

IMELT 2018 - 009 - Marilyn U. Balagtas, Dexter C. Ngo

Effectiveness of a University-Industry Blended Training Program on Educational Assessment for Teachers and Leaders

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ABSTRACT

The quality of the educational system cannot outperform the quality of its teachers and education leaders. Hence, for an educational reform to work like the K to 12 Program in the Philippines, support should be given to teachers and school leaders for their professional development. A support that has been provided to them is a blended training program on their priority need for professional development on educational assessment conducted by a state university recognized as the National Center for Teacher Education (NCTE) in the Philippines. This training has been offered to teachers and school leaders for free for those sponsored by Rex Institute for Student Excellence (RISE), a private assessment company under Rex Group of Companies, Inc.. The Professional Regulation Commission (PRC), which promotes lifelong learning, has awarded the training corresponding credit points as it is necessary for the renewal of the participants' teaching license. Through a quantitative-qualitative evaluation that the effectiveness of the input, process and outcome of a 3-day blended training program has been conducted. A total of 100 participants (72 school leaders and 28 teachers) responded to a mixed forced-choice and open-ended questionnaire given in a Google Form. The results revealed a very satisfactory evaluation on the input, process and outcomes of the program. The results could inform improvements in the conduct and design of a training program delivered online and serve as a model for a Continuing Professional Development Program (CPD) that reaches out to more teachers and educators in the country and beyond through a partnership support coming from a university and its partner industry.

Keywords: Continuing Professional Development Program, blended training, educational assessment

Introduction

The famous statement of McKinsey and Company (2007) saying that the “quality of an educational system cannot exceed the quality of its teachers” should be modified to include school leaders and educators as they are the mentors of the teachers. Hence, if the direction of reform is on improving the educational system that the country offers to all its citizens, then reform efforts should include helping produce high quality teachers, school leaders and even educators as they are the key players in quality instruction.

One process in gauging the quality of the educational system is the conduct of student assessment. Assessment is a process of collecting quantitative and qualitative data that could describe the quality of students' achievement and the instruction and learning environment that they are exposed to. Assessment could be in many ways using traditional and more authentic alternative methods. Every teacher should be equipped with the skills in assessing students not

only in choosing and developing appropriate assessment methods but also in administering, scoring, interpreting, grading, communicating and ethically handling of assessment results. In order for teachers to be equipped with the needed skills in assessing learning, they need continuous professional development (CPD) on student assessment. School leaders play an important role in having quality teachers in the classroom as they either serve as their mentors or a supporter of their continuing professional development program. The CPD programs that school leaders and training providers could prioritize may center on the identified weaknesses of teachers on student assessment in studies conducted (Balagtas, Dacanay, Dizon, & Duque, 2010) based on the teacher assessment competencies defined by the American Federation of Teachers, National Council on Measurement in Education and the National Education Association (1990) as cited in Plake and Impara (1997). Another possible reference for CPD programs on student assessment is the Philippine Professional Standards for Teachers (PPST) particularly the fifth domain on Assessment and Reporting covering five (5) strands of competencies, namely: 1) Design, selection, organization and utilization of assessment strategies; 2) Monitoring and evaluation of learner progress and achievement; 3) Feedback to improve learning; 4) Communication of learner needs, progress and achievement to key stakeholders; and 5) Use of assessment data to enhance teaching and learning practices and programs (DepED Order No. 42, s. 2017).

The policies on classroom, national and system assessment of the Department of Education (DepEd) have also implications on the roles of school leaders and teachers in student assessment. In DepEd Order No. 8, s. 2015, classroom assessment is viewed as an important part of curriculum implementation. It allows learners and their parents or guardians to monitor the progress of their learning and the effectiveness of their teachers as well as the program of schools that principals choose to implement. The DepEd Order No. 55 s. 2016 also poses the importance of national assessments in monitoring the Philippine educational system and the schools for public accountability. National assessment also provides effectiveness and efficiency of the delivery of education services using learning outcomes as indicators; provides information that will guide decisions on instructional practices; determines if learners are meeting the learning standards of the curriculum; measure students' aptitude and occupational interest for career guidance; and assesses prior learning for placement, accreditation and equivalency. Moreover, DepEd No. 29, s 2017 also describes the importance of system assessment in the K to 12 Reform particularly in articulating the bases, indicators, and measures of system performance that will provide insights on the effectiveness and efficiency of curriculum and instruction program and the education system. These policy guidelines on assessment shall be implemented in public and private elementary and secondary schools nationwide. These policies must be taken into consideration by principals as the front liners of all educational reforms in schools.

In cognizance of the need for teachers and education leaders to be skilled in educational assessment, the Philippine Normal University, the country's National Center for Teacher Education, which is also a recognized training provider by the Professional Regulations Commission (PRC) for teacher's continuing professional development program, designed a series of training programs in this area. In one of the training programs it has conducted, the Rex Institute for Student Excellence (RISE), one of the Rex Group of Companies, forged partnership with PNU to sponsor the training of select group of principals, academic coordinators, and teachers. In this partnership, PNU shall be responsible in organizing and implementing its program and platform for online training including its own speakers and training personnel. RISE, on the other hand, took care of inviting participants to the training, covered their training fees, and provided their food, venue and accommodation during the face-to-face session.

Statement of Purpose

This study looked into the effectiveness of the training program conducted by a Teacher Education Institution (TEI) that was sponsored by an Assessment and Publishing Company as basis for improvement in future partnership arrangement and implementation. In particular, this study aimed to evaluate the effectiveness of the training program in terms of its input (content), process (content delivery; training materials; time management; training personnel; food, venue and accommodation; and training modality), and outcomes (attainment of objectives and significant learnings gained by the participants).

The Training and Evaluation Framework

The Training Program implemented was designed based on an expressed need of school leaders and teachers to develop and enhance their capacity on student assessment to maximize students' achievement and excellence in their learning given the demands of the 21st century. In particular, the participants were expected to: 1) demonstrate understanding of the three different roles of assessment in the 21st century teaching and learning process such as assessment for learning, assessment as learning, and assessment of learning; 2) create situations showing applications of one's understanding of the underlying principles in assessing learning; 3) design an action plan interfacing instruction and assessment in one whole school year program informed by the assessment principles and roles in facilitating students' learning and achievement; and 4) reflect on the value of the topics discussed and activities provided in promoting student achievement and excellence in their learning.

To attain the training objectives, inputs were given on the following topics: 1) Roles of Assessment in the 21st Century Teaching and Learning; 2) Principles Underlying Student Assessment; and 3) How to design an Assessment Action Plan for Effective Teaching and Learning in the 21st Century. The training program was designed for three days in blended learning. According to the Commission on Higher Education (CHED) in its Memorandum No. 62 s. 2016, blended learning is a mode of educational delivery that combines distance education, including online, with traditional classroom-based instruction. The training program has been delivered in blended modality, which was a combination of one day face-to-face and two days online.

The first day was a face-to-face session where the resource person gave inputs and led discussions and workshops. The session was also used to orient the participants on the use of the Moodle-based Learning Management System created as a platform for online training. The second day was an online session focused on individual participants' planning of students assessment methods to include both teacher-developed or commercialized assessment tools. Participants were given one day to plan their assessment methods for use in one whole school year following a template and a sample plan given guided by a scoring rubric. The planning considered the principles in assessing learning and the different purposes and types of assessment. The last day of the online session focused on the participant's individual writing of their reflective journal about their experiences in the face-to-face session and the plans they made. All outputs of the participants were first self-rated using a rubric and were allowed up to two submissions to meet the expected quality of work.

To find out the effectiveness of this training program, an evaluation is needed. To Mizikaci (2006, p.41), evaluation is the means of arriving at a value judgement on the basis of measures (qualitative or quantitative) considered to be valid and reliable, which compare the actual results of a program with its anticipated results. In evaluating the training program, the Input-Process-Outcome Model was used adapted from Context-Input-Process-Product (CIPP) Evaluation Model of Daniel Stufflebeam as cited in Kellaghan and Stufflebeam (2003), the Input-Process-Output (IPO) Model of Bushnell (1990), the Systems Approach by Tribus

(1990) and Lewis and Smith (1994) as cited in Mizikaci (2006). According to Lewis and Smith (1994) as cited in Mizikaci (2006, p.46), the inputs to the organization come from the external environment; throughputs or the actual techniques (methods) are used to transform (add value to) the inputs; and outputs are represented by the product and/or service provided to members of the external environment. Moreover, to Cohen and Bailey (2007) as cited in Herre (2010, p11), input factors can be manipulated to change processes and outcomes.

In this evaluation study, input refers to the content or topics delivered in the program, which were chosen based on a training needs analysis done to teachers and school leaders. The process refers to the content delivery, management of resources, personnel, time, and training modality. Outcome refers to the attainment of the training program objectives and the significant insights learned by the participants (See Figure 1).

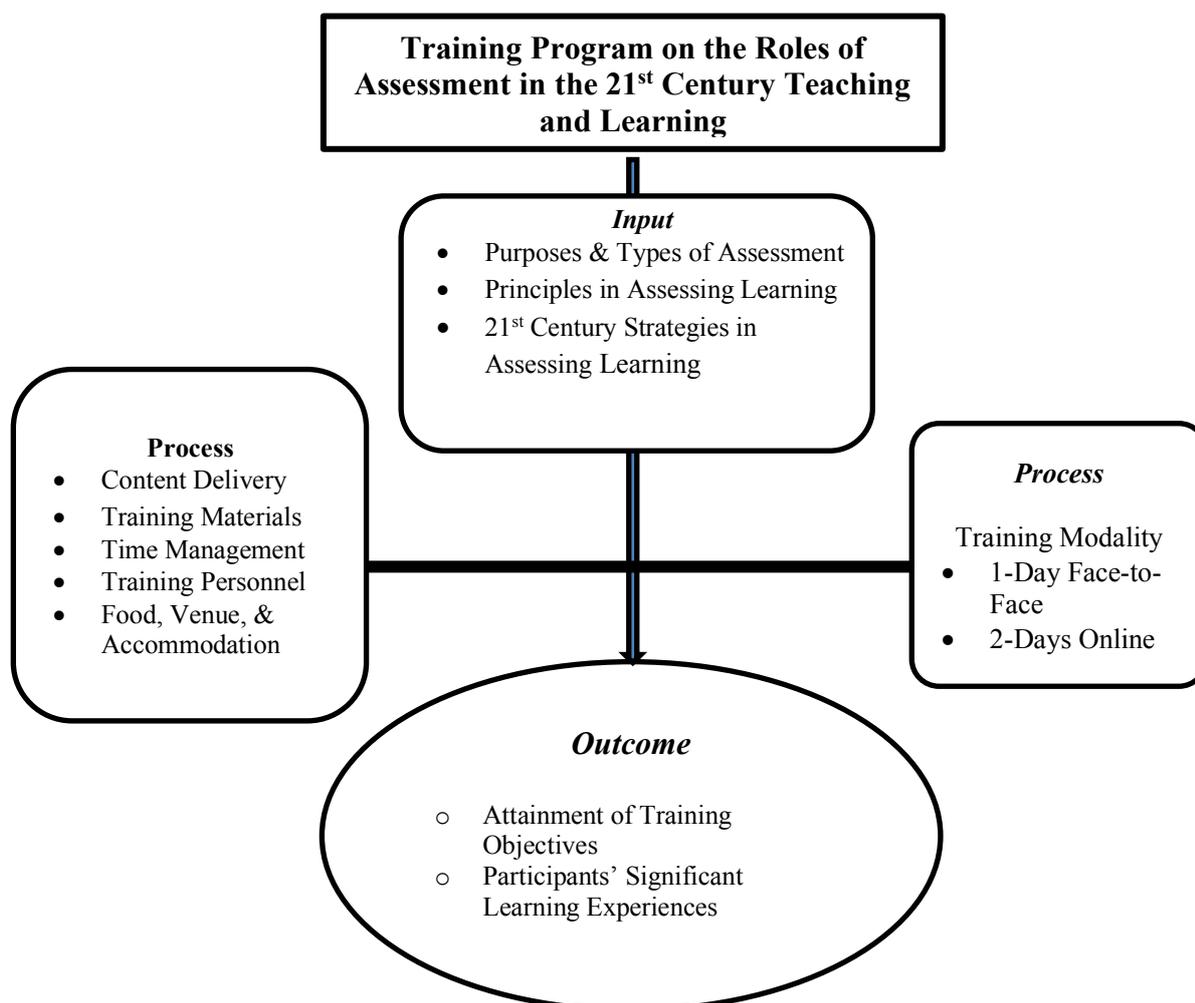


Figure 1. Training and Evaluation Framework

Methodology

This evaluation study made use of both the quantitative-qualitative method through a data collection using a two-pronged evaluation instrument having a 4-point rating scale with open-ended questions. This instrument was validated by experts and the training team and its internal consistency reliability was established through Cronbach Alpha ($r=.92$). Convenience sampling technique was used involving only the 72 school leaders and 28 teachers (out of the

83 school leaders and 63 teachers trained) who evaluated the training program using a Google Form. Data collected were processed and analyzed for the purpose of describing the information that were targeted by this evaluation study. Simple frequency count was done for quantitative data while theme generation was developed for the qualitative data collected. Participants consent for the use of their evaluation data was sought for the purpose of conducting studies for program improvement.

Findings

Effectiveness of the Input

Input refers to the content or the subject matter of the training based on the objectives set. The training content was evaluated based on its appropriateness to the participants' roles and responsibilities and if based on reliable and authoritative sources. 99% of the participants evaluated the training content to be appropriate to their role in the workplace and from authoritative and reliable sources. This shows that the content of the training should take into consideration the role that the participants play in the workplace and to ensure that it comes from credible sources.

Effectiveness of the Training Process

The training process was evaluated based on six areas: content delivery; training resources; time management; training personnel; food, venue and accommodation; and training modality.

Content Delivery. Content Delivery refers to the way the content was presented to the participants considering their roles and responsibilities and their level of engagement. 99% of the participants said the session activities were effective in generating learning, adult learning methodologies were used, and that the training followed a logical order/structure. Meanwhile, 100% of the participants agreed that their active engagement was encouraged. On the average, 99% of all the participants were satisfied with the content delivery. This suggests that in conducting training, the content delivery matters in the effectiveness of the program. Hawley and Paek (2006) supported this result and said that training provider's level of involvement and knowledge was found to be positively correlated with training effectiveness. To Harvey and Green (1993) as cited in Mizikaci (2006, p.39), the relevance of the program content to the participants is also an important criterion in a quality program.

Training Materials. Training material refers to handouts, worksheets and other materials provided during the training. The participants claimed that the resource materials provided to them were appropriate to their needs (96%), adequate (94%), and given on time (96%). On the average, 96% of all the participants were satisfied with the training resource materials provided. Similar to content delivery, participants view it important that a training program has provision for appropriate, adequate and timely given resource materials considering their training needs. According to Bahar and Oguz (2008), training materials are necessary as they engage both the learners' and the teacher's attention in the content being taught.

Time Management. Time Management refers to the ability to use the training time effectively and efficiently. The participants claimed that the session started as planned (77%); the training was managed efficiently (97%), and well-structured (100%). On the average, 91% of all participants were satisfied with the time management of the training. A significant

number of the participants gauged good time management in the training if the program is started on time as indicated in the program of activities. The smooth transition from one session to another also matters to them. Time management is then an important consideration in any training program as supported by Kerzner (2017, p.167) who stated that “disciplined time management is one of the keys to effective project management”.

Training Personnel. Training personnel refers to the people serving at the training program. This includes the resource persons, secretariat, or the different committees formed to run the program. 100% of the participants agreed that the training personnel were present when needed and that they were courteous. 98% of the participants agreed that the members were efficient and responsive to their needs. On the average, 99% of all participants were satisfied with how they were served by the training personnel. The data reveal that quality of the services rendered by the personnel in training programs matter in an effectively conducted program. This would mean that the people running the program should be visible that they are there when needed, courteous, and respond efficiently to the participants’ needs. This is actually considered as one of the most influential critical success factors (CSF) in conducting a program by a number of researchers such as Pinto and Slevin (1988), Struyk (2007), Harand Ika, Diallo, and Thuillier (2011). To Harvey and Green (1993) as cited in Mizikaci (2006, p.39), adequacy of human resources is also an important criterion in a quality program.

Food, Venue and Accommodation. Food, venue and accommodation are also important considerations in running a training program. In terms of venue, 100% of the participants agreed that it was well-lighted, 99% said it was well-ventilated, clean and sanitary (99%), and 98% said it is comfortable with sufficient space for training activities. In terms of accommodations, 100% of the participants agreed that the accommodations were comfortable and clean. In terms of the comfort rooms, 100% of the participants agreed that the venue had accessible comfort rooms that are clean. In terms of food, the 98% of the participants said meals are sufficient while 100% said they were of satisfactory quality. On the average, 99% of the participants were satisfied with the venue, accommodations and food. The results only show that venue, accommodation and food are important considerations in conducting a training program. According to Niwaz, Asad, and Muhammad (2011), quality training requires quality in all the aspects related to the programme including the setup of the venue, convenient learning environment, classroom convenience, organization of chairs, reachable water, toilet, fresh air, etc. To Harvey and Green (1993) as cited in Mizikaci (2006, p.39), adequacy of physical resources is an important criterion in a quality program.

Training Modality. Training modality refers to the scheme by which the program is delivered. In this training program being evaluated, the modality is blended to mean that it combines the face-to-face training and online. Below are some of the comments of the participants about the modality of the training when asked about the most significant part of their training:

- *“The explanation of the principles of assessment, the workshop and the training online are the most significant learning from the seminar”.*
- *“Managing the training program in a blended session is my most significant learning.”*
- *“The actual Assessment Action Planning that was done through online. I was engaged to explore on careful planning for our school's assessment program.”*

- *“I got interested more with the online education. I will give priority in planning our assessment in school and implement the use of combined traditional and non-traditional way of assessment”.*
- *“The workshop is very good and the mode of delivery is effective.”*
- *“I like the format of face-to-face learning with the integration of technology through online activities.”*
- *“As a whole, the conduct of the seminar-workshop was commendable. Congratulations!”*
- *“The whole training program is very satisfactory. The blended learning is quite a good experience.”*
- *“All my experiences in the 2-day online sessions are very significant to me.”*
- *“More activities online.”*
- *“I like this system. I hope there will be more in the future.”*

It can be inferred from the participants' feedback that the blended approach in the conduct of the training is a welcomed idea to them. Given that the participants are principals, academic coordinators and teachers, the modality especially their exposure to online training was a venue for them to appreciate the use of technology in their continuing professional development. However, there were also those who did not like the blended learning and gave the following comments:

- *“Face-to-face is better than online training since I belong to the baby boomers group.”*
- *“I think this kind of program should be done face-to-face and not online if you really want us to learn more of this.”*
- *“I hope that the working committees will give consideration to those people who are not that good in using computer, that they will accept hardcopy outputs.”*

There were participants who gave suggestions on how this training modality could still be improved with the following comments:

- *“More activities online”.*
- *“Give more time to face- to-face seminar rather than online.”*
- *“The face-to-face training should be two days.”*
- *“Giving of feedback online must be immediate.”*
- *“Face-to-face session can be for two days (One topic a day). This may be given to all educators....They will really benefit from this!”*
- *“Though online work is accepted as this will make us adept with the technology, but it is important to have a face-to-face encounter with the facilitator to provide us with some information from time to time”.*
- *“It is still better to do seminars and trainings face- to-face so participants can able to approach the resource person immediately when in need of assistance. Online can also be considered at the venue itself with the facilitators provided that participants will be informed with the use of any form of technology as part of it.”*

The results reveal that most teachers find the blended approach effective. There were school leaders who found blended approach acceptable for training but suggested to have more days that are face-to-face than online. The participants who opt for face-to-face training were a few senior principals who were not formally trained on the use of modern technology (e.g.

technology for online learning) in their teacher preparation. They have struggled in doing their tasks online but were able to submit outputs just the same.

Effectiveness of the Training Outcome

The training product was evaluated primarily based on the attainment of the training objectives and the significant learnings gained by the participants.

Attainment of Training Objectives. Attainment of Objectives refers to the degree to which the intents of the training programs were achieved. 100% of all the participants agreed that the training objectives were clearly presented and 99% said that the training objectives were attained. On the average, 99.50% of all participants claimed that the objectives of the training were attained. This means that the four objectives of the training were clearly stated and attained using the blended approach. It could then be said that the blended training enabled the participants to: 1) demonstrate understanding of the three different roles of assessment in the 21st century teaching and learning process such as assessment for learning, assessment as learning, and assessment of learning; 2) create situations showing applications of one's understanding of the underlying principles in assessing learning; 3) design an action plan interfacing instruction and assessment in one whole school year program informed by the assessment principles and roles in facilitating students' learning and achievement; and 4) reflect on the value of the topics discussed and activities provided in promoting student achievement and excellence in their learning.

Participants' Significant Learnings. Participants' insights refers to their realizations after attending the training. The responses of 100 participants regarding their most significant learning were collected and organized into themes. Out of the 100 responses collected, four (4) areas were identified, namely: 1) different purposes and types of assessment; 2) principles in assessing learning; 3) designing a plan for the 21st century assessment; and 4) use of blended modality in training (See Table 1).

Table 1

Participants' Most Significant Learnings from the Training

Area of Learning	No. of Respondents
1. Purposes and Types of Assessment	32
2. Principles of Assessment	26
3. Designing a Plan for a 21 st Century Assessment	22
4. Use of Blended Learning	20
Total	100

Purposes and Types of Assessment. This was also valued by most of the participants (32%) which was introduced during the face-to-face session. The purposes of assessment discussed were assessment for, of and as learning. The types of assessment discussed were placement, formative, diagnostic and summative assessments. The participants were given an activity where they need to provide appropriate recommended actions to teachers based on the assessment results which were reported in four performance bands described as beginning, nearing proficiency, proficient and highly proficient. The activity enabled the participants to differentiate the corresponding actions for instruction and learning based on the varying results of different assessment types. This topic was followed up in the online session when the participants prepared an assessment plan for the use of the different assessments types in one

whole school year. As a principal-participant commented *“I value the importance of administering diagnostic tests in our school”*. An academic coordinator-participant was more encompassing in sharing her views of her significant insights from the training and said *“My significant learning from the training are the different types of assessment which I see applicable to the diverse students I handle”*. A teacher-participant revealed prior knowledge about what has been discussed but appreciated the deepening done on the topic and said *“The training reinforced what I already know about classroom assessment. It deepened my understanding of assessment for, of, and as learning and how I can enliven them in my classroom.”* The feedback by the participants proved the need for teachers’ and academic leaders’ continuing professional development program to continuously reflect on their practice and improve them more for the sake of the students they serve.

Principles of Assessment. This has also been valued by most of the participants (26%). Thirteen principles were discussed during the face-to-face session such as clarity of targets, validity, high expectations, expanded opportunity, constructive alignment, multiple measures, authenticity, communication, fairness, reliability, practicality and efficiency, positive consequences, and ethical conduct and use of assessment results. In this session, participants analyzed situations that show application or violation of the different principles discussed. The participants were paired and asked to improve situations that show violation of the principles.

Designing a Plan for a 21st Century Assessment. This topic was valued by 22% of the participants. In this session, the participants were introduced to the 21st century skills of critical thinking and problem solving, creative thinking, communication and collaboration that are embedded in the assessment of content. Examples of improved multiple choice and constructed-response type of test were shown to illustrate how the 21st century skills could be assessed including the use of performance-based and portfolio assessment. A Principal commented this *“I like the idea that a simple multiple choice assessment can be improved to allow learners to express themselves.”* This comment refers to a multiple choice where there are options to represent the different levels of understanding in the Structure of Observed Learning Outcomes (SOLO) that Biggs and Collis (1982) developed which is now used in the field of educational assessment. Another principal supported this idea and said *“the introduction of the Structure of Observed Learning Outcomes (SOLO) framework in the design of the multiple choice and rubrics is new to me and I like it”*. A Coordinator also said: *“My take home from the seminar is that we can incorporate the 4Cs (content, critical thinking, creative thinking and communication) in our rubrics.”* A Teacher emphasized appreciation of the need *“to design an action plan for assessment”*, which she should plan for implementation in one whole one year in their school.

Training in Blended Modality. A significant number of participants (20%) also saw their exposure to a training in a blended modality as the most significant lesson they have learned. These school leaders and teachers were some of those who successfully produced their needed outputs in the two-days online session. In these online sessions, they were asked to produce two outputs: 1) an action plan on how to integrate the different types of assessment in one whole school year; 2) a reflective journal of their most significant learnings gained from the training. These participants were included among those who were given 14.5 credit units for their CPD Program, which PRC requires for teachers to earn (a total of 45 credit units is required for a period of 3 years) when they renew their professional license as a teacher. A principal said *“the explanation of the principles of assessment, the workshop, and the training online are the most significant learning from the seminar”*. A coordinator supported this idea

and said “*I like the format of face-to-face learning with the integration of technology through online activities*”. Finally, a teacher said “*All my experiences in the 2-day online sessions are very significant to me.*” These feedback only prove the possibility of training in blended modality so that more teachers get trained without them leaving their class for a longer time.

Discussion

Limitations

The evaluation study has been conducted to a short-term training program as it was the first of the institution to have tried out a training delivered in blended modality. There were more training packages designed by the university in this format but they will be modified if necessary to incorporate suggestions in this evaluation study. The researchers also wanted to include more aspects of the program to be evaluated like having to focus on the platform used for the online training in terms of its design and functionality but this was not covered in the instrument that has been developed for use in the study. An assessment on the technological skills of the participants should have been done as well prior to their exposure to blended modality but this was not covered in the conduct of the study. The partnership arrangement of the university and industry should have been evaluated as well to have basis in running programs in the future where participants are sponsored with some accountability in return.

Recommendations

Considering the limitations of the study, it is recommended that an evaluation of short-term training programs be conducted in terms of their input (content), process (delivery of content and resources), outcomes (outputs + insights) and with the inclusion of impact (results if it improved instruction and learning) to have basis for a more relevant and responsive Continuing Professional Development (CPD) Program. Training in blended modality (face-to-face and online) could be used in teachers’ and school leaders’ CPD Program to train them not only on content and pedagogy but on technological knowledge as well. However, an assessment on participants’ technological know-how should be done before the conduct of the training so that closer assistance could be given to those who need help in the use of the platform for online training. Partnership between university and industry be strengthened and maximized for greater support to teachers and school leaders for the effective delivery of quality education to school children.

Conclusions

This study focuses on the evaluation of the input, process and outcome of the training program delivered in a blended modality, one day of which is face-to-face and two days were online. The study hoped to provide input in designing programs that make use of technology like the Learning Management System as a platform for training.

For the *input evaluation*, it is important to consider the functions of the participants in the workplace and to ensure that the content of the training comes from credible sources of information. Content of the training is better determined through a needs analysis. Training providers should conduct regular training needs analysis so that the programs designed are more relevant to the needs of the participants of the program. Selection of the resource persons should be carefully done as participants view them to be authoritative as what they say is viewed a reliable source of information.

For the *process evaluation*, a training program should be designed to consider a content delivery that generates learning, that employs adult methodologies, with topics that are arranged in logical order, and that participants should be actively engaged. The training

resources should be well-managed, appropriate, adequate, and given timely when needed. Good time management in the training is indicated by starting the program of activities on time. The training time is utilized efficiently with the program that is structured to ensure that activities are conducted within the period set. An effective training should have personnel who are present when they are needed, courteous, efficient, and responsive to the needs of the trainees. The venue, accommodation and food also form part of a successful training. The venue and accommodation should be well-lighted, well-ventilated, clean, sanitary, comfortable, and with sufficient space for training activities. It should also have clean and accessible comfort rooms. Food should be sufficient and of a satisfactory quality. The training modality can be blended provided there are more days for face-to-face training rather than online. The blended training serves as a venue for the older generation of teachers to get trained on the use of technology for their professional development.

For the *outcome evaluation*, the training should be assessed based on the attainment of the training objectives and the significant learnings gained by the participants. A successful training has clear objectives that are attainable and significant to the participants. There should be opportunities for the participants to acquire information, plan application of what they have learned, and reflect on the value of their experiences in the training.

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