PalArch's Journal of Archaeology of Egypt / Egyptology

PEDAGOGICAL APPROACHES IN TEACHING BACHELOR OF ELEMENTARY EDUCATION TEACHER-CANDIDATES

Marites M. Rio^{1*}, Jannie SJ. Manimtim², Johanne SJ. Aterrado³

^{1,2,3}University of Rizal System, Morong, Philippines

1*tetmanalorio@gmail.com

Marites M. Rio, Jannie SJ. Manimtim, Johanne SJ. Aterrado. Pedagogical Approaches in Teaching Bachelor of Elementary Education Teacher-Candidates. – PalArch's Journal of Archaeology of Egypt/Egyptology 17(1), 331-342. ISSN 1567-214X

Keywords: Pedagogical approaches, Extent of usage, Classroom performance.

ABSTRACT

Study based on pedagogical approaches used by Bachelor of Elementary Education (BEE) teachers-candidates from College of Education, Rizal System University, Morong Campus. The findings revealed that BEE Teacher-Candidate Mentors made the most extensive use of collaborative and supportive approaches. The research underlines the significance of teachers' disparities in teaching activities and students' involvement in the learning process. The findings can be used to boost performance in the classroom and increase the students' overall achievement

INTRODUCTION

Highly effective teaching is the key to improving student learning in the school setting (Pianta & Hamre, 2001), but such highly effective teaching comes in many forms (Mark & Shotland, 2008; Ravitz, Becker & Wong, 2000). Different pedagogical approaches are common in schools, but some strategies and techniques are seen as more effective and praiseworthy than others. Acceptable practices and strategies for teachers include the following but are not limited to:

- Trigger the learning spheres (cognitive, affective, psychomotor)
- Confidence in the ability of its students to learn;
- Use a range of pedagogical approaches regularly to ensure a learning transition.

Specific methods or variants of these methods are described and matched to each stage (e.g., more material manipulation, verbal stimulation, and lower-level student socialization; more visual stimulation and individualization for higher-level students), but references to such matching are too broad and need more in-depth thorough discussion. There is no current research defining the pedagogical approaches deemed effective within a specified timeline in a specific area. The study thus focused on the College of Education's praiseworthy pedagogical approaches, University of Rizal Area, Morong Campus, Bachelor of Elementary Education (BEEd) teacher-candidates. It was created to help understand pedagogical approaches by the College of Education that will affect potential teachers' progress.

Literature review

In educational theory, teaching approaches based on socio-constructivist theories became popular in the early 21st century (Scardamalia & Bereiter, 2006; Mayer, 2004; Lee and Songer, 2003; Evensen and Hmelo, 2000; Brown, 1994; Deci & Ryan, 1985). The degree to which the brain adapts is based on stimulation, Kane (2013) says. He says mental functions react to what makes the brain work, and cognitive abilities, including writing, occur as various methods. This article is focused on studies published in the European Education Journal.

A theory that parallels Kohler's Theory of Insight Learning has been explored by Weibell (2011). Insight Learning exercises included participants attempting to reach an end goal by navigating through a series of tasks. Multiple intelligence theory reveals correspondence with both Triune Brain and Insight Learning theories. Learners may have inherent intelligence, but they expand and/or cascade deliberately or unintentionally, depending on the stimulus (Cherry, 2019). The theory of normalization by Nirje (1969) and the theory of social role valorization by Wolfensberger propose that learning is enhanced when learners communicate with peers. Those theories also suggest that the learner should be given active tasks. Richards and Farrell (2011) concluded that studentoriented practices and cognitive enhancement are connected to students' dedication and awareness. However, empirical evidence also suggests that social factors are not adequate to facilitate learning. Cognitive results can also require consistent structuring of lessons and a successful classroom (Lipowsky et al., 2009; Baumert et al., 2009; Klieme, Pauli, & Reusser, 2009; Creemers & Kyriakides, 2008; Pianta & Hamre, 2001).. Both parents and professionals think many approaches are utilized in an optimal learning setting (Robo, 2014).

As learning is an activity, person, or social, lack of the requisite knowledge of content can be a bane in classrooms (Klieme et al., 2009). Materials from the curriculum serve as cognitive tools and help elementary teachers develop trust and competence among science (Davis & Smithey, 2009). Teachers' ability to prepare curriculum effectively using instructional tools remains an integral part of the transfer of expertise, skills, and behaviors (Remillard, 2005). Without the correct knowledge and tools to assess

instructional material constructively, teachers can not grasp the teaching boons and banes (Beyer & Davis, 2009). Local research focuses on approaches and techniques in different age groups. Nunes (2008) examined intervention among learners with socio-communicative delays. She identified audiovisual and communicative methods in the inclusive classroom, which accelerate remediation among low-functioning students.

Orande (2002) focused on sensitive, auditory, and integrative behavior modification approaches for language deficits. She found out that using flowcharts, conducting interviews, experiencing interactions, and joining opportunities for directed and unguided socialization helps resolve language impairment. The framework of the Grossman et al. (2019a) for professional practice offers an incentive for teacher educators to improve the pedagogies of various pre-service teachers. Teacher educators point out certain aspects of preparation and instructional delivery to help PST define unique features of education. Planning operation is a technique for novices in which these characteristics during training are interpreted, decomposed, and approximated.

Objectives of the study

This study aimed to evaluate the praiseworthy pedagogical approaches used for BEE teacher-candidates at the College of Education, Rizal System University, Morong Campus. In particular, it tried to describe the following: to assess the degree to which the teaching methods of the faculty in the classroom relate to constructivist, collaborative, inclusive, investigation-based, and reflective methods. Explain the performance of teacher-candidate BEE throughout teaching the students. Identify the pedagogical approaches that have had a positive influence on the BEE results.

Conceptual framework

Grossman et al. 's study does not include to what degree pedagogical approaches are used and the success of the teacher-candidates. This was revised to ensure that each of the variables covered by the study exists and plays a role within the conceptual context.



Figure 1.1: The Grossman et al. Framework of Effective Teaching

This method shows how various strategies communicate. However, it fails to cover the reach of the teachers' pedagogical methods and performance.

Personality-based dispositions

Content masteryand expertise

TEACHING

Pedagogical knowledge

Figure 2.
Conceptual Framework

Stopper (i.e., time limit)

Figure 1.2: The Conceptual Model

An object can symbolize the teaching of effective continuous motions. The strategies of pedagogy push it. As it switches on and off, good teaching develops. The extent to which the methods are applied depends on an extension of the methods. The ideas covering the brain's complex existence and the environment affect the techniques themselves (Grossman et al., 2009a).

Inside the method, an arrow points to the right, indicating directionality. This direction symbolizes that when teaching and learning occur, the learner is learning or 'moving forward.' Unless particular parameters are set, the ball moves indefinitely in the direction of growth. Effective teaching can stop only when those conditions are set.

METHODOLOGY

For descriptive-correlative analysis, this study used a prototype. Rather than establishing a causal correlation, such a research design defines variables and relationships between variables (Wiersma, 2000). Based on the relationship between variables, predictions are sometimes made. Triangulation is used to closely examine the collected data and create a more accurate and consistent understanding of the results of a particular construct (Hoyo et al., 2005). It describes known facts that can help discover new ones and offer different interpretations of the accumulated information (Brinberg and Kidder, 1982). When the measurement strategy converges on the same answer, it produces a more accurate estimate of an outcome (Mark & Shotland, 1987).

The participants in the study were the 26 BEE teacher-candidates from the College of Education, Rizal System University, Campus Morong.

The triangulation used in this analysis involved collecting data from three different qualitative research methods: a survey, a pair of evaluation measures used during the scheduled observations, and a set of interviews.

First, a survey was conducted using the researchers-made questionnaire to evaluate the BEE teacher-candidates' experiences of teaching pedagogical methods. Then the Student-Teacher Evaluation Type of the College of Education Student-Teacher of University of Rizal System, Morong Campus, was used to determine the BEE teacher-candidates' performance during their demonstration teaching. The Monitoring and Observation Checklist (MOC) was also used when teaching demonstration observations. In the end, personal interviews with the respondents took place. The interviews were conducted

using a schedule of field expert-validated interviews (i.e., research and education) and adopted from Region IV-A Memorandum No. 233, s. In 2016.

DISCUSSION OF RESULTS

The extent of Teachers' Pedagogical approaches concerning the constructivist, Inquiry-Based, Reflective, Collaborative, and Integrative approaches

The BEE teacher-candidates interpreted the degree of teacher-pedagogical approaches concerning the method of construction as O. They had a mean score (AM) of 3.99, based on the test. Two items (fourth and last) are categorized and rank lower than the AM, while the other three items are not far from the AM record. The findings indicate that faculty members who were mentoring the teacher-candidates created conditions for the latter to challenge traditional teaching and learning-centered assumptions.

Table 1: Mean Perception of the respondents on the extent of teachers' pedagogical

approaches used in the classroom concerning the constructivist approach

Constru	uctivist Approach	Mean	VI	Rank
The tea	The teachers using the constructivist approach			Kalik
1.	Allow students to solve problems and make	4.55	Α	1
	decisions on their own.			
2.	Strive for students to improve achievement by	4.00	О	4
	consciously developing students' ability to consider			
	ideas.			
3.	Let the students analyze perspectives.	3.49	S	5
4.	4. Engage students in individual or group experiential		О	2
	learning opportunities such as purposeful			
	conversation, project planning, hands-on inquiry,			
	analysis, and product creation.			
5.	Guide/model students to learning most quickly.	3.45	S	3
Average Mean			0	

Legend for Verbal Interpretation (VI): A - Always; O- Often; S - Sometimes; Se-Seldom; N- Never

Table 2: Mean Perception of the respondents on the extent of teachers' pedagogical approaches used in the classroom concerning the collaborative approach

Collaborative Approach The teachers using the collaborative approach	Mean	VI	Rank
1. Prepare students to be responsible individuals in a technologically advanced society	4.55	A	1
2. Allow the student to learn content, develop their listening, engagement, and empathy.	3.55	О	5
3. Allow students to interact with each other and work independently.	4.45	О	2
4. allow students to think through questions using three distinct steps: TPS (Think, Pair, and Share)		О	3
5. Involve students taking on a teaching role in the school setting.	3.76	О	4
Average Mean	4.06	0	

Legend: A – Always; O- Often; S – Sometimes; Se- Seldom; N- Never

Teachers working together develop skills that lead to creative teaching finds from research. The first item is "Teachers using a collaborative approach ... educate students in a technologically advanced environment." Teacher-candidates interpreted the degree of teachers' pedagogical approach regarding O's collaborative approach with an AM of 4.55.

The results indicate that they were familiar with more methods when the teachers worked together.

Table 3: Mean perception of the respondents on the extent of teachers' pedagogical

approaches used in the classroom concerning the integrative approach

Integrative Approach The teachers using the integrative approach	Mean	VI	Rank
1. Help students learn from others.	4.36	0	1
2. Promote autonomy and lifelong learning.	4.00	0	2
3. Encourage monitoring; provides complex projects; revisits and generalizes inquiry processes.	3.39	S	3
4. Develop their linguistic ability in the target language with the content of a particular subject.	3.20	S	4
5. Integrate basic discipline of all subjects.	3.07	S	5
Average Mean	3.60	0	

Legend: A – Always; O- Often; S – Sometimes; Se- Seldom; N- Never

The BEE teacher-candidates viewed the reach of the teachers' pedagogical approaches with an AM of 3.60. With an average of 4.36 and VI of O, the item "The teachers who use the integrative method helps students learn from others" ranks first. There is an A VI for none of the elements covered by the Integrative process. These findings suggest that teachers were helping learners to play their roles well in formal circumstances consciously.

Table 4: Mean perceptions of the respondents on the extent of teachers' pedagogical

approaches used in the classroom concerning the inquiry-based approach

Inquiry-based Approach The teachers using the inquiry-based approach	Mean	VI	Rank
1. Help students communicate through writing with markers, asking questions, and making comments to the prompt and to each other's posts.	4.32	О	2
2. Encourage students' interest to manipulate objects, test hypotheses, and work together to solve or prove something exciting.	3.35	S	4
3. Allow students to collect/process the results at the end to use as data for later activities based on the community of student's participation.	3.00	S	5
4. Guide students to see or related concepts better, thereby contributing to a thorough understanding of concepts.	4.01	О	3
5. Engage students to learn by exploration and discovery.	4.49	О	1
Average Mean	3.83	0	

Legend: A – Always; O- Often; S – Sometimes; Se- Seldom; N- Never

The BEE teacher-candidates regarded O with an AM of 3.83 as teachers' magnitude of pedagogical methods about the inquiry-based process. With an average of O 4.49 and VI, the item,' Teachers using the inquiry-based method...involvement to learning experimentation and discovery,' ranks first. In contrast, the object, "The teachers using the inquiry-based approach ... allow students to collect/process the findings at the end to be used as data for future activities based on student body participation," ranks last with an average of 3.00 and VI of S.

Table 5: Mean perceptions of the respondents on the extent of teachers' pedagogical

approaches used in the classroom concerning the reflective approach

	Reflective Approach The teachers using the reflective approach			Rank
1.	Allow students to collect information about what goes on inside the classroom.	4.20	О	2
2.	Let students analyze/evaluate the obtained information from other teachers and students.	4.15	0	3
3.	Give students a chance to find or make affirmation regarding behavioral patterns.	3.32	S	4
4.	Ask the student to post questions to get ideas or opportunities in an area that interests them to improve or develop.	3.05	S	5
5.	Allow students to think or analyze patterns occurring during the teaching and learning process.	4.30	О	1
	Average Mean	3.80	0	

Legend: A – Always; O- Often; S – Sometimes; Se- Seldom; N- Never

Teachers typically promote self-assessment by using a reflective approach to teaching, study finds. Teacher-candidates viewed the magnitude of educators' pedagogical approaches to O's (AM of 3.80) reflective approach. The results indicate that faculty member who employed the reflective method primarily favored self-assessment among the teacher-candidates.

Table 6: Summary Table on the extent of teachers' pedagogical approaches used in the

classroom concerning the different aspects

Pedagogical approaches	Mean	VI	Rank
Constructivist Approach	3.99	О	2
Collaborative Approach	4.06	О	1
Integrative Approach	3.60	О	5
Inquiry-based Approach	3.83	О	3
Reflective Approach	3.80	О	4
Overall Mean	3.86	0	

Based on the table, teachers think that the most praiseworthy pedagogical method used in classroom teaching is a collaborative approach. Faculty members who mentored candidates for teachers created circumstances that motivated the latter to support one another. Teacher-candidates may also employ the five approaches when teaching their students.

Performance of BEE teacher candidates during student teaching

Table 7: Mean Results of the BEE teacher-candidates performance during their student teaching

Criteria	Mean	Verbal Interpretation
Mastery of the Subject	24.50	Outstanding
Instructional Skills	23.30	Outstanding
Communication Skills	23.40	Outstanding
Classroom Management	22.50	Outstanding
Overall Performance	93.70	Outstanding

The BEE teacher-candidates' overall performance is outstanding, with a mean score of 93.70. "Mastery of the subject" ranks first among the criteria. Teacher-candidates have shown a mastery of their subject areas. They scored the lowest in classroom management, though graded as outstanding.

Performance of BEE teacher-candidates relative to the implementation of pedagogical approaches

Table 8: Regression Analysis of the commendable practices implemented in the classroom concerning the constructivist approach, collaborative approach, integrative approach, inquiry-based approach, and reflective approach relate to BEE teacher-candidates performance

Model	В	t-value	P-value	Но	VI
(Constant)	285.968	3.774	0.151	FR	NS
Constructivist Approach	219.342	0.935	0.043	R	S
Collaborative Approach	-124.625	-1.637	0.017	R	S
Integrative Approach	-3.428	-0.261	0.807	FR	NS
Inquiry-based Approach	-39.838	-0.806	0.465	FR	NS
Reflective Approach	4.705	.084	0.937	FR	NS

R Square=.743 F-value= 0.097 P-value=.487

As shown in the table, the results show that only constructivist and collaborative approaches (t-values of 2.874 and 2.145, and p-values of 0.045 and 0.034, respectively) affected the performance of the BEE teacher-candidates significantly. Conversely, the three other approaches, namely integrative (t-value = -0.854; p-value = 0.543), inquiry-based (t-value = -1.247; p-value = 0.342), and reflective (t-value = 1.875; p-value = 0.3280) did not affect significantly the performance of the BEE teacher-candidates.

Pedagogical approaches that had an impact on the performance of bee teachercandidates

1. The degree to which pedagogical methods are used

The mainly implemented the relational and constructivist approaches. When asked, "Which approach to pedagogy was used in the lesson? "A teacher-candidate answered:" *Minsan po iyong iba-ibang approach po nagagagamit depends on his subject.* All the others replied with multiple approaches.

2. Method used to implement pedagogical approaches

Most teacher-candidates from the BEE claimed the collaborative and constructivist approaches were being used with mastery. When asked, "How was the approach / it used (was)? "Ok lang po," "Ok naman po" and "Lagi pong ginagamit," the answers were usually ambiguous and meager. Longer than the brief answers, however, the more elaborate responses did not explicitly explain the "how," except to equate the pedagogy with mastery.

3. Speed of Pedagogical methods implementation

The BEE teacher-candidates proclaimed regular use of the methods they interpreted or experienced. Always no approach was picked out, but all the time, at least one method was used. The teacher candidates replied with generic time qualifications like "Lagi po," "Madalas po," "Paminsan-minsan," and "sometimes."

4. Pedagogical approaches acceptable

Responses from the BEE teacher-candidates suggest that most of the mentors used effective and relevant methods for the lesson's goals. None of the answers stated the goals to be responded to, and the responses of the teacher-candidates were meager and general. When asked, "Is the method/approach used suitable and appropriate to the goals of the subject" the lesson's objectives in the affirmative, while most were straight-up "Yes/po."

5. Rating of the appropriateness of the teaching approaches

The answers of the teacher-candidates were all in the affirmative, but no particular qualification or quantifier was used. Reactions such as "Very appropriate" and "Appropriate naman po" were common in rating the lessons' appropriateness of approaches. Using the qualifier "naman" can mean appropriate "enough" approaches. Since the responses were in the narrative, there was no way the rating ranges could be accurate. There was no mention of goals or methods, though, so there was no way they could fit.

6. Teachers' competence in the use of pedagogical approaches

The Teacher-candidate responses had significant similarities. These were all in the affirmative, meaning all of the mentors were seen as competent. But the competence of the teachers was focused only on two approaches: the constructivist and collaborative approaches. When asked, "How do you rate teachers' competence in usng approaches to pedagogy? "Competence" ranged from "*Ok naman po*" to "Very competent teachers."

7. Students taking part in the learning process

The BEE teacher-candidates' responses indicate that the students generally took an active part in the learning process. They are not defining or describing such a learning process. When asked, "How do you rate the involvement of the students in the learning process?" The teacher-candidates all replied in the affirmative. That is, they've all decided the students were involved.

8. If the Activities Work

The BEE teacher-candidates usually viewed the activities as engaging. When asked, "Is it involved in activities? "The standard answer was 'Yes/Opo.' This was usually accompanied by a summary or brief explanation such as 'Yes, our teachers use collaboration' and 'Yes, teachers often prepared lessons with different activities.' Activities related to collaboration, as well as the activities mentioned, were not specified.

9. Outcome rating Based on Lesson Objectives

Most of the responses indicate that the comprehension and overall performance of the students improved with the provision of pedagogical approaches, though these were not defined in practice, except for collaboration. When asked, "How do you rate the results based on the goals of the lesson? "In the affirmative, the BEE teacher candidates replied. They thought the targets had been accomplished, but no target has been established.

ANALYSIS OF RESULTS

The results show that the teacher-candidates value much of the collaborative approach as it makes them work together to achieve a shared objective. Richards and Farrells (2011) support this result, noting that learning requires participants working side by side to define unique and essential tasks for each member and achieve a shared objective. Ravitz, Becker, & Wong (2000) also support this result by arguing that participants (i.e., teachers) in an activity (i.e., learning) combine a variety of pedagogical methods and optimize resources. These tools, for the teachers, include the pupils.

Nirje's (1969) Wolfensberger Normalization Theory (1983) identified that each person needs to be involved in social affairs to allow their strengths to offset deficits. This theme was reiterated by Wolfensberger (1983) in Osburn (1998), affirming that a person must not only be included but also uplifted. The teacher-candidates encountered both of these

as their answers suggested they were more excited and inspired while working with their peers.

The findings indicate that in most classroom activities, the teachers used the collective approach. The Constructivist approach closely parallels this approach. This one-two rating aligns with Kalu-Uche, Alamina, Adolphus reports (2009), and Owolabi reports (2012). Usually, teachers ignore "the self" (constructive, introspective, and retrospective) in these studies and go for the "selfless" (collaborative), consistent with Kohler's (1951) Insight Learning Theory. Weibell (2011) asserted that expertise in problem-solving and critical thinking is important. The teacher-candidates enjoyed when questioned, but it all comes down to teamwork when tasks get too difficult.

Overall, the BEE teacher-candidates showed excellent results. The findings also reveal that the BEE teacher-candidates' outstanding performance reveals the clearest and significant correlation with the pedagogical approaches to cooperation and constructivism. It was not covered if combining these approaches with the other approaches (those that did not stand out practically) resulted in the same outstanding results.

The BEE teacher-candidates still considered, based on the results, that the collaborative and constructivist methods had the most effect on their performance. The teacher-candidates consistently showed high regard for collaborative and informative work when asked about the methods that help them perform better, make lessons more engaging, and make teaching more interactive and enjoyable. The teacher-candidates agreed, however, that no one method works. This is consistent with Gardner's Theory of Multiple Intelligences (Cherry, 2019) because of the idea that each learner has its own learning style, and each part of the brain must be stimulated, and each mental faculty must be maximized.

CONCLUSIONS

During their student teaching, the results showed that the teacher-candidates most often interpreted and experienced the collaborative and constructivist methods and valued these approaches most when implemented. The findings also showed that the teacher-candidates performed outstandingly and did so by using teamwork and constructivism approaches. The teacher-candidates themselves claimed that the most influence on their success was those approaches.

ACKNOWLEDGMENT

Through the RDEP Team players, the researchers are grateful to the URS Administration for all the support, especially in the funding allocated for conducting the research. Special thanks go to the academic family and colleagues and all the respondents to the research.

References

Baumert, J., M. Kunter, W. Blum, M. Brunner, T. Voss, A. Jordan, U. Klusmann, S. Krauss, M. Neubrand and Y.-M. Tsai (2009). "Teachers' mathematical knowledge, cognitive activation in the classroom, and student progress", American Educational Research Journal, Vol. 47, pp. 133-180.

Braithwaite, D.O. & Wood, J. (2000). Case studies in interpersonal communication, processes and problems. Canada: Wadsworth.

Cherry, K. (2019). Gardner's Theory of Multiple Intelligences. Verywellmind. Retrieved from: https://www.verywellmind.com/

Creemers, B.P.M. and L. Kyriakides (2008), The Dynamics of Educational Effectiveness, A Contribution to Policy, Practice and Theory in Contemporary Schools, Routledge, London/New York.

- Davis, E. & Worlock, J.A. (n.d.) The program for education and enrichment of relational skills (PEERS) for school-based personnel. Center for Autism and Related Disabilities. University at Albany. State University of New York.
- Deci, E.L. and R.M. Ryan (1985), Intrinsic motivation and self-determination in human behavior, Plenum, New York.
- Dizon, E.I. et al. (2013). A special education guidebook for service-providers of children with special needs. UP Diliman: DSWD and UPD College of Education.
- Evenson, D.H. and C.E. Hmelo (2000, eds), Problem-Based Learning: A Research Perspective on Learning Interactions, Lawrence Erlbaum Associates, London
- Grossman, P., Compton, C., Igra, D., Ronfeldt, M., Shahan, E., & Williamson, P. W. (2009a). Teaching practice: A cross-professional perspective. Teachers College Record, 111, 2055–2100.
- Janney, R., & Snell, M.E. (2000). Teachers' guide to inclusive practices: Behavioral supports. Baltimore: Paul H. Brookes.
- Kalu-Uche, N., Alamina, J.I. and Adolphus T. (2009). An Analysis of the Extent of Use of Constructivist Strategies in the Teaching of Science in Secondary Schools in Rivers State, Nigeria. African Journal of Contemporary Issues in Education, Volume 4, Number 1, Pages 58-62.
- Kane, T. (2013). Brain-based Learning Theories (from The Journal of Dynamic Teaching). Pearson. Retrieved from: https://www.pearsoned.com/
- Klieme, E., C. Pauli and K. Reusser (2009), "The Pythagoras Study", in J. Tomás and T. Seidel (eds.), The power of video studies in investigating teaching and learning in the classroom, Waxmann, Münster, pp. 137-160.
- Lee, H.S. and N.B. Songer (2003), "Making Authentic Science Accessible to Students", International Journal of Science Education, Vol. 25, No. 1, pp. 1-26.
- Lipowsky, F., K. Rakoczy, C. Pauli, B. Drollinger-Vetter, E. Klieme and K. Reusser (2009), "Quality of geometry instruction and its short-term impact on students' understanding of the Pythagorean Theorem", Learning and Instruction, Vol. 19, pp. 527-537.
- Mark, M.M., and Shotland, R.L.. 1987. New directions for program evaluation. In *Multiple methods in program evaluation*, eds. M.M. Mark and R.L. Shotland, 35 (chapters 2, 4, 6).
- Nunes, D. (2008). AAC interventions for autism: a research summary. International Journal of Special Education, 23 (2), 17–26.
- Oliver-Hoyo, M. and Allen, D. (2005). The use of triangulation methods in qualitative educational research. Journal of College Science Teaching.
- Orande, T.O. (2002). Behavior management approaches for learners with autism (Unpublished master's thesis). UP Diliman, QC.
- Osburn, J. (1998). An Overview of Social Role Valorization Theory. *The International Social Role Valorization Journal*. *3* (1), 7–12.
- Owolabi, T. (2012). Characteristics of professional development and impact of training on science teachers" classroom practices. Universal Journal of Education and General Studies Volume 1, Number 5, pages 119-125. Retrieved from: http://www.universalresearchjournals.org/ujegs
- OECD (2009), Creating Effective Teaching and Learning Environments: First Results from TALIS, OECD Publishing. Teaching Practices and Pedagogical Innovation: Evidence from TALIS © OECD 2012.
- OECD (2010a), TALIS Technical Report, OECD Publishing.
- Pianta, R.C. and B. Hamre (2001), Students, teachers, and relationship support [STARS]: User's guide, Psychological Assessment Resources, Inc., Lutz, FL.
- Ravitz, J. L., Becker, H.J. and Wong, Y. (2000). Constructivist-compatible Beliefs and Practices among U.S.Teachers. Centre for Research in Information Technology and Organizations. UC & UM.
- Richards, J. C and Farrell, T. S. C. (2011). Practice Teaching: A Reflective Approach. Cambridge: University Press.

- Robo, M. (2014). Social inclusion and inclusive education. *Academicus: International Scienific Journal*. University of Tirana: Albania.
- Scardamalia, M. and C. Bereiter (2006), "Knowledge building: Theory, pedagogy, and technology", in K. Sawyer (ed.), Cambridge Handbook of the Learning Sciences, Cambridge University Press, New York, pp. 97-118.
- Tantengco, M.T., (2013). What special children need. In Dizon et al. *A special education guidebook for service-providers of children with special needs* (pp. 36–51). UP Diliman: DSWD and UP College of Education.
- Teater, B. (2016). Social work theories. *ResearchGate*. University of Bristol School for Policy Studies: UK.
- Tolentino, M.S. 2016. Implementation of the pedagogical approaches mandated by R.A. 10533, Regional Memorandum No. 233, s. 2016.
- Trochim, William M. K. (2006). "Likert Scaling". Research Methods Knowledge Base, 2nd Edition. Retrieved April 30, 2009
- Vance, H.B. & Awadh, A. (1998). Psychological Assessment of Children (pp. 1–9). NY: John Wiley and Sons, Inc.
- Vidal, L.S.A. (2013). The child with special needs and his potentials. In Dizon et al. *A special education guidebook for service-providers of children with special needs* (pp. 52–60). UP Diliman: DSWD and UP College of Education.
- Weibell, C. J. (2011). Principles of learning: 7 principles to guide personalized, student-centered learning in the technology-enhanced, blended learning environment. Retrieved from: https://principlesoflearning.wordpress.com
- Wiersma, W. 2000. Research methods in education: An introduction. 7th ed. Boston: Allyn & Bacon.
- Wolfensberger, W. (1972). The principle of normalization in human services. National Institute on Mental Retardation