# Utilization and Acceptability of Learning Guides in Field Study 1 and Field Study 2

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Abstract - This descriptive study aimed to determine the utilization and acceptability of the two learning guides designed for Field Study I and Field Study 2. The 112 teachers and students were surveyed and interviewed to gather the pertinent data. The acceptability of the learning guides were determined based on four elements – target competency, learning plan, reflections, and technical aspect of the material. Though all the elements were rated very much acceptable, the technical aspect gained the highest mean. The two groups of respondents also showed no significant difference on their perceptions on the level of acceptability of the two learning guides in terms of the four elements. Various utilization issues were likewise identified by the teachers and the students. The unedited learning guides are the root cause of the utilization issues raised by the respondents. Hence, content and grammar editing are deemed important to ensure the validity of the materials. Further, this study also recommends that the teachers should continuously strive to develop instructional materials that will help enhance the knowledge and skills of the students to assist them concretize highly abstract ideas especially pertaining to classroom situations.

**Keywords:** Field Study, Teacher Education, Learning Guide

# INTRODUCTION

The utilization of the learning guides in Field Study (FS) courses is anchored John Dewey's theory on experiential learning. According to Smith [1], experiential learning is either learning by yourself or experiential learning through programs structured by others. Learning from experience by yourself might be called "nature's way of learning". It includes learning that comes about through reflection on everyday experiences. Experiential learning by vourself includes learning that is organized by learners themselves. Emphasis is placed on the 'nature of participants' subjective experiences. An experiential educator organizes and facilitates direct experiences of phenomenon under the assumption that this will lead to genuine, meaningful and long-lasting learning. Experiential education is often contrasted with didactic education, in which the teacher's role is to "give" information/knowledge to student and to prescribe study/learning exercises, have which "information/knowledge transmission" as the main goal [2].

Salandanan [3] defined experiential learning as a way of acquiring knowledge or skills through direct experience. It is referred to as learning through action, learning by doing, learning through experience, and learning through discovery and exploration. Haynes [4] described experiential learning as the process that involves a number of steps that offer student a handson, collaborative and reflective learning experience, which helps them to fully learn new skills and knowledge. He further states that even though the learning of content is important, learning from the process is the very heart of experiential learning. It is along this process where the students engage with the content, the instructor, stakeholders and teachinglearning environment to self-reflect and apply what they have learned in another situation.

Learning through experience is not a new concept to college teaching. These were widely used in almost all disciplines emphasizing its key elements, which are the student and the learning process that takes place. The role of experiential learning in the classroom cannot be overemphasized. Even management

educators are coming round to the notion of experiential learning as a complement to the classroom.

Leadership, like swimming, cannot be learned by reading about it [5]. This means that students make significant learning by engaging in the actual experience or by performing the learning task. Students are more motivated to learn when they have a personal stake in the subject rather than being assigned to review a topic or read a textbook chapter. Students learn from experiences through seeing, feeling or encountering an incident or actual observations of natural occurrences. They gain first-hand experience by coming into direct contact with objects in the immediate environment. Consequently, this particular experience acquires meaning through an intellectual process termed 'reflection' [3]. The phases of experiencing, reflection, and applying are essential in the experiential learning.

The CHED mandates that teacher education students should be equipped with the learning experiences that will meet the demands of the learning environment in Basic Education Schools (BES). Hence CMO 30, s., 2004 [6] sets forth the one-unit Experiential Learning Courses (ELC) known as Field Study (FS). The ELC are intended to provide students with actual learning experiences in which they can observe, verify, reflect on, and practice the different components of the teaching-learning processes in a variety of authentic school settings. Such experiences, which are built around mentoring, will begin with field observation and will gradually intensify into participation until students undertake practice teaching [7].

Anchored on the National Competency Based-Teacher Standards (NCBTS) [8], experiential learning courses are believed to set up the standards for teacher competence. It exposes the students to the realities of the varied learning environment. As pre-service training progresses, the FS courses become the avenue for validating, comparing and abstracting what has been taught in the theory and concept courses and methods and strategies courses. It complements the students' classroom learning which is more of contextualization and deepens the students' understanding through out-of-classroom or off-campus activities. Because FS courses has limited teacherclassroom interface, it should be supplemented with a good and substantial learning guide capable of measuring the extent of their learning from the out-ofclassroom or off- campus component. Its specific task should harmonize with its respective professional education courses categorized as theory and concept courses and methods and strategies courses to achieve the target competencies for FS students.

The Experiential Learning Courses Handbook [9] authored by the Teacher Education Council of the Department of Education in 2006 provided the ELC framework, the guidelines for FS students, the course syllabi and a bit of recommended activity sheets for students. However, due to inadequacy of the learning tasks provided in the handbook, different authors develop FS Learning Guides that would capture the needs of the students and at the same time adequately measure the extent of learning experience the student acquires. The Learner's Development Environment (FS 1) and Experiencing the Teaching and Learning Process (FS 2) are among the FS courses offered in Sorsogon State College Teacher Education Department. For years, it had used the Learning Guides in the ELC Handbook and shifted to the FS1 and FS2 Activity Sheets authored by Reganit, et al. [10] and Reganit, et.al. [11] respectively. With the changes of time, more and more feedbacks from the students and teachers arise. Expensive unavailability of copies, inadequacy of activities and assessment procedures, unattractive layout are among their elevated feedbacks. However, the school administration focused its comment on the capability of the school to develop its own FS Learning Guides for utilization of its students. Hence, in December 2013 the proponents developed FS1 and FS 2 learning guides for SSC teacher education students. The learning guides thus, took its solid foundation from the FS-tailored Experiential Learning Courses Handbook [9] of the Department of Education.

#### **OBJECTIVES OF THE STUDY**

This study aimed to determine the acceptability of the learning guides in the courses Field Study 1 and Field Study 2. Specifically, it also aimed to determine the level of acceptability of the learning guides in terms of target competency, learning plan, assessment, and technical aspect; to determine the significant difference in the level of acceptability of the learning guides as perceived by the teachers and the students; and to identify the utilization issues on the learning guides as identified by the two groups of respondents.

#### MATERIALS AND METHODS

The study utilized the descriptive research design to determine the utilization issues and acceptability of the learning guides in Field Study 1 and Field Study 2. The two-part questionnaire was utilized to gather the data. Part 1 provides indicators of acceptability on target competency, learning plan, assessment and technical aspect. Part 2 is an open-ended question asking the respondents to give comments and suggestions to improve the guides and to identify issues regarding the utilization of the learning guides.

Aside from survey, unstructured interview was also undertaken to gather the pertinent data from the 100 FS students coming from second year BSED and BEED classes and 12 FS teachers in the Teacher Education department. The respondents were identified using purposive sampling technique.

The level of acceptability was determined by using weighted mean and the result was referred to the researcher-devised five-point scale namely: very much acceptable (VMA), much acceptable (MA), acceptable (A), less acceptable (LA), least acceptable (LeA). Meanwhile, chi-square was used to determine whether there is a significant difference on the perceptions of the respondents on the level of acceptability of the learning guide.

# RESULTS AND DISCUSSION

# Level of Acceptability of the Learning Guides in Field Study 1 and 2

Learning Guide in FS1. Table 1 reveals the level of acceptability of FS1 learning guide as perceived by the teachers and students. It shows that though the level of acceptability of all the four elements are rated very much acceptable, the teachers perceived target competency as the weakest among the four as evidenced by the mean value of 4.79. Different from the teachers, the students rated assessment the lowest with the mean value of 4.52. These findings imply that the teachers find the objectives inadequate based on the required tasks specified in the material. The unequal mean value between target competency and learning plan is an indication of discrepancy between the target competency (objective) and specific tasks (learning plan) in the learning guide. The students, when verified with their answers, stated that they find the assessment too textual and difficult like essays. This is an indication that the students do not like to engage in textual assessments or essays. During classes it was

also observed that students find it difficult for assessments requiring sentence construction either in oral or written. This could be because some students may not be able to show their abilities in writing essays because they were not adequately trained. This, according to Murphy [12], is actually one of the disadvantages of an essay. On the other hand, challenging assessment activities with educational technologies is more appreciated by the students.

Overall, both respondents rated the technical aspect very much acceptable as indicated by the highest mean values of 4.90 and 4.64 and the grand mean of 4.77. The result implies the sufficiency of the technical aspect of the material that includes the readability of the texts, appropriateness of font type and font size, suitability of illustrations and graphics, proper margins and indentions, fitting choice of colors, and adequacy of spaces. Mayberry [13] stressed that though style is individualistic, it is an important aspect of design that can be modified to fit in diverse learners. The development of the guide also entails critical need for imagination and ingenuity [14]. The artists have to have a good perceptual ability to think of design that will make each element complement with one another. This is where the role of creativity comes in. The new design has to attain an identity distinct from what is being sold in the market. Attractiveness of the material must be evident to ensure recall from the consumers.

Table 1. Level of Acceptability of FS1 Learning Guide

Indicators	FS1 Mean		Grand Mean	Level of
	T	S	Mean	Acceptability
Target	4.79	4.63	4.71	VMA
Competency				
Learning	4.85	4.55	4.70	VMA
Plan				
Assessment	4.83	4.52	4.68	VMA
Technical	4.90	4.64	4.77	VMA
Aspect				

Legend: T-Teachers S-Students

Likewise, the technical aspect of the material provides for its visual impact. Malamed [15] relates processing fluency, or the ease with which a person processes information, to the visual clarity of contents of the learning material. She emphasized that the ease with which information is internally processed affects a person's judgment and decision-making. People have positive feelings about visuals when they are easy to

perceive and process and they tend to experience aesthetic pleasure from something when processing is easy. These ideas suggest significant educational implications. It says that if the instructional materials prepared by the teachers are visually appealing, most likely, students will gain a meaningful learning as theorized by Ausubel [16].

On the contrary, the assessment has the lowest grand mean of 4.68. It indicates that the assessment of the amount or kind of learning gained by the students from the use of the guide denotes inadequacy or inappropriateness. It could be because the respondents got exposed to similar guides with more attractive or interesting assessment strategy. It means that the respondents are looking for more or much better than what they were exposed to. The importance of assessment as part of a learning material cannot be understated. Janer [17] stressed that assessment is particularly important among all the management skills of the teachers due to its effectiveness to measure teaching-learning process. Thus, the result suggests that the assessment part of the developed learning material be reviewed and enhanced to cater to the assessment needs of the students. The assessment strategies should also include items that will address the performance indicators specified for development of the learners and their environment. Though a perfect guide is hardly attainable, near perfect is possible.

Learning Guide in FS2. The result on the level of acceptability of FS 2 material is reflected on Table 2. The data tells the same story as in Table 1. Though both are very much acceptable, the teachers and the students rated the target competency and assessment the lowest mean values of 4.81 and 4.55 respectively. The likeness of the evaluation results of the respondents for the two guides can be attributed to the consistency or congruence of ideas of the authors during the process of creating the materials. The considerations placed on the choice and formulation of the assessment strategies also gained acceptability from the respondents. These findings indicate the precision, care, and expertise [14] of the authors when they wrote the contents of the guide. The various elements in terms of knowledge and competencies embodied in the material were carefully thought of in order to establish and ensure their balance and continuity.

In general, the FS2 guide is also very much acceptable along the four elements. However, of the

four, again, technical aspect has the highest grand mean of 4.80 and assessment with the lowest value of 4.68. Similarity of the findings indicates the uniformity on the overall layout of the two materials. This means that the designer or layout artist used the same templates, color schemes, line spacing, uniform font type and font size, margins, indentions, and appropriateness of graphics, and simplicity of words. These elements comprise the basic components of graphic design, which are typography, layout, and color [18]. The material visually speaks if the accuracy of all the elements is in it.

Table 2. Level of Acceptability of FS2 Learning Guide

Indicators	FS2 Mean T S		Grand Mean	Level of Acceptability
Target	4.81	4.74	4.78	VMA
Competency				
Learning Plan	4.88	4.61	4.74	VMA
Assessment	4.82	4.55	4.68	VMA
Technical	4.88	4.73	4.80	VMA
aspect				

Legend: T-Teachers S - Students

In conclusion, the two leaning guides were found very much acceptable as instructional materials for the FS1 and FS2 courses. It could be due to the usefulness of the materials as tools to experience actual classroom environment. Students are given the autonomy to construct their own understanding of the concepts found in the guide through the field study. Eggen and Kauchak postulated some views of constructivism that learners construct understanding, new learning is facilitated by social interaction, and meaningful learning occurs with authentic learning tasks [19]. Similarly, the guide provides students a genuine learning experience that enables them to construct their own understanding of the concepts at hand. Constant interaction with the learners and their cooperating teachers is a rich ground to allow students to scaffold and restructure their previous knowledge with the new ones.

On the other side, the acceptability of the guides points out positive implications on the possibility that the teachers will adopt the materials as support tool during the student's field study. With this, translation of the research output into outcome may be realized through its utilization. Promises along pecuniary gains are not also far from being met.

# Difference in the Level of Acceptability of the Learning Guides as Perceived by the Teachers and Students

**Field Study 1.** The learning guide intended for this course is entitled 'The Learners Development and Environment' which aims to help the students verify the behavior of the child in the actual learning environment. In table 3, the null hypothesis is not rejected since the computed values of 0.615, 3.234, 3.158, and 2.931 are all lower than the chi-square critical value of 5.99 at 0.05 level of significance and 2 degrees of freedom.

This result tells that the perceptions of the teachers and the students on the level of acceptability of the FS1 learning guide in terms of target competency, learning plan, assessment, and technical aspect do not vary significantly. This implies that both groups of respondents find coherence, continuity, and usefulness on the two materials. This is an indication that the materials were consistently formulated. This may be due to the use of handbook as reference all throughout the process of preparing the material.

Table 3. Difference In the Level of Acceptability of FS1 Learning Guide

Elements	$X^2$	Decision on Ho	Description
Target	0.616 Do not Reject		Not Significant
Competency			
Assessment	3.234	Do not Reject	Not Significant
Learning	3.158	Do not Reject	Not Significant
Plan			
Technical	2.931	Do not Reject	Not Significant
Aspect		-	_

 $x^2_{0.05} = 5.99$ , df = 2

Further, the table conveys the message that the two groups of respondents both agreed that the FS1 learning guide is generally very much acceptable. This implies that the respondents considered the contents enough to serve as yardstick of the purpose for which it was made. It also tells that the material is fitting based on the objectives spelled out in the handbook. This information denotes validity of the material denoting soundness, substance and effectiveness to cater the objectives of the FS courses. The objectives include giving the students a clear picture of the actual learning environment and exposure to the different types of learners. The course also hopes to provide students idea on the variety of teaching approaches and its suitability on the characteristics of the learners. The attainability of these objectives entails critical level of

competencies of the students in order to figure out the things inherent to classroom scenarios. In here, students have to associate segments of ideas in order to derive better understanding of concepts. Association means that the more connections are made with a subject, the better it will be learned and retained [20]. Linking pieces of ideas will lead to a whole, which is according to the Gestalt theory is always more meaningful than the fragmented ones. configuration refers to the unified or total pattern of organization of a learning situation so that the components or elements lose their identity. It is through the combination of the elements of each learning situation that the learner can see the relationships and similarities between two learning situations [21].

**Field Study 2.** Based on the handbook, this course focuses on the topic 'Experiencing the Teaching-Learning Process' which is designed to provide students with opportunities to examine the application of theories and principles in the learning environment. Table 4 shows the result on the level of acceptability of the learning guide for FS2 as perceived by the teachers and the students.

Table 4. Difference on the Level of Acceptability of FS2 Learning Guide

102 Learning Guide				
Elements	$X^2$	Decision on Ho	Description	
Target	0.55	Do not Reject	Not Significant	
Competency				
Assessment	3.11	Do not Reject	Not Significant	
Learning	3.94	Do not Reject	Not Significant	
Plan				
Technical	2.01	Do not Reject	Not Significant	
Aspect			-	

 $x^2_{0.05} = 5.99$ , df = 2

Data reveal that the computed values recorded for target competency, learning plan, assessment, and technical aspect, which are 0.55, 3.11, 3.94, and 2.01 are all less than the critical value of 5.99 hence, the null hypothesis is not rejected. This means that there is no significant difference between the perceptions of the teachers and the students on the level of acceptability of the FS2 learning guide. The two groups of respondents displayed similar positions or opinions on the acceptability and use of the material for FS2.

The findings further indicate that the FS2 learning guide, just like the FS1 guide, was also found to be

very much acceptable by both respondents. It implies that the guide tackles the goal the material is designed to. The material showed effectiveness in giving students the chance to see for themselves the actual use of the different theories and principles of the teachinglearning processes. As support document, the learning guide assists the students in determining the appropriateness of teaching strategies to diverse learners through actual observation of classroom instruction. Discovery learning, thus, takes place. Here, students are given support instrument to actively put them to work with the learning content [22] or potential tools for making discoveries and then left to make those discoveries [23]. Discovery learning takes place within a curriculum context and the provision of specific apparatus or resources act as some form of structuring of activity [23].

# **Utilization Issues on the Learning Guides**

Insufficiency of time allotted to complete the guide. Some students particularly raised this issue and is concerned with the two guides. They commented that the amount of time allotted to complete the learning plan and assessment are not enough. However, this issue is relative. Schedules of submission of the learning guide vary depending on Some teachers are strict because the teacher. submission is right after the field study. This is due especially if the schedule and the proximity of the cooperating school makes the on time submission possible. On the other hand, some teachers are either considerate or lax since the learning guides were collected after the students have accomplished all of them. In this case, since the learning guide contains 10 worksheets, therefore, the students submit their works after 10 weeks.

Analysis of the task and the assessment strategies of the individual worksheets are actually not as complicated as implied by this issue. The problem actually lies on the requirements of the teacher. As such, the authors of the learning guides have no authority to compel teachers to adjust their requirements in order to avoid this issue. However, the authors can always provide some tips on the utilization of the guides that include ideal dates of submission.

Limited number of examples given in the learning plan. This problem is inherent to the two learning guides as observed by the students. While examples are provided, yet students agreed that they are insufficient to provide them enough information

and instructions on how to process the task. Two possible attributions can be linked to this issue. One, it could be on the limited knowledge the student has prior to the fieldwork. The knowledge he/she has does not allow him to compare and determine relationships between the actual setting and the task stipulated in the guide. Second, the guide is convincingly or evidently short along its learning plan aspect. Maybe the authors failed to look into the flexibility of classroom situations brought by the unconventional changes on the behavior of the students.

The authors revisited the two guides. The examples provided were enhanced and new ones were also introduced.

Inappropriate choice of words. This issue was identified by teachers and pertains to the FS1 guide. The teachers prefer the word "enumerate" instead of the word "write". The verb "enumerate" is synonymous with the words list, detail, itemize, identify, specify, name, etc. These verbs as referred to in Bloom's Taxonomy correspond to the first and lowest level called knowledge or recall. To facilitate learning, it is basic that teaching must begin with facts, stating memorized rules, principles or definitions [18]. While it is true that knowledge is necessary in serving as the take-off point of completing the tasks in the guide, yet, it limits the students to think and imagine beyond what they are capable of thinking.

Unclear instructions on assessment. Both respondents find the instructions along assessment in FS1 guide unfitting and lack precision. For instance, the teachers took note of the instruction "Make an inventory of school facilities". In this instruction, the teachers suggested to identify in particular the facilities, like school canteen, clinic, library, etc. where the students will base their inventories. The opinion of the respondents is acceptable. The students will gain insights on what specific materials and equipment must be placed in every facility.

The comments were taken into consideration by the authors. Gathering more suggestions from the teachers, students, and experts in the field were done to enrich the instructions and assessment strategies found in the guides.

**Unedited work.** The teachers observed that the two guides did not pass the process of content and grammar editing. In FS1, one instruction says "Look for at least 2 students who actively participates in the class". The teachers suggested removing 'actively participates' from the instructions. Deleting the phrase

'actively participates' widens the choices of the teachers. Though there may be setbacks when the choice goes to inactive students, nevertheless, this might also be effective in shifting the mood and passivity of the students. Selecting the 'active' students will ensure sustained class participation.

The authors properly addressed this observation. Content and grammar editors were consulted to check the complete package of the guide. Experts along education were tapped to review the contents of the guide by examining the SMARTness of the objectives (specific, measurable, attainable, result-oriented, and time-bounded objectives); adequacy and soundness of learning activities to the objectives; and relatedness and relevance of assessment strategies. Meanwhile, grammar editor was consulted to provide the users ease in reading the contents of the materials. These requirements are all indispensable to establish the validity of the guide and attain its desired identity. guides are where the rest of the issues anchor.

# CONCLUSION AND RECOMMENDATION

Based on the findings of the study, these conclusions were formulated. The two groups of respondents find the learning guides as very much acceptable especially along the technical aspect. In general, the level of acceptability of the two FS guides does not vary significantly between the two groups of respondents. Both implied that the materials designed for the two FS courses are possible for adoption by the different FS classes in the college provided the issues will be settled and properly addressed. The unedited FS guides are the root cause of all the utilization issues that were identified by the respondents. In general the findings imply that the learning guides are acceptable as instructional materials fit for utilization in FS classes. Specifically it indicates that the four elements are enough to address the competencies that need to be developed among the students.

Teachers must continuously strive to support their students by creating valid instructional materials. However, the material must be ensured in terms of its validity by subjecting it to review by the instructional materials review committee of the college. Services of the content and grammar editors must also be secured to check the total package of the instructional material. A dry run of the material must likewise be undertaken to sieve items, which must not be included. This study, nevertheless, is limited in terms of the acceptability of FS learning guides to private schools.

Hence the materials may also be tested to them to determine further their flaws and make them common, comprehensive and all-inclusive to both public and private teacher education institutions.

#### REFERENCES

- [1] Smith, M. K. (2003). Introduction to Informal Education. The Encyclopedia Of Informal Education, Retrieved from http://www.infed.org on 10-12-2015
- [2] [Neil, J. (2005) Experiential Learning & Experiential Education Philosophy, Theory, Practice & Resources. Retrieved from http://www.wilderdom.com on 10-12-2015.
- [3] Salandanan, G. G. (2012) Teaching and the Teacher. Revised Edition. Manila: Lorimar Publishing Inc. pp 73-74.
- [4] Haynes, C. (2007). Experiential learning: Learning by doing. Retrieved from: http://adulteducation.wikibook.us on 10-7-2015
- [5] Balch, O. (2012) Changing Perspectives through Experiential Learning. Guardian Professional Network. Retrieved from: http://www.theguardian.com on 10-7-2015
- [6] CMO No. 30, series 2004. Revised Policies and Standards for Undergraduate Teacher Education Curriculum
- [7] DepEd Order No. 3, s., 2007, Guidelines in the Deployment of Pre-service Teachers under Experiential Learning: Field Study and Practice Teaching.
- [8] National Competency-Based Teacher Standards (NCBTS): A Professional Guide for Filipino Teachers.September, 2006. Retrieved from: http://prime.deped.gov.ph on September 16, 2016
- [9] Experiential Learning Courses Handbook (2006). A Project of Teacher Education Council of the Department of Education
- [10] Reganit, A. A. & Gavino, R. L. (2008) Field Study 1: The Learner's Development And Environment: Activity Sheets. Quezon City: C & E Publishing.
- [11] [11] Reganit, A. A. & Gavino, R. L. (2007) Field Study 2: Experiencing The Teaching-Learning Process: Activity Sheets. Quezon City: C & E Publishing.
- [12] Murphy, F. (2009). Module Design and Enhancement: Assessment Types. UCT Teaching and Learning Resources. Retrieved from: http://www.ucd.ie on September 19, 2016
- [13] Mayberry, J. (2007). The design and application of effective written instructional material: a review of published work. Retrieved from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC26000 17/ on September 20, 2016

- [14] Smith, P. L. and Ragan, T.J. Instructional Design. John Wiley and Sons Inc. Retrieved from: http://steinhardtapps.es.its.nyu.edu
- [15] Malamed, C. (2015). How Visual Clarity Affects Learning. The eLearning Coach for Designing Smarter Learning Experiences. Retrieved from: http://theelearningcoach.com
- [16] Hannum, Wallace. (2015) David Ausubel's Theory. Retrieved from: http://www.theoryfundamentals.com/ausubel.htm
- [17] Salvador-Janer, S. . (2013). Personal Factors that Relate to the Assessment Practices of Science Teachers. *IAMURE International Journal of Education*, 5(1). Retrieved from http://www.ejournals.ph/form/cite.php?id=3189
- [18] Fennell, A. (2015). What's Your Sign? Using Basic Design Principles to Help Educational Materials Reach Their Audience. Natural Encounters Inc. Retrieved from: http://www.naturalencounters.com
- [19] Lucas, M.R.D., Corpuz, B.B. (2011) Facilitating Learning: A Metacognitive Process. 2<sup>nd</sup> Edition. Manila: Lorimar Publishing Inc.
- [20] Lardizabal, Amparo S. (1988) Foundations of Education (Psychological, Sociological, and Anthropological). Manila: Rex Book Store, Inc.
- [21] Calderon, J.F. (1998) Foundations of Education. Manila: Rex Book Store Inc.
- [22] Waes, S.V., Vanthournout, G., Gijbels, D., Donche, V., Petegem, P.V. (2010) Fostering Students' Learning with Study Guides: The Relationship with the Students' Perception and Learning Patterns. Facilitating Effective Student Learning Through Teacher Research and Innovation. Ljubljana: Faculty of Education. Retrieved from: http://www.pef.uni-lj.si
- [23] Taber, K. S. Constructivism as Educational Theory: Contingency in Learning and Optimally Guided Instruction. New York: Nova Science Publishers, Inc. Retrieved from: https://camtools.cam.ac.uk

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