Revistia

Submitted: 10/10/2020 - Accepted: 10/11/2020 - Published: 28/12/2020

Classroom Observation for the Professional Development of Myanmar University Lecturers in a Singapore Cross-Cultural Context: Perception of Abilities and Learning Based on 'Nine Events of Instruction'

Siew Hong Lam

Department of Biological Sciences, Faculty of Science,
National University of Singapore, Singapore

Email: dbslsh@nus.edu.sg

DOI: 10.26417/ejser.v5i2.p40-49

Abstract

Continuing professional development is important for improving and reforming teaching.Classroom observation of others' teaching has been used for the professional development of eight lecturers from three Myanmar universities who visited the Department of Biological Sciences, National University of Singapore over a period of three weeks.To bridge the socio-cultural and educational background differences, Gagné's 'Nine events of instruction' was used as a pedagogical framework to guide and evaluate the classroom observation and learning as it is well-established for instructional design and resonate well with educators.This study aimed to evaluate the participants' abilities and their learning through classroom observation based on their perceptions of the 'nine events of instruction'.The study found that most of the participants have positive views of their abilities in relation to the 'nine events', especially in practicing the early events of instruction. The classroom observation has benefitted them with respect to the 'nine events', particularly 'Informing the Students of the Objective/Outcome', 'Stimulating Recall of the Prior Knowledge' and 'Presenting Information/Content/Stimulus'.Notably, 'Assessing Performance' was the most perceived 'event of instruction' that the participants wanted to improve on and that the participants perceived will benefit Myanmar lecturers the

most.Qualitative feedbacks by the participants revealed lessons learned, their potential applicability and desires to reform and share.The study further demonstrated that the 'nine events of instruction' is a useful pedagogical framework for guiding and evaluating perception of abilities and learning in classroom instruction and observation for continuing professional development in a cross-cultural context.

Keywords: Continuing Professional Development, Classroom Observation, Gagné's Nine Events of Instruction, Cross-Cultural Context.

Introduction

Continuing professional development is critical to reforming teaching and learning in education (Borko, 2004).Educators who experienced effective professional development will increase in knowledge and skills, and in turn may change their attitudes and pedagogical approaches in teaching that will enhance students' learning (Desimone, 2009).Kennedy (2005) proposed up to nine models of continuing professional development for educators, and by increasing the capacity of professional autonomy of teachers to innovate, these models transit from playing transmission to transformative roles.Observing others' teaching can develop from a transmission model to a transformative model if ideas transmitted to the observer can further inspire and empower the observer to experiment and perform action research in the classroom.The observed classroom teaching offers an immersive and reflective environment for the observer to learn and develop ideas that could innovate his/her own teaching approach (Putnam & Borko, 2000; Wragg, 2002).It encourages self-reflection and experimentation with instructional design and delivery, and may even reduce the sense of isolation that might be felt by faculty with regard to teaching (Ammons & Lane, 2012).Therefore, classroom observation of peers' teaching has been used as a tool for continuing professional development and shown to improve teaching and learning in higher education (Ali, 2012; Sullivan, Buckle, Nicky & Atkinson, 2012; Hammersley-Fletcher & Orsmond 2004).

Classroom observation

Classroom observation has served various interests from pedagogical research, curriculum development, course evaluation, and peer-review for appraisal of teaching to professional development of educators (Wragg, 2002).Irrespective of its purpose, classroom observation promotes self-development of the observers into reflective practitioners of teaching and learning (Cosh, 1998). Observation of the classroom practices and interactions with students can provide insights into teaching effectiveness and students learning.It has been noted that the observers/reviewers had learnt and benefitted much from the experience of classroom observation (Wragg, 2002; Lomas & Nicholls, 2005).As a result, classroom observation has been

used for developing professional skills of trainees, novice and even experienced teachers (Putnam & Borko, 2000).

Observing others' teaching can offer a stronger cognitive stimulation in terms of immersion, resonance, authenticity and motivation (Seidel, Stürmer, Blomberg, Kobarg, & Schwindt, 2011).Classroom observation allows one to immerse in an authentic environment to exercise professional vision that helps to identify teaching practices and interpret classroom activities that resonate with the observer (Berliner 1986, Evertson & Green, 1986).It allows the observer to make multiple connections of what have been observed with one's own classroom practices through the activation of prior knowledge and experiences.This in turn increases intrinsic motivation and interest to learn, change and apply relevant classroom instructional events that are perceived to deliver effective outcomes in the observer's teaching context.As a result of the newly derived insights and ideas from the classroom observation, the observer will be motivated to start experimenting the ideas and performing action research to innovate teaching practices in his/her own classroom.

Continuing Professional Development

The Department of Biological Sciences (DBS) in the National University of Singapore (NUS), through its outreach program 'ASEAN Universities Network in Biology', is working together with the Department of Zoology from three universities in Myanmar to provide continuing professional development for their faculties.The continuing professional development involved multiple classroom observations carried out by the visiting Myanmar lecturers on selected life science courses/modules of their choices over a period of 3 weeks in DBS, NUS.As such continuing professional development can be costly and time-consuming, it is important to review its effectiveness and where possible value enhanced the program. However, given the differences between Myanmar and Singapore socio-cultural and educational contexts, there was a need to find common pedagogical themes that are relevant or universally experienced in order to guide the classroom observation and evaluate the learning.To do so, Gagné's 'Nine events of instruction' was used as a pedagogical framework to guide and evaluate the classroom observation and learning because it resonates well with educators as it is well established for instructional design and has high relevance for classroom teaching (Reiser, 2001, Kantar 2013).

Nine Events of Instruction

Gagné viewed learning as progressive, generalizable and dependent on instructional effectiveness (Gredler, 2005; Kantar, 2013).He proposed that there are 'nine events of instruction' that are linked to specific cognitive processes and outcomes that are essential for information processing and learning, as summarized in **Table 1** (Gagné, 1985).From the perspective of classroom practice, these 'events' guide educators to start their lessons, engage students, link prior knowledge to new information, organize information to stimulate learning, guide learning, trigger performance to

demonstrate learning, provide feedback, assess performance, and eventually facilitate internalization and transference of knowledge.These 'events', when carried out progressively to activate cognitive processes and to achieve learning outcomes, have been found to resonate well with the general aims of teaching which range from processing information to deep learning, and from development of psychomotor and affective skills to acquisition and application of knowledge and skills in new contexts (Gagné, Briggs, & Wager 1992; Walker 2009; Kantar 2013). As examples of its relevance in more recent years, the 'nine events of instruction' has been employed as instructional design for teaching medical sciences (Wong, 2018; Davies, Pon & Garavalia, 2018; Miner, Mallow, Theeke, & Barnes, 2015), Arabic language (Mei, Ramli & Alhirtani, 2015), as well as design of learning management systems (Gokdemir, Akdemir, & Vural, 2015) and online course (Onodipe, Ayadi, & Marquez, 2016) in higher education context.These examples further highlight the broad applicability of the 'nine events of instruction' in many of the teaching and learning contexts.The use of the 'nine events of instruction' as a pedagogical framework for guiding and evaluating learning for classroom observation in a cross-cultural context in this study would be a novel approach that will add to its list of applications.

Table 1. Nine events of instruction and the corresponding cognitive processes/outcomes with action examples.

Nine Events of Instruction	Cognitive processes/outcomes (action example)
Gaining Attention of Students	Activate reception which will lead to readiness to learn (use abrupt stimulus change)
Informing the Students of the Objective/Outcomes	Create expectancy which will lead to anticipation of the lesson and its purpose (tell learners what they are able to do after learning)
Stimulating Recall of the Prior Knowledge	Retrieve knowledge and move them into working or short-term memory (ask for recall of previous lesson taught)
Presenting Information/Content/Stimulus	Create selective perception that will stimulate learning (display content with distinctive features)
Providing Learning Guidance	Cause semantic encoding that will move knowledge into long-term memory (suggest a meaningful organization)
Eliciting Performance	Induce response to demonstrate learning (ask learner to respond or perform)
Providing Feedback	Reinforce learning by affirming the correctness of performance (give informative feedback on performance)

Assessing Performance	Retrieve knowledge and further reinforce learning (require additional performance and feedback)
Enhance Retention & Transfer	Long-term storing and generalize knowledge (provide varied practice and spaced reviews).

Research Aims

In using the 'nine events of instruction' as a pedagogical framework for the classroom observation, this study first aimed to evaluate the perception of the Myanmar lecturers on their classroom instruction abilities in relation to the 'nine events of instruction' and to inquire which of the nine events they would like to improve on.The purpose was to aid reflection on their abilities which in turn helped to align their motivation and focus in learning the 'nine events' prior to the classroom observation.Next, the study also aimed to evaluate the degree of learning or benefits of the classroom observation in relation to the 'nine events' based on the self-perception and qualitative feedbacks of the participants.This will provide some insights into whether the classroom observation was useful for continuing professional development, at least from the participants' perspectives, and to consider possible improvements.Finally, there is also an interest to test the usefulness of 'nine events of instruction' as a novel approach for guiding and evaluating learning from classroom observation in a cross-cultural context.

Method

Participants and the Continuing Professional Development Program

Eight female faculties from three Myanmar Universities participated in the continuing professional development program hosted by DBS, NUS. Four of the participants were from Mandalay University, two other participants were from University of West Yangon and the remaining two participants were from University of Yangon.Seven of the participants were between 41 to 50 years old while one participant was between 25 to 40 years old.Five of them were teaching both undergraduate and graduate students, while two other participants were teaching only graduate students and one participant was teaching only undergraduate students.

The continuing professional development program required the participants to carry out multiple classroom observations of lectures and laboratory sessions of their choices over a period of three weeks in late January to mid February of 2018.Upon their arrivals, participants selected the modules of their interests for classroom observation and the consent for them to observe the classes was obtained from the respective module coordinator prior to the classroom observation.Given that a lecture duration is about 1.5 hours and a laboratory session is between 4 to 6 hours, a participant typically observed either two to three lectures per day or one lecture and one laboratory session per day.Over the period of three weeks, each participant would have observed over 20 lectures and several laboratory sessions.The lectures

and laboratory sessions were conducted in English language. All the participants were able to speak, read and write in basic communication English language.

Design and procedure for data collection and processing

Prior to the commencement of the class observation, a 1.5-hour briefing session was conducted to explain the 'nine events of instruction' to the participants so that they understood the 'nine events' in the context of classroom practice and observation.The briefing session included a PowerPoint® presentation explaining the 'nine events', a video-recorded micro-teaching demonstration of the 'nine events' and take-home printed materials describing the examples of the 'nine events'.This was followed by a question-and-answer session and thereafter participants were requested to complete a survey. In the survey, they were asked to rate their classroom instruction abilities in relation to the 'nine events of instruction' and to indicate which of the nine events they would like to improve on.For the rating, participants were required to check on boxes representing a Likert scale, where '1' represented 'Very poor or Not at all' and '7' represented 'Very well', for each of the 'nine events'.The next question required participants to indicate the numbered event that correspond to each of the 'nine events' that a participant wanted to improve on, and they were allowed to indicate more than one event.

Towards the end of the program, a 1.5-hour discussion meeting with the participants were conducted to obtain their verbal and written feedback.Participants were asked to indicate how much they have learned or benefitted from the classroom observation in relation to the 'nine events'. A general example of having derived understanding and ideas that a participant may want to try in her class is considered as 'having learned or benefitted' from the classroom observation, although this does not limit the inclusion of other learning experiences.Participants were required to check on boxes representing a Likert scale, where '1' represented 'Very little or Not at all' and '7' represented 'Very much', for each of the 'nine events'.In response to the next question, participants were asked to indicate the 'nine events' that they thought would benefit Myanmar lecturers the most.Finally, participants were requested to provide written feedbacks with regard to what they have learned and how they can apply them to improve their classroom teaching.

The Likert scale rating provided quantitative scores that were transferred into a Microsoft® excel file where descriptive statistics such as sum total count, mean and standard deviation were computed and tabulated as summary data. Excerpts from the qualitative feedback were presented with minor editing for clarity purpose.

Results

Perception of ability in practicing the 'nine events of instruction' before classroom observations

To ensure that the participants have the same basic understanding of the 'nine events of instruction' and to evaluate the perceptions of their abilities in practicing the 'nine events' before the beginning of their class observation, a 1.5-hour briefing session to explain the 'nine events' were provided to the participants followed by a brief question-and-answer session and a survey (refer to **Method** for details).It was found that none of the participants had heard of the 'nine events of instruction' prior to the briefing session.Nevertheless, the participants rated that they practice all of the 'nine events of instruction' in their classrooms with different degrees of ability, and mostly between 'average' to 'very well' (mean rating range from 4.13 to 6.25; **Table 2**).None of the participants selected 'very poor/not at all' (Likert scale=1) with respect to their abilities in practicing the 'nine events of instruction'.The findings further suggest that the 'nine events of instruction' resonated well with the participants despite of the social-cultural differences and that none of them have heard of it prior to the briefing session.

Of the nine events, 'Stimulating Recall of the Prior Knowledge' recorded the highest mean rating (6.25) where six (75%) of the participants rated themselves as 'very well' (Likert scale = 7) while one participant rated 'above average' (Likert scale = 5) and another rated 'average' (Likert scale = 4) in practicing it in their teaching (**Table 2**).This suggests that 'Stimulating Recall of the Prior Knowledge' was a common practice in their classrooms which the participants were confident of.Moreover, the practice of 'Informing the Students of the Objective/Outcome' (Mean rating = 5.88) and 'Presenting Information/Content/Stimulus' (Mean rating = 5.88) were also perceived positively.

Of the nine events that were rated at the 'lower' end, 'Assessing Performance' received the lowest mean rating (4.13) and has the largest standard deviation ($\pm$ 2.1) which suggest that there exist a greater degree of differences in the participants' abilities in practicing it (**Table 2**).Upon closer examination of the data, three of the participants rated themselves as 'poor' (Likert scale = 2) and one as 'below average' (Likert scale = 3), which brings to a total of 50% of the participants having perceived their abilities negatively in terms of 'Assessing Performance' of students.This was followed by 'Providing Feedback' (Mean rating = 4.75), 'Enhancing Retention and Transfer' (Mean rating = 5.00) and 'Eliciting Performance' (Mean rating = 5.14).

When the participants were asked which of the 'nine events of instruction' that they would want to improve on, 'Assessing Performance' and 'Providing Feedback' received the highest count (4 each), followed by 'Enhancing Retention and Transfer' and 'Eliciting Performance' which both received 3 counts each.In contrast, 'Stimulating Recall of the Prior Knowledge', 'Informing the Students of the

Objective/Outcome' and 'Gaining Attention of Students' received zero count.These responses were not surprising as they were consistent with the ratings of their ability in practicing these 'events' based on their perceptions.The consistency between their ratings and responses demonstrated that the participants understood these 'nine events of instruction' well before the commencement of the classroom observation.

Table 2. Perception of ability in practicing 'nine events of instruction'

Nine Events of Instruction	Rate how well you are able to practice the following 'nine events' in your teaching. Mean Rating (± S.D.)*	Which of the 'nine events' do you want to improve? Frequency count (Percentage)#
Gaining Attention of Students	5.75 (0.89)	0
Informing the Students of the Objective/Outcome	5.88 (1.13)	0
Stimulating Recall of the Prior Knowledge	6.25 (1.49)	0
Presenting Information/Content/Stimulus	5.88 (0.99)	1 (12.5%)
Providing Learning Guidance	5.57 (0.98)	3 (37.5%)
Eliciting Performance	5.14 (1.21)	2 (25%)
Providing Feedback	4.75 (1.28)	4 (50%)
Assessing Performance	4.13 (2.10)	4 (50%)
Enhance Retention & Transfer	5.00 (1.51)	3 (37.5%)

* Rating is based on Likert scale: 1 = 'Very poor or Not at all' and 7 = 'Very well' S.D. = Standard Deviation.

Percentage = [Number of participants indicated the 'event' that they want to improve on / Total number of Participants (n = 8)] x 100 Participants were allowed to choose more than one 'event'.

Taken together, the findings suggest that most of the participants were confident in practicing 'event 1' to 'event 5' of instruction, but were relatively less confident when it comes to the last four events of instruction, especially 'Assessing Performance' and 'Providing Feedback'.This further suggest that the participants were confident in engaging students at the opening of their lessons, connecting with previous lessons and delivering the current content, but were less able in activating students to demonstrate learning outcomes, in providing informative and timely feedback to

students, in assessing learning outcomes, and in creating learning opportunities for internalization and application of knowledge in new context.These later instructional events and their outcomes are much more challenging to execute and achieve but are very important in impacting learning (Gagné, Briggs, & Wager 1992).Perhaps of greater importance is that the participants, in recognizing their own needs or weaknesses, had expressed their desires to improve on these later events of instruction.

Perception of learning the 'nine events of instruction' after classroom observations

To find out how much the participants perceived that they have learned or benefitted from their classroom observations with regard to the 'nine events of instruction', a 1.5-hour discussion meeting and a written feedback survey were conducted near the end of the program (refer to **Method** for details).There were 71 out of the 72 expected quantitative rating responses (from nine survey items and eight participants), hence indicating a strong participation in the survey and feedback exercise.Two-third of the ratings were generally positive as most participants indicated that they have learned or benefitted 'quite much' to 'very much' (Likert scale = 5 to 7) from the classroom observation while a third of the ratings indicated that they have learned 'moderately' (Likert scale = 4), but none of them indicated 'little' (Likert scale = 2) or 'very little or not at all' (Likert scale = 1).

Of the nine events shown in **Table 3**, 'Informing the Students of the Objective/Outcome' received the highest mean rating (5.88) with six participants indicated that they have learned 'much' (Likert scale=6) and one indicated 'very much' (Likert scale = 7).This was followed by 'Stimulating Recall of the Prior Knowledge' (Mean rating = 5.50) and 'Presenting Information/Content/Stimulus' (Mean rating = 5.50).On the other hand, 'Providing Learning Guidance' (Mean rating = 4.63) and 'Eliciting Performance' (Mean rating = 4.75) have the lowest mean ratings, where each have four (50%) of the participants indicated that they have learned or benefitted 'moderately' (Likert scale = 4) from the classroom observation.Of importance are 'Assessing Performance' and 'Providing Feedback' because half of the participants had earlier expressed that they wanted to improve on these 'two events' prior to the commencement of classroom observation.At the end of the program, these two 'events' have mean ratings about 5 suggesting that a larger number of participants have learned 'quite much'. A closer examination of the data for the two 'events' revealed that five (62.5%) of the participants have indicated that they have learned 'quite much' to 'very much'.

Notably, 'Enhancing Retention and Transfer' has the largest standard deviation ($\pm$ 1.46) which three (37.5%) participants indicated that they have learned 'much' or 'very much' while four (50%) other participants indicated that they have learned 'moderately' and one without response. Such diverging responses are likely due to the different modules that the participants observed and timing of their observations.

Those who indicated 'much' or 'very much' may have selected modules that demonstrated learning activities and tasks that contributed more to 'Enhancing Retention and Transfer' while those that indicated 'moderately' may have selected modules that have demonstrated less of the 'event' during the observation period.Moreover, not all events are practiced or are easily demonstrable or observable within classroom.

When the participants were asked which of the 'nine events of instruction', if taught, would benefit Myanmar lecturers the most, 'Assessing Performance' again received the most count (6), followed by 'Enhancing Retention and Transfer' (5 counts) while 'Eliciting' Performance' and 'Providing Feedback' received 4 counts each (**Table 3**).Notably, 'Gaining Attention of Students' did not receive any count.Overall, this may reflect a greater awareness among the participants on the importance of the later events of instruction in classroom practices as they do share similar trend to the earlier question on "Which of the 'nine events' do you want to improve?" that was asked before the classroom observation commenced.As such, perhaps some of these later but important instructional events can be taught directly to the participants in a workshop bolted onto the program.In addition, modules that feature these later instructional events more prominently can be recommended earlier to the partcipants for classroom observation.

Table 3. Perception of learning the 'nine events of instruction' after classroom observations

Nine Events of Instruction	Rate how much you have learned or benefitted from the classroom observations regarding the practice of the 'nine events' for your teaching (e.g. providing understanding and ideas that you may want to try in your class). Mean Rating (± S.D.) *	If the 'nine events' were taught, which do you think would benefit Myanmar lecturers the most? Frequency count (Percentage)#
Gaining Attention of Students	5.25 (0.71)	0
Informing the Students of the Objective/Outcome	5.88 (0.83)	2 (25%)
Stimulating Recall of the Prior Knowledge	5.50 (1.07)	1 (12.5)
Presenting Information/Content/Stimulus	5.50 (1.20)	2 (25%)
Providing Learning Guidance	4.63 (0.74)	2 (25%)

Eliciting Performance	4.75 (0.89)	4 (50%)
Providing Feedback	5.00 (1.31)	4 (50%)
Assessing Performance	5.13 (1.25)	6 (75%)
Enhance Retention & Transfer	5.14 (1.46)	5 (62.5%)

* Rating is based on Likert scale: 1 = 'Very little or Not at all' and 7 = 'Very much'; S.D. = Standard Deviation.

Percentage = Number of participants indicated the 'event' as benefitting Myanmar lecturers the most / Total number of participants (n = 8). Participants were allowed to choose more than one 'event'.

The written feedback from participants offered some qualitative insights into their learning from the classroom observation (**Table 4**).In general, the participants were positive in their response in acknowledging that they have learned from the classroom observation with respect to the 'nine events'.Of greater importance is that many of the participants expressed the possibility and their desire of applying what they have learned back into their classrooms.The program has also elicited the desire to change or reform one approach to teaching (response number 1) or the need to do so (response number 6). Such change in values and beliefs of the affective and conative domains are important indicators of successful continuing professional development program (Desimone, 2009; Putnam & Borko, 2000).It is also heartening that one response (number 8) has expressed the desire to share with her students and colleagues back in her university.Overall, the positive feedback corroborated with the overall positive ratings of the participants' perception of learning from the classroom observations. This in turn agrees with previous studies that have shown that class observation was a useful tool for continuing professional development in higher education (Ali, 2012; Sullivan, Buckle, Nicky & Atkinson, 2012; Hammersley-Fletcher & Orsmond 2004).

Table 4. Excerpts of written feedback regarding learning related to nine events of instruction

Excerpts of written feedback from the eight participants *
I [have] gain[ed] so many benefits such as new techniques, strategies, ideas and resources. I can now design learning activities that will meet my instructional outcomes. I think the most important lesson that I [have] learned was the importance of feedback from nine events of instruction…this teaching attachment has made me [to] reflect on and reconsider my own planning processes [for teaching].
I have learned [that] using electronic equipment can help classroom teaching [to be] more effective and convenient to gain students' attention and provide immediate assessments. I think I can apply them back in my classroom teaching…I will also inform learning objectives, outcomes and summary [of] every lecture.

I do use [events] 6, 7, 8, [and] 9 teaching my students…I can apply [the] teaching method and practical assessment that I learned.
Nine events of instruction also help in my classroom teaching, especially [events] 7, 8 [and] 9…This has help[ed] me to improve my teaching method.
I think I can apply them back in our classroom teaching because [they will] improve our learning and help make sense of new information. I like the idea [of] providing immediate feedback of student's performance, to assess and facilitate learning.
I think we need to change our teaching style [and] system [in order] to apply [the] nine events of teaching effectively in our country.
I have learned a lot of teaching methods in this classroom observation. I can apply them back in my classroom especially 'Stimulating recall of the prior knowledge' and 'Eliciting performance'.
I learned new teaching methods from nine events of instruction. I would like to share our experience [with] our students as well as colleagues at our university.

* Minor editing are made where needed [in parentheses] for clarity purpose.

Discussion

The classroom observation employed for continuing professional development in this study can be likened to a short-term 'community of practice model' proposed by Kennedy (2005).The participants who are visiting lecturers from three Myanmar universities were themselves a community of educators learning from another (NUS) community of educators in the same practice (i.e. teaching biology in higher education). Although there exist socio-cultural differences between the two communities, the 'nine events of instruction' appeared to be a useful pedagogical framework that bridged the differences and thereby facilitated learning. The added value of learning in communities is the exposure to many individual practices and the sharing of knowledge that could help generate new ideas that encourage further experimentation and application in local contexts.

There are five critical components that an effective professional development program for educators should possess, i.e. *content focus, active learning, coherence, duration* and *collective participation* (Desimone, 2009; Peneul, Fishman, Yamaguchi & Gallagher, 2007).*Content focus* represents the activities that focus on the teaching and learning of a subject matter (Desimone, 2009), and in our program, the content focus is the classroom observation of the teaching and learning of biology that were of interest to the participants.'Nine events of instruction' provided pedagogical guidance on what to observe for effective instructional design and it facilitated *active learning* during classroom observation so that participants do not passively listen to a lecture only, but actively 'look for' and 'note down' the classroom practices and reflect on their pedagogical principles based on the 'nine events'.In this aspect, the 'nine events of instruction' which was shown to resonate well with the participants had also

helped to provide *coherence* between participants' pedagogic knowledge and beliefs with what they were observing and learning during classroom observation.This coherent alignment of the participants' pedagogic knowledge and beliefs with what they were learning is critical for transference and application of knowledge which otherwise may not be thought of as important or applicable in their classrooms (Peneul, Fishman, Yamaguchi & Gallagher, 2007).As for *duration*, the three week program provided sufficient time for exposure to various content knowledge and classroom practices along with reflections as longer duration is needed to engage pegogical change and arouse investigative curiosity in science classroom teaching (Supovitz & Turner, 2000).The *collective participation* from the eight participants provided important interaction and discourse which is important to foster learning within their own community throughout the program (Bannilower & Shimkus, 2004). To further enhance active learning and collective participation, demonstration of micro-teaching session and feedback discussion can be introduced in future program.

While classroom observation provides a good model for continuing professional development of educators, it can be expensive and time consuming, as also noted by another study (Sullivan, Buckle, Nicky & Atkinson, 2012), which explains the small sample size of the present study.Although the cost was shared by the involved parties (DBS and the participants), the number of participants that DBS can afford to host is limited by the cost.Moreover, a 3-week continuing professional development program involves substantial amount of time away from any ongoing professional commitments of participants in their home universities, hence, requires home institutions to adjust and/or relieve participants' commitments.As such, it is unlikely that the number of participants in this continuing professional development program will increase, and indeed it is not the intention of the program to grow the number of participants, but rather to steadily provide opportunities for different batches of participants to continue their professional development in this program annually over a longer term

Another limitation of this study is that it is based on self-perception of participants' ability and learning which is subjective. It lacks the instruments to measure the ability and the learning of the participants in a more objective manner.A better design would be to include some forms of evaluation exercises, e.g. either a short assessment on classroom practices or micro-teaching demonstration from each participants which will be evaluated based on the 'nine events of instruction' at the beginning and end of the program.A better evaluation of its impact could be done through a longer term follow up of the participants' teaching and their students' learning by their home universities.There are frameworks for evaluating continuing professional development in teaching where increased in knowledge and skills of participants can be assessed, while change in their attitudes and beliefs can be demonstrated and verified by change in instruction and improvement of their students' learning (Desimone, 2009; Borko 2004).As an example, Miner, Mallow, Theeke, & Barnes (2015) in believing the effectiveness of the the 'nine events', they had incorporated it

into a nursing curriculum hence changing the way they taught the course, and therafter they reported the improvement in the grades of students in their final assessment.However, the evaluation of longer term impact would require increased commitments from the parties that are involved and may raise the question of cost-effectiveness. Even so, such evaluation study can be action research conducted by the participants themselves, and in turn, this would help them to develop scholarship of teaching and learning in their professional development.This is exemplary of how a transmission model such as classroom observation can develop into a transformative model of action research for continuing professional development as proposed by Kennedy (2005).

Given that such continuing professional development is expensive and time-consuming, it should therefore be reviewed over time and where possible to enhance its effectiveness.This study proposes the following recommendations for the future improvement of the program:

Provide participants with the module/course description that includes information on the rationale, learning outcomes, teaching mode, assessment, etc.This will help participants to make better informed choices in selecting the modules to observe.

Recommend certain modules that feature the later 'events of instruction' more prominently and those that are taught by teaching award winners in order to expose participants to the later 'events of instruction' and the diverse, high quality classroom teaching.

Organize a teaching workshop at the beginning and/or at the end of the program to provide some basic training in classroom observation (as use in conjunction with the 'nine events of instruction') and other aspects of teaching and learning, including technology-empowered pedagogy and follow up action research.This can also include an assessment of participants' knowledge and abilities through micro-teaching demonstration.

Conclusion

The study demonstrates that Gagné's nine events of instruction is a useful pedagogical framework for guiding and evaluating perception of ability and learning in classroom instruction and observation for continuing professional development.It is particularly useful in a cross cultural context as the 'nine events' are common practices aim at learning outcomes that are desirable and relatable to educators in classroom teaching.The study found that the visiting Myanmar lecturers have positive views of their abilities, especially in practicing the early 'events of instruction'.Based on the perception of the Myanmar lecturers, the classroom observation has benefitted them with respect to the 'nine events of instruction'.They have expressed their desire to change some of their classroom practices by applying and sharing the lessons learnt when they return to their home universities. While the study indicate some measures

of effectiveness of the present program, there are rooms for improvements to further enhance the continuing professional development program.

Reference

[1] Ali, S. A. (2012).Peer observation of teaching (POT) for quality assurance in EFL context, New York Science Journal, 5 (11), 15-22.

[2] Ammons, J. L., & Lane, S. L. (2012).Making teaching visible: sharing & evaluating using peer observation proceedings. The Academy of Educational Leadership, 17(1), 77-81.

[3] Banilower, E., & Shimkus, E. (2004). Professional development observation study. Chapel Hill, NC: Horizon Research.

[4] Berliner, D. C. (1986).In pursuit of the expert pedagogue. Educational Researcher, 15(7), 5-13.

[5] Berliner, D. C. (2001).Learning about and learning from expert teachers. International Journal of Educational Research, 35, 463-482.

[6] Borko, H. (2004).Professional development and teacher learning: mapping the terrain. Educational Researcher, 33(8), 3-15.

[7] Cosh, J. (1998).Peer observation in Higher Education - A reflective approach. Innovations in Education and Training International, 35(2), 171-176.

[8] Davies, M., Pon, D., & Garavalia, L. S. (2018).Improving Pharmacy Calculations Using an Instructional Design Model. American Journal of Pharmaceutical Education, 82(2), 144-151.

[9] Desimone, L. M. (2009).Improving impact studies of teachers' professional development: toward better conceptualizations and measures. Educational Researcher, 38(3), 181-199.

[10] Evertson, C. M., & Green, J. L. (1986).Observation as inquiry and method. In M. C. Wittrock (Ed.), Handbook of research on teaching, Vol. 3 (pp. 162-213). New York: Macmillan.

[11] Gagné, R. M. (1985).The conditions of learning (4th ed.). New York: Holt, Rinehart and Winston.

[12] Gagné, R. M., Briggs, L. J., & Wager, W. W. (1992).Principles of instructional design (4th ed.). New York: Holt, Rinehart, and Winston.

[13] Gokdemir, A., Akdemir, O., & Vural, O. F. (2015).Using Gagne's nine events in learning management systems. Cypriot Journal of Educational Sciences, 10(1), 18-31.

[14] Gredler, M. E. (2005).Learning and Instruction: Theory into Practice (5th ed.). Upper Saddle River: Pearson Merrill Prentice Hall.

[15] Hammersley-Fletcher, L., & Orsmond, P.(2004).Evaluating our peers: is peer observation a meaningful process? Studies in Higher Education, 29 (4): 489-503.

[16] Kantar, L. D. (2013).Demystifying Instructional innovation: The case of teaching with case studies. Journal of the Scholarship of Teaching and Learning, 13(2), 101 – 115.

[17] Kennedy, A. (2005).Models of continuing professional development: a framework for analysis. Journal of In Service Education, 31(2), 235-250.

[18] Lomas, L. & Nicholls, G. (2005).Enhancing teaching quality through peer review of teaching. Quality in Higher Education, 11(2), 137-149.

[19] Mei, F. S. Y., Ramli, S., & Alhirtani, N. A. K. (2015).Application of Gagne's Nine Approaches to Teach Arabic Language for Non-Native Speakers: Experimental study at Sultan Idris Education University Malaysia (UPSI). **European Journal of Language and Literature**, 3(1), 32-37.

[20] Miner, A., Mallow, J., Theeke, L., & Barnes, E. (2015).Using Gagne's 9 Events of Instruction to Enhance Student Performance and Course Evaluations in Undergraduate Nursing Course. Nurse Educator, 40(3), 152-154.

[21] Onodipe, G., Ayadi, M. F., & Marquez, R. (2016).The efficient design of an online course: Principles of economics. Journal of Economics and Economic Education Research**,** 17(1), 39-51.

[22] Penuel, W. R., Fishman, B., Yamaguchi, R., & Gallagher, L. P. (2007).What makes professional development effective? Strategies that foster curriculum implementation. American Educational Research Journal, 44(4), 921–958.

[23] Putnam, R. T., & Borko, H. (2000).What do new views of knowledge and thinking have to say about research on teacher learning? Educational Researcher, 29(1), 4-15.

[24] Reiser, R. A. (2001).A History of Instructional Design and Technology: Part II: A History of Instructional Design.Educational Technology Research and Development, 49(2), 57-67.

[25] Seidel, T., Stürmer, K., Blomberg, G., Kobarg, M., & Schwindt, K. (2011).Teacher learning from analysis of videotaped classroom situations. Does it make a difference whether teachers observe their own teaching or that of others? Teaching and Teacher Education, 27(2), 259-267.

[26] Sullivan, P. B., Buckle, A., Nicky G., & Atkinson, S. H. (2012).Peer observation of teaching as a faculty development tool. BMC Medical Education, 12(1), 1-6.

[27] Supovitz, J. A., & Turner, H. M. (2000).The effects of professional development on science teaching practices and classroom culture. Journal of Research in Science Teaching, 37(2), 963–980.

[28] Walker, C. (2009).Teaching policy theory and its application to practice using long structured case studies: An approach that deeply engages undergraduate students. International Journal of Teaching and Learning in Higher Education, 20(2), 214-225.

[29] Wong, L. (2018).Utilizing the principles of Gagne's nine events of instruction in the teaching of Goldmann Applanation Tonometry. Advances in Medical Education and Practice, 9, 45-51.

[30] Wragg, E. C. (2002).An introduction to classroom observation. (2nd ed.). New York: Routledge.