is seen in the number of failures and drop out after the Certificate of Primary Education at Grade 6. Moreover, societal changes and evolution demanded that we consider education differently. Curriculum change helps to reconcile the various tensions which exist in society and the new curriculum represents 'new forces for growth and development' (Fullan, 1993, p.4).

There are high expectations associated with the new curriculum. The main aims of this new curriculum are to de-load the existing curriculum, revisit pedagogy, reinforce remedial education and review the assessment and evaluation practices. At the very outset it should be put on record that the new curriculum calls for a paradigm shift since it moves from a content-driven curriculum to a learning outcomes-driven curriculum. Teachers are called upon to take more responsibility for student learning. Various studies have found that teachers have the greatest impact on student learning and the response of the teacher greatly determines the success of a curriculum change (Darling-Hammond, 1999; DuFour & Marzano, 2012; Harris & Muijs, 2003). Hence, this implies that teachers have to review their practices. The shoulders on which lies the ultimate responsibility to translate the laudable curriculum is undeniably the teachers. This is indeed the main focus of this paper: Will teachers relish the opportunity to review their practice in the light of the expectations of this new curriculum? How will they deal with the challenges they face in its implementation? What are the steps they have to take to be properly equipped to teach as expected with this new curriculum?

Being in the field of teacher education and curriculum development, it is our concern not only to prescribe changes but also to ensure that these are translated into classroom practices. We strongly believe that as teacher educators, we influence the quality of teachers who in turn influence the quality of primary education (Liston, Borko, & Whitcomb, 2008). We strongly believe that as teacher educators we are not there only to transmit information, suggestions and pointers, but we also have to infuse our practice with research (Murray & Male 2005, Lunenberg et al 2011, Loughran 2011). Consequently, in order to provide relevant and current learning experiences to our trainees, we need to be aware of the challenges which they face in their practice. We will thus be able to review our own practice in the light of the findings and strive to be more effective teacher educators.

LITERATURE REVIEW

Curriculum change can be implemented in the true sense only if teachers are prepared for change because they are the people who implement the curriculum in the classroom. The attitudes and perceptions of teachers to curriculum change are some of the factors that influence the way they respond to curriculum change (Wits & Lee, 2009). Implementation of the new curriculum would require restructuring and replacement of personal habits and ways of behaving. It is claimed that people in general have conservative impulses and that 'most educators are risk-averse by temperament. Most people have entered the teaching profession because it promises a high degree of order, security and stability' (Wagner, 2001, p. 378). Therefore teachers' response to a curriculum change cannot be determined with accuracy (Yip, 2009).

It has been found that teachers' willingness to embrace change is related to where they have reached in their life career paths (Stoll & Fink, 1996). Some teachers might find it more difficult to respond positively to change because of the generational concept (Huberman, 1989). It implies that those who have just started working might find it easier to change, whereas some teachers might have been working for a relatively long period of time and are set in their ways. Some teachers stick to the old ways as a means to protect the missions and memories of their generation. They are nostalgic about the past (Hargreaves et al., 2003). Gray (2002) talks about age related conservatism. Yet, Bascia and Hargreaves (2000) claim that for some teachers adopting change implies acknowledging that their practices are ineffective. On one hand, there is the claim that "educators are drowning under the weight of initiative fatigue" (Reeves, 2006, p.89). On the other hand, another author talks about adopting negative focuses to shield them from additional work (Huberman, 1989).

Recognising the contribution that teachers bring is also an important element in influencing their response to curriculum change. This helps to strengthen their commitment and enhance their morale (Kalis & Kirschenbaum, 2008). Teacher recognition also serves to encourage teachers to improve their teaching (Carusetta, 2001) and hence suits the trend which is associated with a curriculum change. Furthermore, this also helps to boost their self-esteem (Turner et al., 2008). As such teacher recognition serves to motivate teachers to change their practice in the wake of a curriculum change. Decades ago, Goodson (1992) claimed that in any change concerning education, it was important to understand "the singer, not the song" (p.112). Hence the focus lies on the role of the teacher in the change. The way the teachers conceive their role is vital. Ravitch (2001) found that "classroom teachers have a considerable degree of control over what and how they teach; even when a new curriculum is put in their hands, the way they use it may alter it beyond recognition" (p.81). Wallance and Fleit, (2005) spoke of an 'acceptance dilemma' where on the surface teachers show acceptance of the change, but deep inside they also resist the change.

Giving teachers 'a voice' also influences their responses to curriculum change (Goodson, 1992). In many cases it was found that if the voice of teachers is not taken on board, then this has a negative impact on the success of a reform (Astuto et al, 1993). It has also been found that the voice of teachers has often been 'silenced by policy' (Hargreaves et al, 2003). Yet, Elbaz (1991) claims that "teachers necessarily speak from a moral standpoint; they are always concerned with the good of pupils" (p.15). Hence,

when teachers' voice is heard, their response to curriculum change will vary accordingly. Ravitch (2001) finds that teachers have a significant amount of control over instruction in their classrooms and making space for teachers' voice is a tautology. It has been found that if teachers are part of the decision making process concerning curriculum change then they are more inclined to implement the change. Troudi and Alwan (2010) found that teachers do not have a clear stance in relation to curriculum change as they tend to accept those parts that they find easy to implement and reject those parts which require major adjustments in their practicum.

Furthermore, it was found that "the manner in which teachers react to educational reforms is largely determined by whether the teachers perceive their professional identities are being reinforced or threatened by reforms" (Van Veen & Slegers, 2006, p.109). There is usually a period of transition when a new curriculum is implemented. During that transition period, teachers may experience distress and limbo because they are not confident and they are not sure what they need to do. Hence, during that time teachers' response might be unclear as they are still trying to come to terms with the change and still investigating whether their own identities are endangered. That period, known as transition is significant in determining teachers' response to change.

Another factor which also influences teachers' response to curriculum change is teachers' professional development (Jacobs et al., 2004). Various studies put emphasis on the professional development of teachers (Smith & Lovat, 2003; Bantwini, 2009). It is claimed that teachers need development so as to acquire new pedagogical knowledge in order to suit the changes in the curriculum and translate them in their practice (Hart, 2002; DuFour & Marzano, 2012). Teachers might hesitate to embrace curriculum change if they feel that they lack the knowledge and skills to use different teaching strategies or feel that they lack the capacity to lead the transformation (Sayed & Jansen, 2001). When teachers conceive themselves as teacher leaders, this helps to promote self-efficacy and improves 'their performance' (Muijs & Harris, 2006). Indeed teacher leadership represents "the act of influencing the classroom practices of professional educators" (Reeves, 2009, p.85). It thus promotes new practices and when granted the necessary authority they can lead change (Printy, 2008).

Availability and access to resources is yet another factor which is essential for successful curriculum implementation. If teachers are to implement a new curriculum they need to have access to these resources, such as new textbook, teachers' guide and new teaching aids (Rogan & Grayson, 2003). It is claimed that teachers who have access to better resources are more willing to implement a curriculum change (Weber, 2006). These also include human resources in the form of curriculum advisors to oversee the progression of curriculum change and to provide support to teachers (Schwartz & Sadler, 2007). Grobler (2003) claims that teachers who receive effective support are more willing to bring about curriculum change. This support, in terms of advice and mentoring, is needed because it was found that teachers might be confused by the changes being brought in the curriculum and this might negatively affect its implementation (Jacobs et al., 2004).

METHOD

The focus of this paper is to find out the response of a teacher on the curriculum reform, in other words to know the story 'from the horse's mouth'. We opted for the conversational method as a mean of gathering data (Creswell, 2003). The conversational method "involves a dialogic participation that holds a deep purpose of sharing story as a mean to assist others. It is relational at its core" (Kovach, 2010, p.40). This means that the participant relates her story and this is used to assist others who are in the same situation as her.

Being ourselves involved in the conception and preparation of the curriculum material, dialogue was an effective method to co-create knowledge about the implementation process of the curriculum in the relational context of a conversation. The aim here was to "provide us with a picture of real people in real situations, struggling with real problems" (Whiterall & Noddings, 1991, p.280). The participant and the researchers co-created reality through a narrative inquiry which led the way in placing importance on voice and language as a means of revealing the participant's story and reality (Connelly & Clandinin, 1990). This provides us with a 'way of knowing' and answers the question "what happened?" (Zeller, 1995).

A purposeful sampling strategy known as criterion sampling was used (Creswell, 2003) to identify the participant. Purposeful sampling is a technique widely used in qualitative research for the identification and selection of information-rich cases (Patton, 2002). This involves identifying and selecting individuals who are especially knowledgeable about or experienced with the phenomenon (Creswell & Plano Clark, 2011). In addition to knowledge and experience, Bernard (2002) notes the importance of readiness and inclination to participate, and the ability to communicate experiences and opinions in an eloquent, communicative, and insightful manner. The criteria also included a teacher who is currently teaching using the new curriculum and has more than ten years of experience in Primary Education. Furthermore, we also looked for someone who was willing to share her story as this helps to create a certain level of trust and reciprocity.

Guided by these principles and being in the qualitative paradigm, we opted for this one particular teacher also because during a workshop session she used 'the shoe' to describe her experience of the curriculum change. Puzzled by her choice of metaphor, we wanted to know her story and for this engaging in conversation with her was the best option. The teacher was assured of confidentiality and anonymity as no names as well as any incident/place are mentioned which could jeopardise the participant's involvement in the study. The conversation technique helped to defuse the power relationship that the teacher may have felt, us being on the 'curriculum developers' side'. The selected participant is thirty-five years old and has been working as a primary school educator for the last twelve years. During that time, she has had the opportunity to work in two different schools and has taught four cohorts of Grade 1-3. She is currently teaching at Grade One level.

The metaphor chosen by the participant becomes a "means of making sense and showing the significance of them in the context of the denouement" (Polkinghorne, 1995, p.19). The narrative obtained from the conversation which is expressed mainly through a metaphor and descriptions used by the participant are presented in two forms. First, the findings were presented as a condensed story which provided context and voice

of the participant. Secondly, to make sense of the story in the context of the enactment of the new curriculum, the condensed story is followed by a reflective narrative by the researchers, and through a qualitative coding process, the findings were thematically analysed.

The Story: My New Shoes

Before exploring the new curriculum, I thought I knew a lot about it. I was also sure that after having worked as a teacher for so many years, I had the experience, knowledge and skills necessary to implement the new curriculum. I thought I had the appropriate repertoire of teaching strategies, class management techniques, teaching aids and so on. So, after having worked with other curriculum, this one was just another one, just like my new shoes. At first glance the Nine Year Schooling (NYS) looked just as stylish as my new shoes that were of the latest fashion.

So I sat down. It took me quite some time to go through the NYS. At first, I was taken aback! It did not look as easy to implement as I first thought. Just like the first time I tried my new shoes. I had to come back and try it again and also ask the people around whether it was looking nice. Likewise I talked to my colleagues at school about this new curriculum. We joined forces to understand how to deal with this new situation. My relationship with my colleagues grew stronger. Facing the same predicament, we were able to talk openly and share our experiences. We trusted one another and we could discuss our shortcomings as well as our good experiences. We interacted openly but we also respected one another. It was a *give and take* situation. They also helped me to refocus and to put things back into perspective. This is exactly what happened when I asked people around me how to make my shoes more comfortable to wear.

There were many new concepts and new materials and the initiative appeared to be a very carefully thought out one, just like my new shoes. So I started to read again more slowly and trying to visualise what it means concretely in classroom situations. Just like I tried a few steps with my high heels I realized that this would not be easy. I had read so many comments on the documents, but I was as determined to walk with my new shoes as I was to understand the NYS. Like my shoes which did not fit snugly, I was not completely at ease with the NYS but as a teacher I knew that I had to work harder to master all the different concepts which it contained. I had to be smarter and find ways and means to move forward.

When I went through the materials, textbooks and teachers' book, I figured out that I was ready to teach according to the new curriculum. But just like wearing my shoes for the first time, I did not feel very comfortable. I felt like starting teaching for the first time, having butterflies in my stomach. But I had to continue. There was no going back; I had to teach along the new guidelines. After the first day, I was as miserable the same way as my new shoes made me feel when I wore them for the first day. I did not feel at ease with the new material. I felt that I knew it all, but now I needed to let go of my old ways and make space for new strategies and new materials. I did not feel oppressed but I could feel the pressure of having to master new materials just like my toes felt, pressed against the sides and at the back, leaving red marks.

I tried to go about it differently, to plan more and to spend more time preparing my lessons. I did not look as competent as before. I was not happy with myself. It was hard to remain motivated. The more I tried, the more I realized that it was not working. I was not completely satisfied with the next series of lessons. I had to sit down and review the way I was preparing my lesson. When I kept walking with my new shoes, I had blisters and my toenail cut into my flesh. As I continued to work with the new materials, I got the same feelings. But I was determined that I would succeed in bringing about the necessary changes. The training provided in connection with the implementation process helped me to adapt to some extent to the changes. I went back to the notes taken during the sessions. I decided to use the information that I got during these sessions. I also looked for additional information. That was also what I did when I realized that I could not continue to suffer each time I were to use my high heels. Some strategies I found were easy and did not demand much effort, but there were some new elements which demanded considerable efforts. They involved going out of my way. Since I was determined to become more comfortable with the new curriculum demands, I tried new ways of doing things. It was difficult. I was not sure of myself. I was trying really hard but it was not enough. This reminded me of the strategies I used to make my high heels more comfortable; wearing tights, using band aid at the back to prevent blisters and walking around more often with the shoes to loosen the edges.

With time, things got easier. I grew more and more confident with myself and I found it less difficult. I had to prepare new lessons and new activities. These looked a lot like the various strategies I tried to make my high heels more comfortable to wear. I grew steadier, more confident, and more adventurous as I tried to integrate technology as well. Therefore, with time teaching became more enjoyable. I had to get out of my comfort zone. I had to look for new information, prepare new lessons, read extensively outside my usual choices. I am not yet fully at ease with the new curriculum, but I am doing better than when I first started. Yet I know that I still have a long way to go. I have to keep being a learner and putting the interest of my learners first. This reminded me that I have to take care of my feet first.

ANALYSIS & DISCUSSION

The above conversation showed that there are many factors which influenced the response of the teacher to the NYS. The teacher showed that she was confident and that the years of experience she had served would guide her and she would easily handle the NYS. However, we find that the years spent on the job also served as an obstacle. The teacher had to realise that she had to stop using the strategies she was used to and adopt new strategies. She was not very eager to use the new strategies, feeling nostalgic about the past as described by Hargreaves et al. (2003). As we explored her response to the curriculum change, we encountered her reliance on the past to help her embrace the present. She relied heavily on her past experience. Her mindset was an obstacle as it prevented her from diving into the new curriculum and start working with new strategies. We realised that the teacher was fully aware that she was working with a new curriculum. However, the safety of the known predominates upon the uncertainty of the unknown. Hence, as teacher educators, we need to make our trainees more conversant with change and its disruptions and how to overcome them and move forward.

She also talked about time as a factor which influenced her response. She was convinced that she needed more time to adapt to the new curriculum. She took time to master the various intricacies associated with the new curriculum. Given time, she managed to regain her confidence. So another important element was the time factor. She also took time to plan the lessons differently. Time was required to share and discuss with colleagues. Time was also required to try new strategies. Hence, we find that when given time, the teacher is in a better position to respond positively to a new curriculum. Time is also needed for teachers to be able to integrate the changes in their practice (Flamholtz & Randal, 2008). It has also been found that "teachers need time to be able to talk with one another about the curriculum" (Frey & Fisher, 2009, p. 279). Hence, initially she was in denial, but then activated her sense of agency and she went about it by taking her time. She used time judiciously and she prepares herself. She networked with colleagues. She was pro-active and she did not remain intimidated. She worked on her areas of concern. She found ways to overcome the challenges. Consequently, topics such as time management and networking are important in their training.

As she encountered difficulty and uncertainty she went back to the training she got to be able to implement the new curriculum. We saw her going back to basics and using her training and the advice she got to be able to handle the new curriculum. The training that she got helped her to meet the challenges of her work and achieve her goals. This strategy was highlighted in the research on professional development done by Bantwini (2009) and Smith and Lovat (2003). They also saw how teacher development was useful to negotiate changes. It helped her to better understand the idea of reflective practice as an important issue, reflecting upon what she is doing as being an essential part of her development. This has also expanded her skills and knowledge by working with new resources. It seems to have been well crafted and has provided benefits to the teacher. Hence, her capabilities have been able to keep pace with the changes in the curriculum. The teacher was more aware of the new trends which were being dictated by the new curriculum. Furthermore, she was able to restore confidence in her ability to be effective as the training she got offered her new knowledge and skills. This action helped the teacher as she felt empowered as highlighted by Sayed and Jansen (2001). We found that the teacher used the knowledge and skills gathered in her training to help her embrace curriculum change. This highlights the importance of the teacher training programme but also leads teacher educators to reflect upon the importance of refresher courses and work on offering continuous professional development opportunities on a regular basis.

She also made use of discussions with colleagues. Instead of shutting the doors and looking after her students while struggling with the implications of the new curriculum, she chose to reach out and not become isolated. When she decided to engage in discussions about the new curriculum, it was more than mere collegial discussions or collaboration. It was an opportunity for teachers to share their apprehensions and learn from one another and improve their performance. It also implied supporting and exploring new pedagogical avenues together. Networking with other teachers and forming a learning community helped to overcome the hurdles which the teacher initially faced. The teacher did not feel that it was a waste of time or an unnecessary invasion of her pedagogy. Together, the teachers were able to create new ideas and working strategies. They developed expertise. They built on existing

knowledge. They were able to bring forward new insights. They created the space and support necessary to hone their knowledge and skills and pedagogy. The teacher thus could be said to have had the right attitude to work with a new curriculum (Witz & Lee, 2009). So, the teacher chose to overcome the challenges by networking with others and work collegially. She would trigger a process whereby each teacher would be leaning on each other's experiences and strengths. Hence, we find the relevance of including topics such as networking, team work, sharing of good practices very important in a teacher education programme.

Another element which emerged from this story relates to teacher identity. The new curriculum being the critical incident (Keatinge, 2002) has led the teacher to know more about herself as she explored how she had handled the issue. When she wrote down the metaphor and what parallels she drew with the response to NYS she was forced to analyse the situation for herself. She had to engage in analyzing the critical incident. It is clear that through her story she realized that implementing a new curriculum is more than just standing up in front of a class. In order to be able to teach properly, the teacher had to review her strategies and adopt a new discourse. The new discourse has helped her to know how to act to be able to handle the new curriculum. She went to her colleagues who gave her insights into situations which occurred. She went back to her training. She went to look for research about the issue to be able to fit into the new discourse. Then she started to implement new strategies. She immersed herself in her work and this helped her to become part of the new discourse. She reviewed her identity and chose to embrace the new curriculum. This is in line with what Van Veen and Slegers (2006) found. Thus, the teacher put into practice what she had learnt and this helped her to view the curriculum change differently. The use of a critical incidence in their training is useful to help them in their practice and more emphasis should be given to such element in their training.

Throughout the period of change and adaptation, we find the importance of relationships. It was important for her to create a relationship based on trust and the desire to share as well as ask questions about teaching styles and strategies. It was also important to accept criticism and suggestions which came from her colleagues. The respect that the teacher developed for her colleagues and the respect she got also helped her in her learning journey. They developed a collaborative situation and one where they all benefitted from. This relationship also seems to have provided the teacher with the space needed to explore her doubts and uncertainties and to find the right rapport. The relationship she formed with her colleagues helped her to be persistent and to move forward. Again, we find, that the teacher was able to link with others and this helps her to overcome the challenges she was facing. Consequently, a topic such as managing relationship and building community of practice needs to be further developed in teacher education programmes.

Furthermore, as we analyse her journey, how she handled issues which cropped up when she started using the NYS, we find that she had the appropriate attitude. She had a positive attitude and mindset. She explained that she was determined to succeed. When she realized she was uncomfortable with the NYS, she did not let that deter her from improving. She instead tried to find out how she could do better next time. Although she was confident that her years of experience would help her navigate the NYS, she nevertheless was open to new experiences and the option of learning and

applying new strategies. She fully understood that teaching a new curriculum offers new experiences and that the world of teaching is dynamic. Yet again, we find the importance of including change in the teacher education programme and get trainees acquainted with the different elements and skills which are related to change.

CONCLUSIONS AND IMPLICATIONS

There are several lessons learnt from this one story which has deep implications at the level of teacher education. As an institution providing teacher education, we need to inform our trainees on the importance and relevance of the opportunities to learn in the context of their work. This would involve teachers to become seriously involved in learning in and around their practices. There is also a need to develop in trainees the ability and willingness to revisit their practices in the light of the changes in the curriculum. Gone are the days when after the training period teachers did not have to do any further learning. Nowadays where change is the only constant there is a pressing need to abandon the conservative stance which teachers have settled in. It is important for teachers to be able to sustain the professional education which they have received. This involves adopting a reflective position and getting involved in activities which will help enlarge the scope of their teaching.

Teacher education institutions must adopt the state of art professional development practices which are relevant and feasible. It should also be current and responsive to the immediate needs as well as contribute effectively to help educators become more confident in their practice. Therefore it is important to ensure that all the elements related to practice are taken into consideration. These should guide decision taken to prepare the professional development of educators. It is important to include elements which are related to the terrain on which the educators will operate. The experiences which are prepared for educators must be compelling and useful, centered around the activities of teaching. Hence attention should revolve around being in and about the practices necessary for development of resilience in the profession.

Once educators have gone through appropriate professional development, there is also need to encourage the setting up of communities of practice at school. These communities of practice would help educators to open a continuous dialogue among themselves on issues related to their practice. At the same time, as educators they can establish the relevant discourse about the kind of relationship they need to develop among themselves. Emphasis on collegiality, shared values, common vision, the constant search for the means and ways to improve practice as well as develop standards which are important for the profession should be the drivers behind this initiative.

In the context of teaching along a new curriculum, educators should be encouraged to be learner sensitive. They need to reflect on what they are learning as well as what they are preparing for the students. They should be given opportunities to reflect on how they can help their students in their different contexts. As they continue to reflect on their journey, they continue to grow professionally and bring about changes in their practice to meet the learning needs of their students. Thus teacher education would need to help educators develop poise in the aptitude, attitude, knowledge

and skills to overcome the challenges that they face in classrooms. Thus empowered, educators can help transform and restructure their schools and will be better prepared to any curriculum change.

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An appreciation of learners' voice in tertiary curriculum reform process: A case analysis of Management Studies curriculum reform at *Université des Mascareignes*

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ABSTRACT

Curriculum reform is at the heart of the continuous development of teaching and learning within the academic curricula. It is a major development taking place in all spheres of educational development in Mauritius. This research examines the extent to which learners at different levels in a university express their desire to contribute to curriculum reform. Such learners need to have their voice heard, understood and considered within the reform, else there would be no fundamental change taking place. Learning, which is tailor-made for students, attempts to be useful and motivating when learners' feedback is considered. The results of this research paper developed at the *Université des Mascareignes* (UdM) support the need for adequate learner involvement in curriculum development especially in Mauritius where the government has embraced Nine-Year Schooling and expects reforms to be initiated at all levels. In this perspective, listening to learners within the university environment is needed to improve both the learners' expectations and the quality of learning in a tertiary public institution.

Key Words:

Learners' voice;
curriculum reform;
tertiary education

INTRODUCTION

Curricula are firstly designed to meet the needs of students so that the learning achieved will match the skills and job requirements of the incumbents. From a traditional point of view, curricula tend to be prescriptive in that they are developed by experts in their respective fields. Curry and Temple (1992) comment that curricula are "too traditional in content and perspective". They do not address systemic reform, they are too linear, and are presented in a 'top down' mode. This 'top down' mode is positively viewed by academics, government, learning institutions and all the stakeholders linked with curriculum development. It is appreciated that academics as experts are the right people at the right place to conceive and prepare learning curricula.

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To set up an effective curriculum, contributors are needed from various disciplines in any field of study. For instance, in preparing curriculum in geography, institutions might rely on experts in the field of geography, geopolitics, history, environmental sciences, amongst others. This explains the interdisciplinary effort needed in the setting up of an effective curriculum. As explained by Meeth (1978), current emphasis is on deliberately identifying the relationship between disciplines while interdisciplinary learning nurtures a different perspective with focus on themes and problems of life experience. It is an accepted fact that curricula need to be developed by people who have adequate or expert knowledge on an area and who can also prepare the learning resources that students might have to engage with for their personal education.

The Call for Reform

Educational reform is an important issue regarding the provision of quality education. Rughooputh (2004) states that education is vital to a nation addressing human development, satisfying employment and in setting the pace for social mobility. Rote learning and formal coaching might still be relevant in this context. Nonetheless, curricula need to be reviewed so that they align with the needs of the learner at the right time and in the right context. Additionally, educational reform is also the prerogative of the government which expects that the learning environment is in line with the expectations of the job market as well as the skills that should be developed in the current and future situation. Improving the quality of education is seen as a source of international economic competitiveness, resulting in countries competing with others in a global economy (Strange, 1992).

Consequently, curriculum reform becomes a necessity because the current learning situation might become obsolete. Such obsolescence is particularly due to the use of new technologies in the work environment, the replacement of existing workplace technologies by digital technology and learning platforms that are more integrated with internet and online learning technology. It is no more practical to keep curricula unchanged because the learning environment is dynamic and highly changing. Adaptation to new forms of learning calls for a change in curricula. Delors et al (1996) explain that in an information-intensive age, education is mandated to respond to demands whereby it has to transmit an increasing amount of constantly evolving knowledge and know-how as well as enabling learners not to be overwhelmed by the flows of information.

Academics and educators are also on the move. Nan-Zhao (2006) comments that curriculum, from a pragmatic perspective should be seen as both process and product, comprising all learning and other experiences that the education system plans for its learners. Through research and development, academics come to realise that there must be improvements in the existing learning environment. Koper (2014) defines learning environments as the set of physical and digital locations, context and cultures in which students learn. Such milieu encourages them to think about what could be added in the form of new learning, what could be still maintained in the curriculum and what needs to be removed from the syllabus.

Tertiary Level Curricula Change

Although much is heard of curriculum reform at the primary and secondary education levels, little is known of curriculum reform at tertiary education level in Mauritius. The main reason could be that tertiary education is still far behind in terms of development and history in Mauritius where it has gained recognition since this millennium. Svirydzhenka and Petri (2014) state that tertiary attainment is only 10 percent in Mauritius but 30 percent for the 'Asian Tigers' namely Singapore, Malaysia and Indonesia. There is therefore considerable scope to improve educational attainment in Mauritius. From a global point of view, tertiary education curriculum might be broadly universal in that all universities follow a more or less similar curriculum per field of study. This argument might be proven from the number of standard textbooks available and the similarity of topics concerned. Such a phenomenon has been most evident in Europe with the Bologna Process aimed at establishing a European Higher Education Area (EHEA) and enhancing the comparability and compatibility of higher education structures and degrees in Europe by 2010 (Bologna Secretariat, 1999).

Tertiary education is also progressive in terms of learning requirements and it can be accepted that the curricula progress in terms of both complexity and concept over the years of education at a university. This is followed by an upgrade in learning ability as courses progress from the undergraduate to the post-graduate level. This adds to the complexity of curriculum design at the tertiary level because curricula have to be brought from international universities with the textbooks used in such 'temples' of higher learning. Additionally, in some contexts, the curriculum can be often limited to a collection of all the modules and as a result lacks coherence (O'Neill, 2015).

Relevance of the Learners' Voice

The argument that could be raised is that tertiary curricula remains the prerogative of academics and, to a lesser extent, the concern of the employer who is free to choose any incumbent capable of fulfilling his ambitions. The question here could be whether there is democracy within this two-way communication and interaction traffic. Apparently, an important element within the debate is the absence of the learners despite the fact that it is often boasted that a suitable course is learner-centred and every effort is done to consider their needs first prior to any other concern. Biggs (as cited in Lea et al., 2003, p. 322) maintains that one of the issues with student-centred learning is the fact that "many institutions or educators claim to be putting student-centred learning into practice, but in reality they are not". This is a sensitive issue in that any researcher might be interested to know the extent to which the tertiary educational system allows the learner to be part and parcel of the learning system. This is part of transformative learning as an intensive process that requires experienced educators and support mechanisms. Higher education, according to Moore (2005), would need to create structures that allow more time in classes for reflection and support for both the students and educators involved in the process.

According to Walker and Logan (2008), the learners' voice is about empowering learners by providing appropriate ways of listening to their concerns, interests and needs in order to develop educational experiences better suited to those. The researchers claim that learner's voice is not about learners shouting to be heard, nor is it about educators giving away all their 'powers' to learners. It is about considering the perspectives and ideas of learners, respecting that everyone has a say, taking risks, sharing and listening, engaging and working together in partnership (Walker & Logan, 2008).

Learners' involvement becomes meaningful when they become allies with educators in improving their learning communities. Embedding learner's voice within an institution means that the institution's approach becomes genuinely learner-centred. Learners have to be genuinely engaged as pointed out by Rudd et al. (2006) who developed an approach that represents the different levels of engagement and types of involvement possible namely through information, consultation, empowerment and collaboration. Freire (1972, p. 80) in 'Pedagogy for the Oppressed' claims that the teacher is no longer merely the-one-who-teaches, but one who is taught in dialogue with students, who in their turn while being taught also teach. They become jointly responsible for a process in which all grow.

Collison (2008) states that research reports, exploring the diversity of learner engagement practices in further education and adult learning, highlight the value of students' increased and continuous involvement in their own education and in the organisations where they study. The reports demonstrated that enhanced learner engagement often produces positive outcomes related to student learning, quality improvement and sustainable organisational change. These research projects also reveal that listening to learners' voice can have important implications for leadership in the sector (Collinson, 2008). Together, these studies reinforce the recommendations of UK policy makers who increasingly encourage the introduction of more extensive communication mechanisms that can facilitate student's voice through feedback, dialogue and participation.

In a literature review of learners' voice research undertaken by the General Teaching Council for England, Hudson (2007) identifies some strong reasons for pursuing learners' voice initiatives:

- Raising academic achievement: The Carnegie Young People Initiative found a link, albeit indirect, with higher achievement. They found that learners in democratic institutions feel more in control of their learning and show enhanced communication and competence due to their increased participation (Davies et al., 2006).
- Increasing learner engagement: Consultation can help learners have a more positive attitude toward learning (Rudduck, 2004).
- Taking responsibility: Collaborating on projects can be an effective way to help learners engage with the curriculum and take control of their own learning (Somekh et al., 2006).

- Improving educators' practice: Learners taking on the role of researchers can help teachers gain insights that advance their own professional development (Fielding and Bragg, 2003).

Somekh et al. (1999) discussed the effectiveness of student representation in the curriculum and its effectiveness in line with rates of retention and achievement. Exploring effectiveness in terms of their study required a new paradigm which accepted that formal performance measures are important, but that in the learner empowered environment, other measures existed which arose from students' own formulations of what effectiveness means for them. Based on this finding, the view henceforth taken was that each institution must aim to work in partnership with students to develop models of effectiveness that are owned by the students and institution alike and that make reference to other internal and external definitions and measures of effectiveness.

Another finding was that the more the institution moved up the scale towards empowering its learners, the greater the opportunity for clearly defining models of effectiveness that were owned by all and the greater the potential for meeting the jointly agreed targets (Somekh et al., 1999).

The Research Gap

Findings in extant literature at the international level, more particularly in the United Kingdom, indicate that little consideration is given to learners' involvement in curriculum development. This applies to the local context as well. Advocates of the Nine Year Schooling (NYS), a major curriculum reform, commented that it is child-focused with the objective of providing holistic education (L'Express, 2015). Considering children to be 'immature' in age and reasoning terms, it is clear that pedagogical reform was mainly done by stakeholders concerned like government authority, educational directors, curriculum designers, educators, etc. This could be acceptable at that level but when it came to tertiary level education with higher learner maturity (18 years and above), there was a clear possibility for learner involvement. The existence of a module 'Evaluation System' at the UdM could provide the means to firstly respond to students' feedback but to also gradually find ways of getting them involved. This provided an opportunity since the Academic Council of the university was in favour of re-engineering the courses to better attract students. With dwindling intakes year after year, there were arguments for new course development to be undertaken by academics but, plainly, learners' voices were ignored. This was a weakness that had to be urgently addressed.

THE RESEARCH FRAMEWORK

If education is to be effective, it must focus on the learner. The learner who is at the core of the educational process is the individual on whom the curriculum is focused and the person who most benefits intellectually from it. Curricula have often been criticised as not being learner-centred in that they have little practical relevance at the time when the learner has to adapt his learning to work practice. As such, it becomes important to listen to the learners' voice and see how far their contribution could contribute to the curriculum reform process. This is supported by Edwards (2001) who emphasised the value of student-centred learning.

Key Assumptions

The research was undertaken in view of testing two hypotheses H_1 and H_2 related to the importance of engaging the learner in curriculum reform process. These were formulated as follows:

H_1 : There is a significant difference in mean participation of young and mature learners in curriculum reform. Younger learners might be less willing to participate in curriculum reform.

Null Hypothesis: There is no significant difference in mean participation of young and mature learners in curriculum reform. Both younger and mature learners can participate in curriculum reform.

H_2 : There is a significant difference in mean engagement of young and mature learners in curriculum reform regarding tailor-made and well-adapted curricula.

Null Hypothesis: There is no significant difference in mean engagement of young and mature learners in curriculum reform regarding tailor-made and well-adapted curricula.

Research Questions

Based on the two key hypotheses formulated, four research questions were developed.

They are as follows:

- What is the importance of learners in curriculum reform?
- In which areas might learners provide their contribution to curriculum reform?
- What is the relevance of engaging learners in curriculum reform?
- What benefits could be perceived from engaging learners in curriculum reform?

THE RESEARCH SAMPLE

To effectively address the research objectives and questions, a survey was mounted on the following premises. Two categories of students were selected at the tertiary level, particularly students in Business Studies in the full and part-time cohorts of the Udm. To be able to undertake scientific testing, 40 students were randomly selected to form two samples under study. This was equitably divided into 20 per group. The sample size was around 8% the university population size.

This sample could be justified because students in social sciences like Human Resource Management were the most argumentative when it came to seeking feedback from them regarding course evaluation. They were the first to complain of the burden of learning to the detriment of extra-curricular activities in the 2015/16 course evaluation reports. The sample had greater inclination of being supportive to curriculum change through learners' voice.

The objective of this research was to identify areas of commonness and differences between groups of students under the same treatment—the perception of learners in curriculum reform. An ANOVA test was carried out to determine whether there was significant response into the learners' contribution to curriculum reform.

The sample profile is shown below.

Table 1: Sample Profile

Group A	Group B
20 Full-Time Students	20 Part-Time students
Average age: 22 years	Average age: 30 years
BSc Human Resource Cohort	BSc Part-Time Human Resource Cohort
1-2 years of tertiary education	2-3 years of tertiary education
A Level entry as last qualification	A-Level entry plus Certificate/Diploma level education

To ensure consistency in results, the test was limited to students in Human Resource Management. The course was the same for both cohorts of students.

Survey technique

Questionnaires were circulated to the sample of students who were expected to respond in a relatively short time span. After evaluation of the questionnaire, a selected number of responses from face to face interviews were used to support the arguments. Expert opinion was also gathered from two specialised lecturers serving the course both full and part-time.

Design of the questionnaire

A questionnaire comprising twelve item questions was provided to the respondents. A Likert Scale was included with options like Strongly Disagree, Disagree, Agree and Strongly Agree. The most negative note Strongly Disagree was indexed 1 while the most positive note Strongly Agree was indexed 4. This would allow effective analysis of the mean value per item. The two groups with the same number of respondents were provided the same questionnaire.

Table 2: Sample Questionnaire

Item	SD	D	A	SA
1. I should be aware of curriculum change.	1	2	3	4
2. I must have access to the learning curricula.	1	2	3	4
3. I should be invited to contribute to curriculum reform.	1	2	3	4
4. The objectives of curriculum reform should be handed to me.	1	2	3	4
5. I must be allowed to give my views on curriculum reform.	1	2	3	4
6. I must objectively criticise the curriculum.	1	2	3	4
7. I must highlight weaknesses of the curriculum reform.	1	2	3	4
8. I must find out the benefits of the curriculum reform.	1	2	3	4
9. The curriculum reform must engage me to perform better.	1	2	3	4
10. The curriculum reform should help me become a better learner.	1	2	3	4
11. The curriculum reform can be contested if inappropriate.	1	2	3	4
12. The curriculum reform should be subject to evaluation.	1	2	3	4

RESEARCH FINDINGS

In the first instance, the first hypothesis regarding the importance of the learner as a participant in curriculum reform was considered. The hypothesis was formulated as H_1 : There is a significant difference in mean participation of young and mature learners in curriculum reform. Younger learners might be less willing to participate in curriculum reform while the Null Hypothesis would confirm no significant difference between learners regarding their participation in curriculum reform.

The results below provided the comparative mean of both groups of students: Group A: Full-time students in the first years of university education and mature students forming Group B in the 3rd years and above in their studies.

Table 3: Analysis of Hypothesis 1

Item	Mean A	Mean B
1. I should be aware of curriculum change.	3.35	3.4
2. I must have access to the learning curricula.	3.6	3.7
3. I should be invited to contribute to curriculum reform.	3.1	3.1
4. The objectives of curriculum reform should be handed to me.	3.1	3.5
5. I must be allowed to give my views on curriculum reform.	3.1	3.3

Summary of treatments	Group A	Group B
N	5	5
ΣX	16.25	17
Mean	3.25	3.4
ΣX^2	53.01	58
Standard deviation σ	0.223	0.223

Result Details

Source	SS	df	MS	F
Between treatments	0.056	1	0.0563	1.125
Within treatments	0.4	8	0.05	
Total	0.456	9		

Result $F(1,8) = 1.125, p=0.05$

The F-ratio is 1.125. The p-value is 0.319. The result is not significant at $p<0.05$.

It could be concluded from the findings that major differences did not occur within the groups and that null hypothesis could not be rejected. Both groups had the same desire to be engaged in curriculum reform. At the university level, all students are willing to participate in curriculum reform and this outcome must be duly considered. Nobody is believed to be immature in this case. According to Cruddas and Haddock (2003), the dominant culture of schooling prevented practitioners from listening to students' own creative ideas about how systems can change and meet their needs. In this study, the mean value was 3.25 and 3.4 for both groups under study and this revealed that learners were much willing to be participants of the curriculum reform process.

In the second instance, differences were sought between engaging full and part-time (mature) students in curriculum reform. The second hypothesis assumed differences in groups with the perception that older students might be better involved in developing tailor-made and well-adapted curricula. This aligned with Collinson's findings (2008) where there was a great deal of support for subsidies for older learners, but also recognition that some older learners were quite affluent and have actively benefited from the education system in the past. The Null Hypothesis would contest it stating that both groups of students under study could have the same impact on contributing to curriculum reform. The results are shown in Table 4.

Items 6-12 focused on the participation of the learners in the curriculum reform. The participation comprised the engagement of the learners in criticising the curriculum, highlighting weaknesses and strengths, evaluating the curriculum and even contesting it if it were inappropriate. The results are displayed in Table 4.

Table 4: Analysis of Hypothesis 2

Item	Mean A	Mean B
6. I must objectively criticise the curriculum.	3.0	3.1
7. I must highlight weaknesses of the curriculum reform.	3.4	3.4
8. I must find out the benefits of the curriculum reform.	3.5	3.9
9. The curriculum reform must engage me to perform better.	3.4	3.5
10. The curriculum reform should help me become a better learner.	3.65	3.7
11. The curriculum reform can be contested if inappropriate.	3.0	3.4
12. The curriculum reform should be subject to evaluation.	3.45	3.4

Summary of treatments	Group A	Group B
N	7	7
ΣX	23.4	24.4
Mean	3.34	3.48
ΣX^2	78.59	85.44
Standard deviation σ	0.249	0.254

Result Details

Source	SS	df	MS	F
Between treatments	0.071	1	0.071	1.126
Within treatments	0.76	12	0.063	
Total	0.832	13		

Result: $F(1,12) = 1.126, p=0.05$

The F-ratio is 1.126. The p-value is 0.309. The result is not significant at $p < 0.05$.

It could be concluded that both full and part-time students had their say in curriculum reform and they could both, on equitable grounds, contribute to improvements in the curriculum. The Null hypothesis was not rejected. Again the mean value for both groups under study was 3.34 and 3.48 exceeding by far the averaged mean 2.5. It confirmed that learners want to participate actively in curriculum reform. An interesting point that was noted was the relative high score for students in contesting and evaluating the curriculum. Though students are barred from such opportunities at present, their voice might be included in courses where duplication or redundancy might exist. In a recent HRM programme where students already did some subjects, two new modules were included namely 'HRM Public Policy and Practice' and 'People and Talent Management' that provided a new learning perspective to them and these changes were demanded by the students themselves.

A similar response was supported by Campbell et al (2007) in a research paper for Napier University Business School, where they stated that students appreciated the opportunity to contribute their perspectives on issues which impacted on their learning. They valued doing this in meaningful ways - often in collaboration with their peers - which encourage reflection unlike more common ways employed to gather their feedback.

CONCLUSION

This research study purported the importance of involving learners in the curriculum reform process. As seen from the research findings, learners could be involved at all levels within their studies. There was no great difference between choosing which type of learner would be best suited for involvement in curriculum reform. In Mauritius, curriculum reform remains the priority of stakeholders like educators, policy makers and experts from the educational field. The study findings tend to indicate that learners' voices are either neglected or underestimated. In a university like the UdM that is undergoing changes both in programme structure and curriculum review, it is necessary to give important consideration to learners' voice. Their voices have to be considered, understood and placed at the centre of the educational reform.

Students' voices do not only improve education but they also contribute to students' growth and development. The participation of learners could help 'to instill agency in students, or beliefs that they could transform themselves and the institutions that affect them, then acquire the skills and competencies to work toward these changes, and help in establishing meaningful relationships with adults and the peers that create greater connections to each other' (Mitra, 2004, p. 670). Given the benefits of students' voices, students must be given opportunities to speak out and their voices need to be listened to. Students, despite where they are, need not be shunned from such opportunities.

Since the study was undertaken at the Université des Mascareignes, curriculum developers thinking of the need for effective curriculum reform have incipiently considered the need to integrate learners within the process. This engagement is a form of feedback that educators might occasionally need to enhance the content of the curriculum and make it more adaptable to the needs of society. To this end, it is recommended that the learners' voice is duly considered and that their involvement in learning should be appreciated. What remains to be seen is the extent to which learners are involved in the learning process and how such participation yields a better output in learning.

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Distributed leadership in the context of Nine Year Schooling of Mauritius

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ABSTRACT

This paper outlines the rationale for using Distributed Leadership (DL) as a lens through which to view Learners' Voice in the current curriculum reform. We argue that this is a time of significant personal adversity, academic resistance and we suggest that for some, it may result in overhaul(s) of reference or perspective in the Curriculum Reform of Mauritius. Within the context of the Mauritian Nine-Year Schooling, at the secondary level, the landscape of the educational sector is changing, and this is giving rise to new forms of educational activities, such as learners' active participation in the learning process and e-education. Perceptions of Rectors, Heads of Departments (HoDs) and Educators on Distributed Leadership were captured through interviews as Learners' Voice. We argue that although DL may be supported in the Mauritian Secondary Schools landscape, situating DL (if, at all) within the Learners' Voices in the Curriculum Reform Process, is worthy of investigation.

Key Words:

Distributed leadership; nine year schooling; learners' voice; secondary schools

INTRODUCTION

This paper looks critically at the perceptions of learners' voice (rectors, Heads of Departments and Educators) on DL in a bid to improve classroom transactions in the wake of the curriculum reform that Mauritius has embarked on. In the context of globalisation, economic power has influenced curriculum reforms in education through capital development, technology and inclusive growth in Mauritius (NCF, 2015; Statistics Mauritius, 2015). Developing the human resources capital to sustain knowledge-based economy is a commendable initiative to create a skilled and well trained workforce for boosting the Mauritian economic growth (Statistics Mauritius, 2016). Such steps have energised the actual government to review the education system by introducing the Nine Year Continuous Basic Education (NCF, 2015).

Within the curriculum reform of the Nine Year Schooling, the secondary educational landscape will have to change and to accommodate distributed leadership (DL) (Kong Ting Lun et al., 2014; 2015) with a view to maximising resources. The budget for education has been going on the rise but little effort has been made to review the human resource structure in secondary schools (Education Statistics, 2015). It is an undeniable fact that the quality underpinning curriculum reform will depend largely on the style of leadership in our secondary schools (Kong Ting Lun et al., 2015). The existing model of leadership in Mauritian secondary schools is still an autocratic one, with power concentrated within the school principal or rector (Ah Teck & Starr, 2011; 2012b; Kong Ting Lun, 2014; Ministry of Education and Human Resources, 2009). Critics from several studies such as Ah Teck and Starr (2012b); Kong Ting Lun et al., (2014) have raised the alarm bell that DL has barely been practised in Mauritian Secondary Schools.

RESEARCH AIMS

The aims of this study were:

- (i) To capture the perceptions of the rectors, HoDs and educators on DL to improve transformational learning (TL) in Nine Year Continuous Basic Education;
- (ii) To find out whether DL can contribute to improve TL in secondary schools of Mauritius, and
- (iii) To propose a new model of DL to improve TL in curriculum reform process.

In order to meet the requirements underlying the research aims of this study, the qualitative studies of Spillane (2006), Scheerens (2009), Grimsom and Loeb (2011), Muijjs and Harris (2007), Harris (2008), Salfi (2011) and Angelle (2010) have guided the structure of the research questions. The three research questions are inter-related.

RESEARCH QUESTIONS

RQ One: What are the perceptions of Mauritian rectors, HoDs and educators on DL to improve teaching and learning in the nine year continuous basic schooling?

RQ Two: To what extent does DL contribute to transform teaching and learning in secondary schools of Mauritius?

RQ Three: Is there any alternative model of DL that can be applied in the secondary schools of Mauritius?

LITERATURE REVIEW

Distributed Leadership

In the studies of Spillane et al. (2010), in the USA, the lack of evidence in research findings is felt in the design of a model of DL to improve staff effectiveness. Cambaum et al. (2009) state that DL is similar to: (i) 'delegated' leadership; (ii) 'democratic' leadership; (iii) 'dispersed' leadership, and (vi) 'devolved' leadership, while Leithwood et al. (2009a) refer to DL as 'participative', 'shared', 'democratic' and 'collaborative' styles of leadership. In contrast, Gronn's (2002) study compares the DL as a leadership practice from the individual linked with concertive actions, an additional dynamic as the product of conjoint activity in leadership. On the contrary, the opposite of concertive actions is the numerical or additive actions. Gronn (2002) discusses the concertive actions as an aggregated effect of a number of the individuals taking and contributing their initiatives, actions and expertise in different ways to a group or organisation such as a school, e.g. people work together to pool their initiatives, actions in decision making, expertise and experiences. Furthermore, Gronn (2002) shows a tendency of DL to fall into structures/agency dualism (organisation) held to a wider view. According to West et al. (2000), DL is compared to shared leadership as both 'post-transformational leadership'. Echoing the same sentiments, Spillane et al. (2010) capture the imagination of school leaders forming a community throughout the organisation. Their research findings show that the active leadership is cognitive, and the activity of DL is found within an interactive web of actors (leaders and followers), situations and artifacts in DL, resulting in a contextual situation as an external force-a dynamic participation of the leaders.

The model of Spillane (2006) offers a value-added concept to DL to school leader preparation (Harris, 2015; Ibrahim, 2011; Webber & Scott, 2010). According to Spillane and Camburn (2006), DL happens when the leader distributes and shares leadership responsibilities to formal and informal leaders in schools. Furthermore, research findings of Spillane and Kenney (2012) discuss that the formal leaders are deputy principals, HoDs and departmental leaders, whereas informal leaders are teachers, attendants, librarians and students. On the contrary, Menon (2013) discusses the DL in an organisation as 'bossless' or 'self-managed group', stating the research findings for no need to focus only on one leader at the top, but to get the whole group to manage by itself. Using the new 'bossless' DL, conditions become better if the group is self-managed. Further research findings show that the organisation is no more hierarchical but flattened, bringing the link between Distributed Leadership, Curriculum Reforms and Student's Leadership, in order to enhance students' achievement in terms of positive educational outcomes.

In the study of Angelle (2010) and Gronn (2000, 2002, 2006, 2008b), three organizational pre-conditions in DL rely on leadership practices, trust and relationships in middle or secondary schools. In relation to the conditions pertaining to DL, Harris (2005) posits that they depend heavily on three fundamental principles:

- (i) DL relies on the focus of the practice of leadership from school leaders to the followers, highlighting the greater importance of the practice rather than the function or the outcome;

- (ii) DL emphasises the interactions between the leaders and the followers or people. It is about the meaningful actions taking place between them;
- (iii) DL creates a situation that shapes and influences the form it takes place in schools. Its variations differ in each school according to the prevailing context.

Curriculum Reforms

With growing globalization, the National Productivity Competitiveness Council (2013) has identified specific challenges in improving the education standard, namely in curriculum reforms in Mauritius. This has largely been hampered by the quality and competence of the school management (Ah Teck and Starr, 2012a; National Report of Mauritius, 2008). With a view to competing economically with other countries, school leaders in Mauritius need to adopt DL to improve TL at the secondary school level (Kong Ting Lun, 2014), including the development of human resources through collaboration and cooperation (Kong Ting Lun et al., 2015), so as to ensure the economic competitiveness of Mauritius (NPCC, 2014). The potential of DL also has an impact on promoting teamwork among school staff (Moyo, 2010), thus laying a further emphasis on the effects of DL on TL (Kong Ting Lun et al., 2014).

With the latest educational reforms, many government reports, such as The National Report of Mauritius (2008), Education Statistics (2012, 2013), Statistics Mauritius (2014) and their policies of WCE (2008) have shaped the concept of leadership to improve the teaching and learning process in Mauritian secondary schools. A critical analysis is made on the current model of leadership in Mauritian secondary schools (Kong Ting Lun, 2014) together with the problem of vertical communication from the rector down to staff (top-down communication) (Kong Ting Lun et al., 2014). Thus the weaknesses of the existing model of leadership are highlighted and a new model of leadership, namely, DL to improve TL in Mauritian secondary schools (Kong Ting Lun et al., 2015) is proposed.

Teacher Leadership

Ah-Teck and Starr (2012a) have shown, that most specifically, teacher-leaders contribute to school effectiveness and improvement as well as classroom change. Their findings show that, by promoting collaboration among the teachers, school effectiveness will certainly be improved. The decision-making process in schools is also improved during meetings of departments (Wasandego, 2012), leading to teacher leadership with improvement in leaders' self-efficacy, staff morale and retention (Leithwood & Jantzi, 2008), which culminate in students' learning.

Within the semantic review of literature, Muijs and Harris (2007) have reviewed TL as linked to DL. Muijs and Harris (2007) showed that TL is interpreted as teachers' engagement in undertaking formal leadership roles (middle leaders) that have both management and pedagogical responsibilities. For example, middle leaders do also informal leadership roles, such as leading school activities (Katzenmeyer & Moller, 2001; Muijs & Harris, 2007). Gronn (2000) reviews TL as an emergent property of a group instead of a function of an individual, whereas Ah Teck and Starr (2012a) review TL as a key function of DL.

Instead of depending only on the principal's single leadership (solo) role, Crawford (2012) reviewed the paradigm shift from solo to distributed leadership. Muijs and Harris (2007) showed that in individual leadership, limitations grew increasingly evident for the past years. Murphy et al. (2009) sent a strong message to principals that they need to transform their solo leadership into a distributed one. Such cultivation in DL can nurture the teachers-leaders in their schools where Muijs and Harris (2007, p. 112) identify TL as

"consisting of teachers who lead within and beyond the classroom and support the idea of collective leadership to contribute to the community of teacher-learners and leaders, and influence others towards improved educational practice".

Within the role of TL, the rectors, HoDs and educators remain as an agent of change at the heart of the curriculum reforms, through Nine Year Continuous Basic Education in the context of Mauritius.

Rectors', HoD's and Educators' voice and values

The research findings of Day et al. (2009) indicate that the leaders' voice and values are positively associated with the increasing roles and responsibilities in DL and the continuing improvement of students' outcomes. Furthermore, leaders' voice and values have a positive influence on students' outcomes. In Cyprus, regarding the voice in the four case studies of schools, Antoniou & Kyriakides (2011) argue that the school leaders supported the students' learning. The headmasters also took into consideration: children' voice, their participation and values in the schools. They also justify that while studying the forms of leadership that promote inclusive education in Cypriot schools, they maintain that the best way to make students participate is a distribution of leadership in their schools.

Leithwood and Jantzi (2000) use students' engagement with school as a dependent measure of effective schooling. This surpasses the academic performance beyond the affective and behavioural dimensions, namely the student participation. They define students' participation as students that participated in activities, both inside and outside the school. In contrast, students identify themselves with the school and feel a family member of it. Leithwood and Jantzi (2000) found that educational culture is the strongest variable rather than the students' engagement and participation. Secondly, the school conditions have some significance on the students' identification, but not participation. In their studies, they also stated that principals' distributing leadership appears to have a greater effect on student involvement. It has also a stronger significant effect on students' engagement, participation, voice and values but it has indirect effects on student identification.

Distributed Leadership (DL) as an Alternative Approach to Learners' Voices

In view of DL as an alternative approach to learners' voices, the UK has varied the approaches to teachers' voice and considers some pressing challenges to principals' voices, developing active participation, research and leadership (Frost, 2008). The research findings of Frost (2008) denote Highest Common Denominator Partnership (HCDP) as a key variable to extending teacher leadership and participation in primary and secondary schools, thus contributing to the framework of DL. The research findings show that there is a positive impact on the schools if the teachers are willing to participate through DL. In the study of Harris and Muijis (2008), the research findings show that the teacher leadership is highlighted as a challenge to DL, and view that the teacher participation in decision making increases the student performance. The methodological findings show that there is a link between teachers' participation and increase in student performance.

Critical Stance of Learners' Voice in the Curriculum Reform Process

This section discusses the critical stance to DL, Learners' Voice and Curriculum Reform, and in the teaching and learning process, focusing on the terminologies of DL as Oduro states "leadership is not the monopoly of any one person, a message that is central to the notion of distributed leadership" (2004, p.5). Distributed leadership is therefore closely associated with concepts like, collaboration, shared, distributive, dispersed, democratic as illustrated by Figure 1.

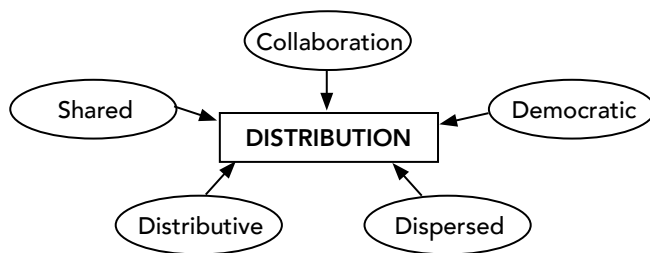


Figure 1: Terminologies related to DL (adapted from Oduro, 2004, p. 6)

On the contrary, one of the criticisms of DL is the distribution of incompetence in secondary schools. Humphreys arrives at the conclusion that "distributing leadership is a risky business and may result in the distribution of incompetence" (2010, p. 27). Concurring to the arguments of Mayrowetz (2008), shared leadership or DL can lead to school deterioration through distributing leadership to incompetent people. The consequences of the situation of the school do not reflect a clear improvement on the whole school. He further states that during the decision-making process (Wasandego, 2012), the teachers can become overstressed and overpowered (Bolden, 2011), not having enough time to teach (Valentine et al. 2002) with a decreasing participation if the goals of the teachers and the organisation of leadership are not well aligned (Humphreys, 2010). Harris (2004) justified the argument about structural and cultural barriers of DL that are present in the schools, especially on the types, forms, structures, modes, patterns and degrees in DL.

METHODOLOGY

This study explores the perceptions of rectors, HoDs and educators on the concept of DL to promote TL. It also explores the perceptions of staff to adopt a model of DL to promote TL in the secondary schools of Mauritius. A qualitative and multi-case study approach was adopted. The study was conducted within a lapse of five months and involved semi-structured interviews with a cross section of four school rectors, six heads of departments (HoDs) and eight educators from four secondary schools in Mauritius. Table 1 gives an insight into the profile of the participants.

Table 1: Biographical Profile of Participants

Participant	Gender	Age Range	Qualifications	Experience	Position	Any leadership programme followed
R 1	Male	61-65	PGCE/ PGDEM	6 years	Acting rector	Yes
R 2	Female	61-65	PCGE	3 years	Rector	No
R 3	Male	61-65	PGCE	24 years	Rector	No
R 4	Female	51-60	PGCE	3 years	Dep Rector	No
HoD 1	Female	51-60	B.Ed	10 years	HoD	No
HoD 2	Female	51-60	PGCE	9 years	HoD	No
HoD 3	Female	51-60	BEd	10 years	HoD	No
HoD 4	Male	41-50	Degree	10 years	HoD	No
HoD 5	Female	31-40	BEd	3 years	HoD	No
HoD 6	Female	61-65	Master Degree	30 years	HoD	No
T 1	Female	61-65	Degree	39 years	Educator	No
T 2	Female	61-65	Diploma	41 years	Educator	Yes
T 3	Female	61-65	Diploma	36 years	Educator	Yes
T 4	Female	51-60	Diploma	30 years	Educator	No
T 5	Female	Less than 25	Master Degree	Less than 3 years	Educator	No
T 6	Male	61-65	BEd	38 years	Educator	No
T 7	Male	61-65	BEd	41 years	Educator	No
T 8	Female	26-30	BEd	8 years	Educator	No

The analysis of their perceptions and experiences was used to construct a model of DL for improving TL in Mauritian secondary schools. Data analysis was done manually. The interviews were conducted in four schools, with the 18 participants (4 Rectors, 6 HoDs and 8 Educators). The interviews were audio recorded with the permission of the participants and the data were then transcribed. Data categorisation and coding were done manually. An analysis of the interview transcripts showed the results of some common themes and perceptions in the use of DL to improve TL in the four secondary schools of Mauritius. The interviewees were allowed to speak as much as they possibly could. Some of the extracts are illustrated and discussed.

Ethics

The sample of respondents was randomly selected zone-wise. Permission was sought from the relevant authorities. The participants were given the assurance that all information would be treated confidentially and that they may withdraw from the study at any time.

RESULTS AND DISCUSSION

Rectors

The perceptions of all participants on DL were that it is not common at their workplace. The four rectors did not express their whole understanding of the concept of DL and explained it in different ways but interestingly, two rectors, R1 and R3 expressed it in terms of sharing work, roles and responsibilities in schools, while R2 and R4 did so in terms of the administrative structure of the school. At times, the rectors viewed the concept of DL as empowering other staff members so that they can lead others and make decisions.

Instead, the rectors' views on DL were to share the workload, roles and responsibilities to HoDs (other formal leaders) and teachers (informal leaders). One rector (R3) explained the concept of DL:

I bring and share the responsibilities among those who have the interest of the school at heart and those who have shown a remarkable sense of professionalism and commitment are allocated responsibilities. That is distributing leadership in terms of delegation of responsibilities is practised to a larger extent.

However, R2 offered a broader insight into the concept of DL as per her quote:

The aim of distributed leadership is to provide all the learning centred leaders with skills, to enable them to improve the quality of teaching, learning and pupil outcomes.

The potential to change the school is an achievement and a more effective practice for staff. DL therefore provides the need to develop school capacity, lighten the burden of the heads, freeing them from all the other things that they need to do. This means that the use of DL aids TL in practice, thus relieving the workload of the school head and developing the leadership capacity of the school.

HoDs

The six HoDs defined DL as the sharing of workload, roles and responsibilities in relation to leadership and management structure. The following comments illustrate typical responses from HoDs, such as subject leaders or middle management. The role of HoDs is to be in charge of their subject areas, such as the Home Economics department, as highlighted by HoD5:

Share the workload equitably, equally...to two colleagues...e.g. end of year exams...I give and share responsibilities to the teachers to be the teacher in charge for practical exams...therefore decision-making is made in a team. As far as possible, I tried to satisfy all parties.

Educators

The lack of practice in DL was confirmed by T5 who further stated:

Well, being new to this field, I'm not acquainted to this practice. I have witnessed very little practice of distributed leadership.

Another interesting part of the story offered by T7:

Yes...some teachers neither do the work correctly, nor the tasks. Sometimes, the tasks are not done in time and so this is staff ineffectiveness.

Some teachers showed unwillingness to take up responsibilities thus adding pressure on those who were willing to assume higher responsibilities.

Table 2 offers some insights into the themes extracted from the interviews while Table 3 provides information on the frequency distribution of the themes..

Table 2: Thematic Analysis Interviews

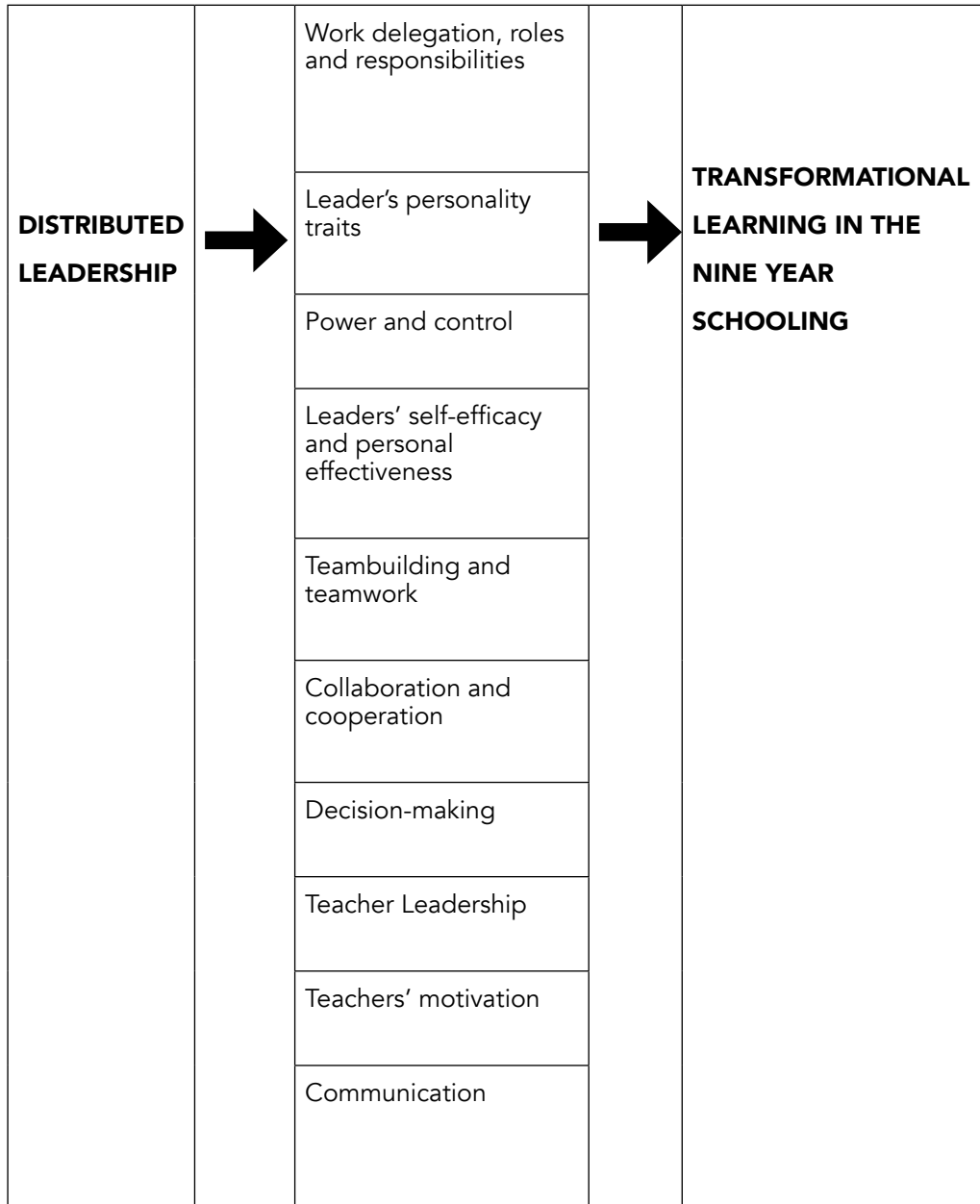
Extracts from interviews	Coded For	Themes	Literature sources
Rectors	Authority Fear of losing control Over staffed Staff empowerment and work delegation	Power and control, Work delegation, roles and responsibilities, Team building and team work Collaboration and cooperation	Bolden (2011) Muijs and Harris (2007) Portin et al.(2006) Plecki et al. (2006)
R4: ... whereas for the barriers, it is fear of losing control for the rector, getting in the way of others...			
R3: I make sure that all teachers are empowered to operate.			
HoDs			
HoD3: Sometimes when I am not here, her friend takes over the work.	Collegiality Consensus Cooperation		
HoD6: Collaboration, cooperation and friendship are essential.			
Educators	Teamwork to create learning environment		Crawford and Leplne (2013)
T8: It encourages teamwork and proactive learning.	Collaboration for students' learning progress		
T5: I think that collaboration leads to progress in student's learning and school management and discipline.			Tschannen-Moran and Gareis (2004)

Table 3: Frequency of Items Appearing in Main Themes

Number of times appearing	Rectors	HoDs	Educators
Power and control	7 (Empowerment)	6 (Empowerment)	7 (Empowerment)
	5 (Power and control)	3 (Control)	4 (Control)
Work Delegation	8 (Work delegation)	6 (Work delegation)	7 (Work delegation)
Roles and Responsibilities	5 (Roles)	4 (Roles)	3 (Roles)
	6 (Responsibilities)	7 (Responsibilities)	9 (Responsibilities)
Team building and teamwork	3 (Team building)	2 (Team building)	1 (Team building)
	6 (Team work)	3 (Team work)	3 (Team work)
Decision-making	4 (Decision-making)	3 (Decision-making)	1 (Decision-making)

The discussion on the key findings about perceptions of rectors, HoDs and teachers were interpreted in detail. Within the research key findings, dependent and independent variables are discussed to propose a new model of DL to improve TL in the Mauritian educational system. The research key findings identified themes such as power delegation and control, work delegation for the rectors, collaboration and cooperation for the HoDs, team building and teamwork for the educators for DL. It was determined that there were less efforts from the part of rectors and HoDs to interact with educators due to the lack of humility, ego and other social negativity because of the appointed posts while delegating work roles and responsibilities. The delegation of power and authority from rectors and HoDs leads to the loss of control among the staff, if not properly channelled and provides limitation of responsibilities to the teaching staff. Reluctance, resistance and unsatisfactory work relationship from the educators lead to refusal to accept the distribution of roles and responsibilities of tasks from the appointed leaders. It is clear that the rectors and staff are unfamiliar with DL, but they still practised DL to a certain extent. Lastly, the elements of non-collaboration and non-cooperation are being felt from the rectors /HoDs/educators to work together in DL to improve TL. The study also found that traits such as humility and openness were important for leaders such as rectors, HoDs and educators to implement DL to enhance TL.

Table 4: A New Model of DL on TL



CONCLUSION AND RECOMMENDATIONS

The research findings provide adequate evidence that academic interest in the use of DL to improve transformative learning is felt through teaching and learning outcomes in schools (Moyo, 2010). Little attention has been given to the new distributed forms of education; especially on creating a new model of DL to improve TL in Mauritian Secondary Schools, mainly on school leaders' personalities in distributing leadership to followers, the development of trust among members (Smylie et al., 2007), collaboration and cooperation among staff (Ainscow et al., 2006), teambuilding and teamwork (Crawford and LePine, 2013). Based on this small scale empirical research, this paper attempts to shed further light into this under-researched area on new forms of leadership, by exploring the perceptions of staff working in a Mauritian autocratic school leadership environment, on DL to improve TL (Kong Ting Lun, 2014). This conclusion itself reflects a more pervasive set of realities underlying qualitative research and practice on DL in the secondary schools of Mauritius. The key reality is that there is little established evidence based on collaborative working culture such as team building and teamwork in DL to promote TL. It is often difficult to attribute a particular set of 'outcomes' to particular sources of evidence.

This paper offers new insights on DL in curriculum reforms in secondary schools as previous studies such as Harris (2015) on DL have not focused on curriculum reforms in secondary schools. In this paper, initial research findings have shown that there is a low use of DL to improve TL in the secondary schools of Mauritius, due to a the lack of knowledge on Distributed Leadership, Curriculum Reforms and Teachers' Leadership, among the school staff.

The low level of usage of DL can be attributed to lack of knowledge to improve TL, absence of training of rectors, HoDs and educators in tertiary training institutions, scarcity of experts in DL and school management from Ministry of Education and Human Resources, Tertiary Education and Scientific Research and underdeveloped knowledge among teaching and non-teaching staff on DL. Further studies with larger sample size are warranted to consolidate this study's findings.

The practical implications of the study findings relate to an increased understanding of the use of DL for improving TL in the curriculum reform stages. With the help of the Mauritius Institute of Education as a teacher training institution, it is hoped that school staff can be provided with a Continuous Professional Training Programme to understand and implement DL in order to enhance the teaching and learning processes in the classroom. It is recommended that such training has to be done by experts in DL and its implementation in schools has to be monitored by the National Quality Assurance of the Ministry of Education and Human Resources, Tertiary Education and Scientific Research, the Private Secondary Education Authority and other relevant institutions.

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Value orientations of student Physical Education teachers studying on a Diploma course in Mauritius

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ABSTRACT

The purpose of this study was to look at the value orientations of secondary student PE teachers learning to teach in Mauritius. Thirty-two student PE teachers studying on a diploma in PE course completed the value orientation inventory (VOI-2) once during the academic year. The mean score and the priority level for each value orientation was calculated along with the scores for each individual teacher. Results showed that disciplinary mastery was ranked highest priority, followed by learning process whereas social responsibility, self-actualisation and ecological integration were given lowest priority. However, the largest percent of students were neutral about each of the value orientations. Results are discussed with regard to implications for student PE teachers' development in Mauritius in relation to the introduction of a new PE syllabus in secondary schools with an interdisciplinary approach and PE as an optional examinable subject that will require PE teachers to move beyond the traditional teaching of games and sports.

Key Words:

Physical education;
teacher education;
teacher socialisation;
value orientations

INTRODUCTION

The values held by (student) teachers have been the focus of research in physical education (PE) in different countries and over time. Many of these studies have used the values orientation inventory (VOI; VOI-1, Ennis and Hooper, 1988) which was substantially revised in 1993 (VOI-2, Ennis & Chen, 1993). Although a short form of the VOI (VOI-SF) was developed (Chen, Ennis, & Loftus, 1997), with 10 sets of five statements, this has not been used in the majority of studies in PE. The VOI-2 identifies five value orientations, the first two are concerned with content and the other three are concerned with affective value orientations:

- * disciplinary mastery (developing proficiency in performing sports skills and understanding performance-related knowledge);
- * learning process (helping students understand learning principles to enable them to apply them in learning new knowledge and skills);
- * self-actualisation (the goal of education is to nurture personal growth and the student is at the centre of the curriculum);
- * ecological integration (a balanced curriculum with relatively equal consideration given to the needs of the learner, the subject matter, the educational context and social concerns; it focuses on encouraging pupils to search for personal meaning through participating in various physical activities, mastering movement knowledge and enhancing sensitivity to the environment in which they live); and
- * social responsibility (the goal of the curriculum is to nurture pupils' abilities to become socially responsible; physical activities and sports are used as vehicles to help pupils learn to align their individual needs with the needs of the society).

Many studies examining the value orientations of practicing PE teachers in the United States by Ennis and colleagues (Ennis 1994; Ennis & Chen, 1993, 1995; Ennis & Zhu, 1991; Ennis et al, 1997; Ennis et al., 1990; Ennis et al., 1992) using the VOI-1 or VOI-2 have shown that PE teachers have strong beliefs and prioritise a number of value orientations.

Studying value orientations is important as having a strong orientation towards one or two value orientations can be regarded as being likely to inform the way in which teachers plan, teach and regard the curriculum. Different value orientations encourage teachers to have different views about the purpose of PE programmes, content, pedagogy and assessment, and to implement curriculum in a selective manner. PE programmes 'planned from different value orientations will undoubtedly be very different programmes, privileging different learning and providing different learning opportunities for students' (Gillespie, 2011, p.25).

Research on teacher socialisation has shown that PE teachers develop their preferences and priorities for teaching or coaching prior to joining preservice teacher education (Curtner-Smith, Hastie & Kinchin, 2008). Their inclination towards teaching or coaching influences not only the selected content and the strategies used to teach PE in schools, but also affect their response to the acculturation experience in physical education teacher education (PETE). Value orientations of teachers have also been found to influence the progression of PE teachers throughout their careers (Lynn & Woods, 2010; Woods & Lynn, 2014)

Studies of value orientations using the VOI have also been conducted in other countries with both in-service and preservice teachers. For example, Behets (2001) collected data from 637 in-service and 274 preservice secondary school PE teachers in Flanders, Belgium. Results showed that in-service and preservice teachers had similar belief structures. Both placed a high priority on social responsibility orientation, followed by disciplinary mastery then learning process. Self-actualisation and ecological integration were consistently valued lowest. The teachers in Behets' study

'exhibited clearly defined values as reflected by their priority scores and consistently demonstrated a high or low priority on one, two or more orientations' (Behets, 2001, p.151). According to Behets (2001), value profiles apparently do not change over the years which suggests value orientations are stable constructs.

Data collected by Behets and Vergauwen (2004) from 528 elementary and 637 secondary school PE teachers in Flanders, Belgium showed that the highest frequency of teachers gave highest priority to disciplinary mastery, followed by self-actualisation. Elementary school teachers placed a high priority on disciplinary mastery, followed by self-actualisation, with lowest priority given to social responsibility. On the other hand, secondary school teachers scored high on the social responsibility and disciplinary mastery orientations. This suggests that teaching level influences teachers' value orientation. Teachers appeared to adjust their curricular priorities to meet the demands and needs of students in elementary versus secondary schools. According to Behets and Vergauwen (2004), exhibiting proficiency in various movement and fitness activities is consistent with the goals of elementary PE in Flanders (with teachers also focusing on personal growth of pupils) and social responsibility is consistent with the focus on the development of positive social behavior in PE at secondary level. Teacher characteristics, including gender and years of teaching experience revealed only minor differences.

Ha and Xu (2001) found that the highest percent of Hong Kong and Shanghai PE teachers ranked disciplinary mastery and social responsibility highest priority among the five value orientations. Hong Kong primary school teachers put significantly higher priority on disciplinary mastery than their Shanghai counterparts. Results also indicated that Shanghai PE teachers placed higher emphasis on self-actualisation in comparison to Hong Kong PE teachers who emphasized more on social responsibility. Female Hong Kong teachers also placed significantly higher value on social responsibility.

Results of a study by Liu and Silverman (2006) in Taiwan, showed that high priority was consistently placed on the learning process value orientation, followed by self-actualisation. However, different value orientations were prioritised by different groups of teachers; disciplinary mastery and learning process were prioritised by male teachers; social responsibility by female teachers; learning process by more experienced teachers; social responsibility by elementary school teachers; and disciplinary mastery and learning process by rural teachers. One-hundred-and-fifty-two PE teachers had one high-priority value orientation and a smaller number ($n=76$) had more than one high-priority value orientation. One-hundred-and-twenty-four PE teachers had one or more low-priority value orientations. These results suggested that Taiwanese physical educators possessed multiple, diverse value orientations where the highest percent of strong value orientation scores was for learning process. According to Liu and Silverman (2006), both the curriculum goals of PE and the culture (Confucianism and the influence of Dewey) contribute to the differences of value orientations, with Taiwanese physical educators emphasising self-control, self-concept, and social responsibility to achieve the coordination of body and spirit in their practices.

Two-hundred-and-seventy-two student PE teachers studying on both one year postgraduate certificate of education and four year undergraduate PE initial teacher education courses at four universities in England completed the VOI-2 once during the academic year in a study by Capel (2016). Results showed that learning process was

given highest priority, followed by ecological integration, self-actualisation, disciplinary mastery and social responsibility. However, the highest percent of student PE teachers gave highest priority to ecological integration, followed by self-actualisation, then learning process. On the other hand, the highest percent of student PE teachers gave lowest priority to social responsibility, then disciplinary mastery. There were some relationships between value orientations, including between disciplinary mastery and social responsibility and between learning process and ecological integration for the whole sample.

Results of a study by Curtner-Smith and Meek (2000) in England indicated that this sample of teachers gave the highest priorities to learning process, disciplinary mastery and social-responsibility and the lowest priorities were given to self-actualisation and ecological integration value orientations, regardless of gender, experience or activity background of the teachers. The majority of teachers demonstrated a consistent position (i.e. high or low priority) on social responsibility, learning process, disciplinary mastery, and ecological integration. Results also showed no significant differences between the scores for male and female teachers or between teachers with 1–10, 11–20 and 21 or more years of experience on any of the five value orientations. However, teachers with a traditional activity background (had mainly participated in traditional games and sports) placed significantly higher priority on social responsibility, while teachers with a non-traditional or eclectic activity background placed significantly higher priority on learning process. Further, there was a moderate positive relationship between the disciplinary mastery and learning process value orientations and strong negative relationships between disciplinary mastery and self-actualisation, and disciplinary mastery and social responsibility. There was also a moderate negative relationship between learning process and self-actualisation, and strong negative relationships between learning process and ecological integration and, learning process and social responsibility. Thus, there were a number of different priorities other than teaching the subject matter of PE.

Although the results of these various studies vary, the content value orientations of disciplinary mastery and learning process are prioritised more frequently than the affective value orientations of social responsibility, self-actualisation and ecological integration. Of the affective value orientations, social responsibility is prioritised more frequently above the other two. Further, positive relationships between disciplinary mastery and learning process with their shared emphasis on subject matter content and negative relationships between content value orientations and affective value orientations are identified in several studies (e.g., Ennis & Zhu (1991), Ennis et al. (1992) and Ennis & Chen (1995) in the US; Curtner-Smith & Meek (2000) in England). There are a variety of possible explanations of the difference in the predominance of specific value orientations in different countries. These include curriculum goals of PE and culture, both of which might result in different experiences of teachers in PE and sport as well as students and their exposure to different PE curricula, sports culture and school contexts.

Results from socialisation research show that prior PE and sports experiences of student PE teachers influence considerably their belief systems and their expectations of teacher training. The effect of PETE may even be washed out when there is a dissonance between students' own belief and their experiences with PETE (Blankenship & Coleman, 2009; Graber, 1989; Stroot & Ko, 2006).

PURPOSE OF THE STUDY

Although studies of value orientations of teachers and student PE teachers have been undertaken in several countries, there has not been any study which has looked at the beliefs and values held by student PE teachers in Mauritius. Prior to the introduction of the National Curriculum Framework (NCF) in 2009, there was no national curriculum for physical education in secondary schools in Mauritius. PE consisted mostly of the teaching of games and sports and did not lead to any formal assessment. NCF 2009, NCF 2016 and the introduction of PE as an optional examinable subject for the Cambridge International Examinations (CIE) in 2010 added new dimensions to the PE teacher's job (see CIE Physical Education syllabus – 5016 for the full syllabus). The inclusion of a theory component in the content, formal assessments and the requirement of an inclusive and interdisciplinary approach to develop lifelong skills and healthy lifestyles (Mauritius Institute of Education, 2016) were some of the key changes.

Therefore, the purpose of this study was to look at the value orientations of secondary student PE teachers learning to teach in Mauritius. This will lay the foundation for further research to understand the motivations for individuals to enter PETE, the effect of their orientations on their teaching, the learning of their students as well as on their own career path.

METHOD

Participants

Thirty-two students studying a two-year diploma course at the Mauritius Institute of Education participated in this study. Participation in the study was voluntary and the students were also free to opt out of the study at any time.

The Course on Which These Student PE Teachers Studied

Student PE teachers who participated in this study were studying on a two-year full time diploma course. The Teacher's Diploma-Secondary PE, as it is called, is designed to equip the students with the necessary knowledge, skills and attitudes that lead to qualified teacher status to teach in lower secondary schools (ages 11 to 15 years). Individuals are eligible to join the course after having successfully completed their secondary education with passes in at least two subjects at Advanced level.

On the diploma course, student PE teachers undertake a range of modules in PE, education and curriculum studies, as well as supervised teaching practice in secondary schools. For the major portion of the second year of their course student teachers have three placements in secondary schools under the mentorship of an experienced teacher. During semester time students are in placement in schools for two days per week (2 semesters) and for the whole week during inter-semester time, when they do not have courses at the institute. The participants in this study had completed their first placement in schools, where they spent time observing and gradually being introduced to teaching under the direction of their mentor. Gradually they were required to plan lessons and teach lower secondary students, under the supervision and guidance of the mentor-teacher and a tutor from the teacher education institution. The diploma also serves as an entrance requirement to a teaching degree in PE.

Data Collection

The VOI-2 (Ennis & Chen, 1993) was completed by the student PE teachers once during their diploma course. The VOI-2 is the most frequently used version of the inventory in studies of PE teachers and student PE teachers; hence was selected for use in this study. The VOI-2 is a 90-item pencil and paper instrument specifically developed to examine the value orientations of PE teachers. The 90 items/statements in the VOI-2 are grouped into five sets of value orientations, each comprising eighteen items. A teacher completing the VOI-2 is asked to rank the five items in each of the eighteen sets based on his/her priorities, with five as the highest priority and one as the lowest priority. Assigning a ranking to each item is employed because it approximates what PE teachers are required to do when they make actual educational decisions (that is to emphasise the most important objectives within the limited time allocated for PE). The score for each value orientation is then calculated by summing the rankings for the items within each orientation across the eighteen sets. Thus, there are five scores which range between eighteen and ninety for each teacher. A value profile consists of the composite score of items within each value orientation. The internal consistency coefficients (Cronbach's alpha) have been found to range from .65 to .82 (Chen et al., 1997).

Data Analysis

Scores for each of the five value orientations on the VOI-2 were calculated manually based on the priority rankings assigned to each of the eighteen sets of items by participants. Descriptive statistics (means and standard deviations) were used to calculate the score for each value orientation across the whole sample. Following the guidelines detailing cut-off points for high, neutral (giving neither high nor low priority) and low priority (Ennis & Chen, 1993), the number and percent of participants who assigned high, neutral and low priorities to each value orientation were also computed. In addition, the scores for each individual were calculated.

Ethics

The study met the British Educational Research Association (BERA) Ethical Guidelines for Educational Research (2011). Student PE teachers volunteered to participate in the study, gave written informed consent, were informed of their right to withdraw and were assured of anonymity.

RESULTS

Table 1: Neutral and Low Priority for each of the Value Orientations for the Full Sample

Value Orientation	Full Sample			
	Mean (M)	SD	N (n=29)	%
Disciplinary Mastery (DM)	56.38	7.12		
High			4	13.8
Neutral			19	65.5
Low			6	20.7
Learning Process (LP)	56.00	8.76		
High			10	34.5
Neutral			16	55.2
Low			3	10.3
Self-Actualisation (SA)	52.34	8.37		
High			3	10.3
Neutral			19	65.5
Low			7	24.1
Ecological Integration (EI)	51.20	7.13		
High			9	31.1
Neutral			13	44.8
Low			7	24.1
Social Responsibility (SR)	53.82	8.80		
High			1	3.4
Neutral			19	65.5
Low			9	31.1

Note: Table 1 includes responses from 29 student teachers, because the other 3 did not answer every question.

As shown in Table 1, disciplinary mastery was ranked highest priority ($M=56.38$) by these student PE teachers, followed by learning process ($M=56.00$), social responsibility ($M=53.82$), self-actualisation ($M=52.34$), then ecological integration (51.20). However, the majority of student PE teachers (59.31%, $n=17$) were neutral about each of the value orientations. The highest percent of student PE teachers gave high priority to learning process (34.5%; $n=10$), followed by ecological integration (31.1%; $n=9$), disciplinary mastery (13.8%; $n=7$), self-actualisation (10.3%; $n=3$), then social responsibility (3.4%; $n=1$). On the other hand, the highest percent of student PE teachers gave low priority to social responsibility (31.1%; $n=9$), followed by self-actualisation and ecological integration (24.1%, $n=7$), disciplinary mastery (20.7%; $n=6$), then learning process (10.3%; $n=3$).

Table 2 shows the results for each individual student. Despite disciplinary mastery being ranked highest priority, learning process was ranked highest by 10 (31.25%) respondents, disciplinary mastery and social responsibility by 7 (21.875%), ecological integration by 6 (18.75%), then self-actualisation by 2 (6.25%) respondents, respectively. On the other hand, social responsibility was ranked lowest by 8 (25%) respondents, followed by self-actualisation and ecological integration by 7 (21.875%), learning process by 5 (15.625%), then disciplinary mastery by 4 (12.5%) respondents, respectively. Further, there was considerable variation in the range of scores from highest to lowest ranked, ranging from 41 to 8.

Table 2: Ranking of Value Orientation of each of the 32 Participants in the Study

	DM	LP	SA	EI	SR	Range
1	52 (2=)	51 (5)	52 (2=)	52 (2=)	63 (1)	12
2	75 (1)	61 (2)	44 (4)	51 (3)	39 (5)	36
3	60 (2)	70 (1)	45 (4=)	45 (4=)	50 (3)	25
4	48 (5)	57 (2)	54 (3)	59 (1)	52 (4)	9
5*	47 (2)	53 (1)	44 (3)	41 (4)	40 (5)	13
6	53 (2=)	52 (4)	50 (5)	53 (2=)	62 (1)	12
7	51 (4)	57 (2=)	47 (5)	58 (1)	57 (2=)	11
8	64 (1)	58 (2)	52 (4)	41 (5)	55 (3)	23
9*	47 (4)	61 (1)	46 (5)	57 (2)	56 (3)	15
10	63 (2)	52 (3)	42 (5)	49 (4)	64 (1)	22
11	60 (2=)	43 (5)	45 (4)	62 (1)	60 (2=)	19
12	50 (4)	54 (2)	51 (3)	66 (1)	49 (5)	17
13*	43 (5)	63 (1)	60 (2)	59 (3)	46 (4)	20
14	46 (4)	41 (5)	54 (2)	47 (3)	82 (1)	41
15	54 (2=)	67 (1)	46 (5)	49 (4)	54 (2=)	21
16	62 (1)	50 (4)	57 (2)	48 (5)	53 (3)	14
17*	49 (3)	51 (2)	46 (5)	48 (4)	59 (1)	13
18	56 (2)	63 (1)	53 (3=)	53 (3=)	45 (5)	18
19	62 (1)	50 (4)	57 (2)	48 (5)	53 (3)	14
20	69 (2)	73 (1)	48 (3)	41 (4)	39 (5)	34
21	52 (4)	61 (1)	55 (3)	43 (5)	59 (2)	18
22*	42 (4=)	50 (1)	44 (3)	45 (2)	42 (4=)	8
23	53 (4)	55 (3)	69 (1)	61 (2)	32 (5)	37
24	62 (1)	61 (2)	43 (5)	48 (4)	56 (3)	19
25	76 (1)	58 (2)	47 (4)	41 (5)	48 (3)	35
26	41 (5)	51 (2)	50 (3)	44 (4)	54 (1)	13
27	62 (1)	46 (4)	58 (3)	44 (5)	60 (2)	18
28	55 (2)	53 (3=)	53 (3=)	59 (1)	50 (5)	9
29	57 (2)	49 (5)	52 (3)	51 (4)	61 (1)	12
30	54 (3)	49 (5)	57 (1=)	57 (1=)	53 (4)	8
31	37 (5)	51 (3)	68 (1)	49 (4)	65 (2)	31
32	67 (2)	72 (1)	52 (3)	38 (5)	41 (4)	34
1=	7	10	2	6	7	
5=**	5	5	8	8	7	

* score is slightly lower as either there was an error in scoring one of the questions or the question was missed entirely

** n = 33 as 2 were ranked equal 5th (4=)

DISCUSSION & CONCLUSIONS

Results of this study showed that, on average, highest priority was given to disciplinary mastery by the student PE teachers, followed by learning process, social responsibility, self-actualisation, and ecological integration. However, the highest percent of student PE teachers gave high priority to learning process, followed by ecological integration, disciplinary mastery, self-actualisation, and social responsibility. On the other hand, the highest percent of student PE teachers gave low priority to social responsibility, followed by self-actualisation and ecological integration, disciplinary mastery, then learning process. The high value placed on disciplinary mastery, followed by learning process, suggests that these student PE teachers prioritise content-related aspects of PE as opposed to affective outcomes.

Results of this study suggested a link between disciplinary mastery and learning process, with their shared emphasis on content. Results also suggested an inverse relationship, whereby higher content value orientations related to lower affective orientations.

However, results also showed that not all of these student PE teachers prioritised content value orientations. First, the majority of student PE teachers were neutral about (gave neither high nor low priority to) each of the value orientations. Second, although learning process was given highest priority by the highest percent of respondents, followed by disciplinary mastery, the three affective value orientations were given highest priority by some respondents. Likewise, although affective value orientations were generally given lowest priority (social responsibility was given lowest priority, followed by self-actualisation and ecological integration), the two content value orientations (learning process and disciplinary mastery) were given lowest priority by some respondents. Thus, although these results suggest that content value orientations were prioritised rather than affective orientations, some student PE teachers prioritised affective value orientations.

Further, the largest percentage of students were neutral about each of the value orientations, suggesting they did not feel strongly about each of the value orientations – either positively or negatively. However, there was considerable variation in the range of scores from highest to lowest ranked, the differences ranging from 41 to 8. Those with a higher range ranked the highest priority much higher than the lowest priority, whereas those with a lower range did not differentiate very much between the five value orientations. Results showing differences in the range of scores are also found in other studies. For example, results of a study by Capel (2016) found a high level of variability in the percent of student PE teachers who gave high priority to each value orientation; the range being from 5.51% to 50.74%, whereas, for example, Behets and Vergauwen (2004) found that at least 27% of teachers gave high priority to each of the value orientations.

Practical Implications

These results suggest some implications for practice in PE teacher training in Mauritius. First, the highest percent of student PE teachers prioritising disciplinary mastery is important as good content knowledge gives student PE teachers confidence in the classroom. However, the way PE is taught is also important. Learning process was also a high priority, which suggests that many student PE teachers on the diploma course prioritise how they teach the content. This is important in motivating students and in giving them confidence in PE. Together, the focus on disciplinary mastery and learning process, on content and how to teach that content, is perhaps not only to be expected early on in student PE teachers learning to teach but is also desirable in order to continually improve the teaching of the subject.

Content value orientations of disciplinary mastery and learning process are linked to achieving aims which are intrinsic to the subject. Intrinsic aims are specific to PE and to the unique contribution PE makes to pupils' learning in schools, i.e. they are 'principally realised in the context of initiating pupils into the medium of movement across a wide range of physical activities' (Whitehead, 2015, p.22). As Whitehead (2015, p.29) stressed, 'the principal ILO's [intended learning outcomes] [for student PE teachers] to include in [their] lessons should be those that are unique to PE. At this stage, aims identifying mastery of physical skills and effective participation in physical activities provide the focus of planning, teaching and assessment'. The results of this study would therefore suggest that focusing on the development of content knowledge and how to teach PE might be most important for many of these student PE teachers on the diploma course in Mauritius.

Prioritising disciplinary mastery would seem to be in line with a traditional, multi-activity curriculum, based largely on the acquisition and performance of skills organised mostly around team games. This might reflect the PE curriculum in the majority of schools in Mauritius, and hence, that experienced by the majority of student PE teachers in this study. However, it might be hard to get student PE teachers, who prioritise disciplinary mastery or learning process, make the shift from a narrow content-based view of PE to a broader view of PE based on the goals of the subject and the school. That, despite the fact that the current PE syllabus for Mauritius requires PE teachers to adopt an interdisciplinary approach to developing lifelong skills and healthy lifestyles (MIE, 2016).

However, results of this study suggested that at least some student PE teachers prioritised value orientations other than disciplinary mastery on the diploma course. Student PE teachers with different value orientations will prioritise different aspects of the curriculum and their practice. Thus, there is an opportunity to build on those priorities during their course. Results also suggested that the majority of the student PE teachers were neutral about each of the value orientations. Those student PE teachers who have neutral value orientation may be more open to moving beyond a focus on traditional teaching of games and sports than those student teachers who have high disciplinary mastery and learning process value orientations. This may support them in focusing on the extrinsic aspects of PE, the affective value orientations, which are a requirement of PE in the current Mauritius PE syllabus. This may require consideration being given to the value orientations of student PE teachers within the PE diploma course.

However, there was a wide range of scores between value orientations. This suggested that respondents who had a higher range of scores tended to hold stronger beliefs, strongly prioritising one value orientation, than those who had a lower range of scores, who did not seem to hold strong value orientations. As value orientations influence planning decisions, including selection of content and teaching methods, the result of this study, together with the results of other studies, would suggest it is important that teacher educators not only acknowledge that student PE teachers hold a range of different beliefs and value orientations about teaching and learning in PE, but also that they know about the value orientations of individual student PE teachers. Teacher educators also need to understand how these influence student PE teachers' learning so that they can personalise learning in order to challenge all student PE teachers in relation to what they learn as well as to understand how these influence their teaching behaviours and practices, how they view the PE curriculum and therefore what and how they teach. This may also mean that teacher educators need to look both at the content of their course to include a focus on beliefs and values in addition to the focus on content and pedagogical content knowledge and consider if they need to find different ways to present (aspects of) the course.

It is also important that both university and school-based components of the course are considered due to the influence of supervised teaching practice in secondary schools on student PE teachers. Thus, understanding and challenging student PE teachers' beliefs and values in the university-based component of their course is unlikely to make much difference in relation to their teaching behaviours and practices if teachers with whom they are working in school value disciplinary mastery and deliver a multi-activity curriculum with traditional content and teaching approaches (Templin, 1979; Curtner-Smith et al., 2008). In such situations, this is what student PE teachers are likely to prioritise, irrespective of their own value orientations and thus any effect of their professional socialisation is likely to be washed out (Blankenship & Coleman, 2009). This may be exacerbated by student PE teachers having both a limited knowledge base and limited experience which results in them focusing on content and teaching approaches with which they are most familiar. As the majority of student PE teachers are likely to have experienced traditional content and teaching approaches throughout their school experience prior to their teacher education course and this is what is prioritised by teachers with whom they work, this is what they copy. This is supported by results of other studies (see, for example, Hayes et al., 2008) which suggested student PE teachers focus on the immediate day-to-day practical needs of teaching and hence prioritise the task of teaching, including development of content (particularly about a specific activity they are teaching). This suggests that the context may be limiting these student PE teachers' ability to teach consistently with their value orientations such that they are not able, or choose not, to act in a manner consistent with their value orientations or belief systems (Kulinna and Silverman, 2000).

Limitations

Although the results of this study provide some data on the value orientations of student PE teachers in Mauritius, it is important that these results are treated with caution for a number of reasons. First, the number of participants in this study was small. Second, the results are a snapshot of student PE teachers learning to teach at one particular time and on one particular course. Third, there has been some criticism of the VOI, for example, there can be numerous reasons for ranking statements in a particular order within a set which can include feasibility of implementation and the availability of resources. Beliefs may therefore be confused with practice. Also, the use of forced choice has been criticised as it does not allow for two contradictory beliefs or two beliefs to be held at the same level of intensity. Hence, this has not allowed for the relationship between teachers' beliefs and curriculum orientations to be fully researched. Despite the limitations of the study, the results are of value. At the very least, they provide a baseline for understanding the value orientations of student teachers in Mauritius.

Further Research

In order to understand the implications of value orientations for student (in-service) PE teachers in Mauritius and to use this information to inform practice, further research is needed. First, as the value orientation inventory has not been validated for use in Mauritius, it would be important to validate the inventory for use in Mauritius. Second, further studies would need to include a larger sample of student PE teachers. Research would also need to be undertaken to determine how value orientations impact on practice.

Previous research has suggested that student PE teachers enter teacher education with well-established, preconceived and firmly entrenched beliefs and values about teaching and pupil learning on which they model their own practice (Lawson, 1983). Further, research suggests that teacher education courses do not change student PE teachers' beliefs, and, as a result, teachers prioritise the practices they themselves experienced as pupils (Curtner-Smith et al., 2008; Graber, 2012). Similar to other studies in other countries, it will be worthwhile studying if, and how, the value orientations of teachers evolve and change, based on their experiences. A longitudinal study on value orientations of teachers is needed to see if the student PE teachers continue to prioritise those value orientations they identified in this study throughout their teacher education and beyond, when they start teaching and between the diploma and degree levels. It will also be important to conduct a further study on the development of the beliefs and values of newly qualified teachers. Further studies could look at factors which influence the value orientations of student and practicing teachers, including the value orientations of other PE teachers in the school.

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