

Teacher's Content and Pedagogic Knowledge on the Teaching of the New BSEd English Curriculum: A Basis for the Development of a Teacher's Reference Material

Jessica E. Ayawan

King's College of the Philippines, College of Teacher Education, Pico Road, La Trinidad, Benguet
ayawanjessica[at]gmail.com

Abstract: *This study investigated the extent of content and pedagogical knowledge of the language teachers on the new curriculum for BSEd English to serve as bases in the preparation of a teacher's reference material. Developmental research approach with quantitative research methodology was used. It was revealed that the language teachers with doctorate degrees are very much knowledgeable of the contents of the English courses while the Master's and the bachelor's degree holders are much knowledgeable. Also, the language teachers with more than 21 years of teaching experience and those with 6-10 are very much knowledgeable of the contents of the English courses while the language teachers with 16-20, 11-15 and 1-5 years of teaching experience are much knowledgeable. The results further showed that the language teachers with doctorate degrees are very much knowledgeable of the pedagogy of the language courses while the master's and the bachelor's degree holders are much knowledgeable. The language teachers with more than 21 years of experience teaching BSEd English are very much knowledgeable of the pedagogy of teaching the English courses while those with 16-20, 10-15, 6-10, and 1-5 years of teaching experience are much knowledgeable. Based on the results of the content and pedagogical knowledge of the language teachers, a teacher's reference material for Technology for Teaching and Learning 2 (TTL 2) was developed and it was revealed that it is valid and acceptable as evaluated. It is concluded that educational attainment and teaching experience are relevant in teaching a new course. TTL 2 reference material is needed to supplement in the teaching of the course and it representatively comprises appropriate and practical contents that accommodates the needs of the language teachers.*

Keywords: Content knowledge, Pedagogical knowledge, Reference material

1. Introduction

The program Bachelor of Secondary Education (BSEd) major in English experiences a new wave of change where inclusion of new English subjects or subject lessons is made to accommodate the necessary language skills and concepts that the English major graduates need to become efficient in the practice of their profession in the inescapably advancing milieu. This suggests that the BSEd English curriculum needs to have competent and prepared language teachers to guarantee that the English language students attain the fundamental skills and knowledge that are in accordance with the spirit of time. This concept puts forward that a curriculum is perpetually one of the centers of interest in the field of education, hence the field of education invests effort to conduct investigations about curriculum to provide salient information about all the existing conditions and elements of the curriculum that need to submit to rigid evaluations for improvement as per result of established theoretical and empirical accounts, which includes the demands of the current industry such as new standards, new ideas about assessment, changing resources, and government mandates.

In the Philippine context, Hagos and Dejarne (2008) revealed that central to the realization of an institution's goal is continuity and innovation anchored on a relevant curriculum where change in strategies, in the course contents, in methodologies for teaching, is well recognized as sensitive, difficult and sometimes, impossible. On the other hand, Acosta and Acosta (2017) unraveled the readiness of select higher education institutions to the full

implementation of the K to 12 program and exposed that the sustainability of the successful implementation of the government's program efforts rests on the readiness of the education sector and stakeholders to embrace change and master the contents of the new courses and adopt new pedagogy. Moreover, Joskin (2013) averred that the implementation of a new curriculum requires teachers to change their pedagogical knowledge so that it becomes aligned with the ideals of the newly implemented program. In line with language, Calub (2018) observed that teaching methods are regarded as the most important factor in determining the success of a language program, and the advances in language teaching are seen as dependent on the adoption of the latest method. This proposes that the language teachers need to adopt teaching methods that are relevant to any changes in the language curriculum.

Evidently, the studies showed that teachers are central to the implementation of curriculum as they translate the curriculum's vision into reality. The studies disclosed that teachers influence the effective implementation of a curriculum, thus the studies made salient recommendations as bases of realizing the intents of the curriculum. However, despite the studies on curriculum, but with its quality of continuous revision with time still fetches an insight that there is always a need for investigating the teachers' response towards every new curriculum as they are the ultimate implementers of all the reforms made. Rogan and Grayson (2003) contended that implementation is neglected if the emphasis falls only on the adoption of the changes and without considering the teachers' preparedness and

knowledge of the changes. On the same line, Park and Sung (2013) argued that the implementation of a new curriculum necessitates the teachers to change their teaching beliefs and behaviors drastically to meet the demands of the new curriculum. These lines utterly prove that teachers' knowledge of the new curriculum needs be counted in.

With all the above citations, it could be viewed that the changes in the BSEd English curriculum could be either an exciting or a daunting challenge to the language teachers since this change done in the curriculum implicates adjustments or changes in the core of their practice. In this regard, it is believed that there is an urgent need to have a research-based information about the language teachers' feedback about the new BSEd curriculum as it has undergone a considerable change. Investigating the language teachers' knowledge on the teaching of the English courses in the new BSEd English curriculum would bring innovative insights and encourage the institutions and other stakeholders to endeavor on exploring in-depth the language teachers' situation with the new language curriculum. Thus, this study investigated the content and pedagogic knowledge of the English language teachers in the new BSEd major in English curriculum as they are the key people who are interpreting and giving life to the planned language curriculum. This study deemed that the results of this study would help the institutions and other stakeholders to identify priority issues for improvement and establish a plan for activities, material development, trainings or remedies that are achievable urgently for addressing these priority issues. Specifically, this study desired that the result would help in determining the English course that needs to be complemented with a reference material to support the English language teachers to overcome possible difficulties that might influence their capacity to embrace and teach the English courses in the BSEd English program.

1.2 Conceptual Framework

This study took account of the new curriculum or the CHED Memorandum No. 75 Series of 2017. Specifically, this study zeroed in on the BSEd major in English program by espousing the need of examining the knowledge of the English language teachers on the teaching of the courses in the new curriculum. Thus, this study that the English language teachers' content and pedagogical knowledge help make the new BSEd English a sound and efficient curriculum that aims to approximate the competencies of the modern day.

Content knowledge is a form of knowledge refers to the knowledge of the subject and information that teachers teach and that students are expected to learn in a given subject or content area (Mishra & Koehler, 2006) and covers concepts related to the teaching topic, operations, evidence and proof and problem-solving skills. In this study, content knowledge refers to the coherent body of knowledge about the contexts, concepts, principles, theories and facts, and important generalization of the lessons in each English course. It also refers to the knowledge of the language teachers of the basic definitions, the critical points and the lacking areas related to each lesson. It also denotes the language teacher's knowledge of the disciplines with which they can connect

the subject areas to engage students in challenging, integrated, and exploratory learning.

Pedagogical knowledge (PK) is the type of knowledge that describes teachers' knowledge of the practices, processes, and methods and strategies regarding teaching and learning, and encompasses the purposes, values, and aims of education, and may apply to more specific areas including the understanding of student learning styles, classroom management skills, lesson planning, and assessments (Kurt, 2019). Baumert et al. (2011) and König et al. (2011) in Guerriero (2017) identified areas of the pedagogical knowledge, these include: knowledge of teaching methods which means having a command of various teaching methods, knowing when and how to apply each method; knowledge of classroom assessment or the knowledge of different forms and purposes of formative and summative assessments; knowledge of how different frames of reference like social, individual, criterion-based impact students' motivation; knowledge of structure or the structuring of learning objectives and the lesson process, lesson planning and evaluation; and adaptivity or knowledge of dealing with heterogeneous learning groups in the classroom.

Similarly, pedagogical knowledge in this study identified areas similar with Guerriero, thus it banked on the Teacher Keys Evaluation System (TKES) of Georgia which is a useful and comprehensive teacher instrument that aims to improve the quality of classroom instruction, optimize student learning and growth, and support the continuous growth of teachers in their professional practice. Hence, pedagogical knowledge was extended into the following areas: (a) knowledge of instructional planning which means knowledge of how to communicate and use the learning objectives or the intended learning outcomes of each lesson in planning, selecting and designing instructional strategies, materials, and assessments, (b) instructional strategies which means knowledge of a wide range of techniques they use to accommodate a range of student differences and learn the course contents and demonstrate higher-order thinking skills, and become independent, strategic learners, (c) knowledge of differentiated instruction that means teachers' knowledge of the differences and similarities among students and using this information to plan and vary instruction, select and design assessments and activities, strategies, and instructional resources, (d) knowledge of assessment strategies and (e) assessment uses which mean the teachers' knowledge of various assessments and ways of using them to determine student's learning and mastery of the subject matter, (f) knowledge of handling academically challenging environment, and (g) knowledge of communicating which means knowledge of using a wide repertoire of communication behaviors in each course content when appropriate to sustain a positive and interactive learning environment.

1.3 Statement of the Problem

This study intended to analyze the implementation of the new curriculum in terms of knowledge of English teachers on the new courses. Thus, the underlying investigation were directed on the research questions below.

- 1) What is the extent of content knowledge of the language teachers on the language courses along:
 - a) Educational attainment, and
 - b) Years of experience teaching BSEd major in English?
- 2) What is the extent of pedagogical knowledge of the language teachers on the teaching of the English language courses along:
 - a) Educational attainment, and
 - b) Years of experience teaching BSEd major in English?
- 3) What reference material can be developed to supplement the teaching of the language course with the lowest extent of content and pedagogic knowledge?
- 4) What is the level of validity and acceptability of the developed teacher's reference material?

2. Methodology

A quantitative method using the descriptive design with the Likert scale for rating was utilized. Hence, data is collected in a computable manner through survey questionnaire-checklists. All the procedures are statistical.

This study conducted the inquiry in the tertiary institutions of La Trinidad, Benguet and Baguio City offering BSEd major in English program. A total of 32 BSEd English teachers was deemed representative of English teachers' knowledge on the courses in the newly implemented curriculum. On the other hand, to answer the level of validity of the reference material, three experts in language learning material development were sought while 16 language teachers teaching BSEd major in English for the acceptability level of the developed teacher's reference material.

To elicit appropriate data, survey-questionnaires with a Likert type scale were used. To solve the problems, the data gathered from the survey questionnaires were classified, tallied and tabulated. The data were analyzed and explained linguistically from which interpretations and recommendations were drawn. Weighted mean and ranking were used as the statistical tools in solving the extent of content and pedagogical knowledge of the English teachers on the teaching of the English courses in the new curriculum for BSEd English; and on the level of validity and acceptability of the reference material.

3. Results and Discussion

The language teacher's content and pedagogic knowledge of the new BSEd English curriculum and the validity and acceptability of the teacher's reference material were discussed in separate headings.

3.1 Extent of Content Knowledge of the Language Teachers on the New BSEd English Curriculum

This section presents the results of the query on the extent of content knowledge of the English language teachers on the teaching of the new BSEd English curriculum. The first part focuses on their educational attainment while the second part centers on the length of their service teaching BSEd major in English.

3.1.1 Content Knowledge of the Language Teachers on the New BSEd English Curriculum along Educational Attainment

Table 1 shows that the language teachers with doctorate degrees are very much knowledgeable of the contents of the language courses as signified by a weighted mean of 3.43. On the other hand, the language teachers with master's degree and those with bachelor's degree as their highest educational attainment are much knowledgeable of the contents of the language courses as denoted by their weighted means of 3.07 and 2.59, respectively.

Table 1: Summary of the Extent of CK of the Language Teachers Along Educational Attainment

Educational Attainment	Total Weighted Mean	DE
Doctorate Degree Holders	3.43	VMK
Master's Degree Holders	3.07	MK
Bachelor's Degree Holders	2.59	MK

It is perceptible that the teachers who have not attained an advance education got the lowest weighted mean as compared to the teachers with doctorate or master's degrees which draws the idea that an advance education or graduate studies could help in enhancing the language teachers' content knowledge of the English courses. As Maende (2012) in Roegbu and Uyangah highlighted, professional development like graduate studies and other advance trainings highly influence or expands a teacher's knowledge of subject matters. Also, Tzanakou (2014) mentioned that PhD holders acquire beyond specialized knowledge like a set of transferable skills such as critical reasoning and thinking in-depth from different angles and perspectives.

3.1.2 Content Knowledge of the Language Teachers on the New BSEd English Curriculum along Years of Experience

Table 2 shows that the language teachers with 21 years and above teaching experience are very much knowledgeable of the contents of the English courses as signified by a total weighted mean of 3.52. This indicates that they have mastered the core concepts of the English subjects in the BSEd English curriculum.

Table 2: Summary of the Extent of CK of the Language Teachers Along Years of Teaching Experience

Years of Teaching Experience	Total Weighted Mean	DE
21 years -above	3.52	VMK
16 to 20 years	3.22	MK
11 to 15 years	2.77	MK
6 to 10 years	3.31	VMK
1 to 5 years	2.75	MK

This result finds support in Rice (2003) who mentioned that there are several studies which have found a positive effect of experience on teacher effectiveness, and this may include their knowledge of pedagogy. Strikingly however, the language

teachers with 6 to 10 years of teaching experience are very much knowledgeable whereas the language teachers with 16 to 20, 11 to 15, and 1 to 5 years of teaching experience are much knowledgeable as shown by their corresponding weighted means of 3.22, 2.77 and 2.75. It can be inferred that more years of experience do not translate into higher

familiarity or knowledge of a subject's contents as the language teachers with lesser teaching experience are also knowledgeable of the contents of the language courses almost at the level of more experienced teachers. This means that the teachers' knowledge of the course contents can be defined by their personal, academic, and professional backgrounds (Attia, 2017) and not merely the length of teaching experience.

3.2 Extent of Pedagogical Knowledge of the Language Teachers on the Teaching of the New BSEd English Curriculum

This part discusses the extent of pedagogical knowledge (PK) of the language teachers on the teaching of the courses in the BSEd English curriculum along their years of experience teaching BSEd English. It also presents the implications of the results and the corroborations derived from studies, documents, and articles.

3.2.1 Pedagogical Knowledge of the Language Teachers on the New BSEd English Curriculum along Educational Attainment

Table 3 reveals that the language teachers with doctorate degrees are very much knowledgeable of the methods and practices of teaching the English courses while the master's degree holders and the bachelor's degree holders are equally much knowledgeable of pedagogy of the English courses. These results expose that the language teachers who have higher educational attainment or have completed graduate studies are more knowledgeable of the pedagogy of the English courses in the same way that they are more knowledgeable of the contents of the language courses.

Table 3: Summary of the Extent of PK of the Language Teachers Along Educational Attainment

Educational Attainment	Total Weighted Mean	DE
Doctorate Degree Holders	3.50	VMK
Master's Degree Holders	3.19	MK
Bachelor's Degree Holders	2.64	MK

Graduate education provides students with more advanced learning in a specialized discipline or sub-discipline. As Montalvo-Javé et al. (2016) averred, a doctorate degree is a full and complete knowledge of a particular subject while Anderson (2020) described graduates of doctorate as experts.

3.2.2 Pedagogical Knowledge of the Language Teachers on the New BSEd English Curriculum along Years of Experience

Table 4 shows that the language teachers with 21 and above teaching experience are very much knowledgeable of pedagogy in the English courses with a weighted mean of 3.69. This means that they are highly proficient about planning and organization of the learning and teaching strategies of the BSEd English courses in the new curriculum.

Table 4: Summary of the Extent of PK of the Language Teachers Along Years of Teaching Experience

Years of Teaching Experience	Weighted Mean	DE
21-above	3.69	VMK
16 to 20	3.20	MK
11 to 15	2.95	MK
6 to 10	3.16	MK
1 to 5	2.85	MK

Meanwhile, the language teachers with 16 to 20, 11 to 15, 6 to 10 and 1 to 5 years of teaching experience are much knowledgeable of pedagogy in the English courses. This entails that they are fairly informed of building effective teaching and learning atmospheres for all students. Notably however, it can be perceived that the extent of pedagogic knowledge of the language teachers with 6 to 10 years of teaching experience is higher to some extent as shown by a weighted mean of 3.16 than the language teachers with 11 to 15 years of teaching experience. Moreover, the language teachers with 6 to 10 years of teaching experience are in the same way much knowledgeable of contents than the language teachers with 11 to 15 years of teaching experience. This result suggests that teachers improve in pedagogy and contents at different rate; however, this does not discount the impact of teaching experience towards improvement in content and pedagogic knowledge. As Barendsen and Henze (2019) stated, teacher knowledge is closely related to teachers' experience and contexts.

3.3 Teacher's Reference Material

The course Technology in Teaching and Learning 2 (TTL 2) is the most frequently occurring subject with the lowest weighted means along educational attainment and years of teaching experience. In detail, under the content knowledge, TTL 2 and Language Research appeared three times with the lowest weighted means among all the English courses; however, in the pedagogical knowledge, TTL 2 came into view five times with the lowest weighted mean. Consequently, a reference material for TTL 2 was developed.

The developed TTL 2 reference material's contents, learning standards, and most of the teaching and learning tasks were based on the CHED syllabus in TTL 2 for English/Filipino. In detail, the developed reference material has the following components: (1) Course Outcomes and Learning Outcomes which generally describe what the program aims to do and describe in observable and measurable terms what the pre-service teachers are able to do as a result of completing the learning experience, (2) Unit Overview gives the background information the big picture of the whole unit while excepting the minor details, (3) the Lesson part focused on ICT tools and software that can be used on the teaching and learning of the language skills in the K-12 curriculum. It also includes lessons on becoming a responsible digital citizen and the value of validating the relevance and appropriateness of digital and non-digital resources to be able to use them to their fullest. Specifically, the Lesson part is composed of four parts: (a) the Introduction part gives a road map or creates the context of the lesson's main points and outlines the purpose of the topic along with an overview of the main points before diving in

to the specific subject matter, (b) the Incitement part serves as a thought-provoking activity for the pre-service teachers to be directed in the lesson's main concepts, (c) the Content Focus and Interaction part presents the main concepts or subject matters which the pre-service teachers and the language teachers should explore in-depth. The subject matters in each Unit Lesson are the concepts that are hoped to remain within the students long after they finish school, and the (d) Integration/Implementation part contains the learning activities or tasks for the pre-service teachers to apply and or to explore the concepts learned exhaustively.

Meanwhile, the (4) Unit Project, which is given every after a unit, consolidates what has been learned in the whole unit and make them relevant, (5) the Course Final Output is the showcasing of project or problem-based learning plan or the weekly learning plan, and (6) the Rubrics part encloses samples of scoring criteria for the outputs. In addition, in response to the study's query on the teacher's knowledge of pedagogy, each Lesson contains a side bar which presents the instructional procedures for each lesson which includes how the teachers can begin the lesson, how the teaching-learning activities, assessment tasks and unit projects can be implemented.

3.4 Validity and Acceptability Level of the Reference Material

Table 5 presents the validity and acceptability level of the reference material for Technology in Teaching and Learning 2 (English major). It shows that the content, learning standards and learning activities; facilitation; illustration, visuals and links; organization, style and format; and convention and language are strongly evident as revealed by the total weighed mean of 3.88. This result indicates that the reference material holds the quality of being comprehensive and valid based on the given criteria. As Swanson (2014) states, valid in general means well-grounded or justifiable, relevant and meaningful.

Table 5: Validity and Acceptability Level of the Reference Material

Validity Level: Criteria	WM	DE
1. Learning Standards, Content, and Learning Activities	3.92	SE
2. Facilitation/user guide	4	SE
3. Illustration, Visuals and Links	4	SE
4. Organization, Style and Format	3.92	SE
5. Convention and Language	3.57	SE
Total Weighted Mean	3.88	SE
Acceptability Level: Criteria		
1. In Terms of Suitability	3.84	HA
2. In Terms of Usefulness	3.85	HA
3. In Terms of Adequacy	3.83	HA
4. In Terms of Timeliness	3.87	HA
5. In Terms of Format	3.93	HA
6. In Terms of Illustration	3.87	HA
7. In Terms of Presentation	3.80	HA
Total Weighted Mean	3.86	HA

For the acceptability level of the reference material, it can be gleaned that it transcended the criteria and standards for acceptability level as shown by a total weighted mean of 3.86. This result indicates that the material approximated the

required measures and it is sufficient to serve its purpose for which it is intended. Vlassenroot et al. (2010) described acceptability to be related to the question of whether a system is good enough to satisfy all the needs and requirements of the users and other potential stakeholders. This line equally denotes that the reference material is acceptable and up to par to fulfill what it is intended to afford to the language teachers in teaching TTL 2.

4. Conclusions

Further research would be required to confirm the results discussed in this study; however, preliminary implications based on the findings are made that educational attainment is relevant in teaching a new course as graduate studies like doctorate degrees and master's degree facilitate and improve content and pedagogical knowledge in the teaching of a course. That, teaching experience is relevant in facilitating a new course as the length of teaching expands content and pedagogical knowledge in the teaching of a course. That, a reference material in Technology for Teaching and Learning 2 is needed to supplement the teaching of the course and the developed teacher's reference material for Technology for Teaching and Learning 2 adequately and representatively comprises appropriate and practical contents as it greatly accommodates the needs of the language teachers.

5. Recommendations

Several recommendations are pointed out in order to give information and direction to conduct upcoming research related to the same issue. (1) The language teachers engage in teacher professional development programs to enhance, experience and build their skills and knowledge relevant to the teaching of the English language courses. (2) Reference materials in other English subjects which the language teachers are not very much familiar with the contents and pedagogy be developed. (3) The schools support by endorsing the development and use of the reference material, and (5) further researches can be conducted with focus on the student's response to teachers' content knowledge and methodology on the teaching of the courses and other related factors relevant to teacher's content and pedagogic knowledge be included.

References

- [1] Acosta, I. and Acosta, A. (2017). A Mixed Methods Study on Teachers' Perceptions of Readiness of Higher Education Institutions to the Implementation of the K-12 Curriculum. *Universal Journal of Educational Research*, 5(7): 1215-1232, 2017. DOI: 10.13189/ujer.2017.050714
- [2] Anderson, C. (2020). What are the Advantages of a Doctorate Degree in Education? Retrieved on January 12, 2020 at <https://www.Graduateprogram.Org/2020/08/What-Are-The-Advantages-Of-A-Doctorate-Degree-In-Education/>.
- [3] Attia, N. (2017). Teachers' Perception on The Relationship Between Subject-Specialized Teaching and Students' Achievement in Elementary

- Classrooms. Retrieved on August 7, 2021 at https://Tspace.Library.Utoronto.Ca/Bitstream/1807/76925/1/Attia_Nada_E_A_201706_Mt_Mtrp.Pdf.
- [4] Barendsen, E., and Henze, I. (2019). Relating Teacher Pckand Teacher Practice Using Classroom Observation. *Research in Science Education*, Google Scholar.
- [5] Borg, S. And Edmett, A. (2018). Developing A Self-Assessment Tool for English Language Teachers. Research Article. *Safe Journal*.
- [6] Borgmeier, C., Loman, S.L., Hara, M. (2016). Teacher Self-Assessment of Evidence-Based Classroom Practices: Preliminary Findings Across Primary, Intermediate and Secondary Level Teachers. *Teacher Development*, 20, 40–56. Google Scholar.
- [7] Calub, C. (2018). Language Curriculum Development: An Overview. *ResearchGate*.
- [8] Guerriero, S. (Ed.). (2017). Pedagogical Knowledge and the Changing Nature of the Teaching Profession, Educational Research and Innovation, OECD Publishing, Paris. Retrieved on March 5, 2020 at <https://Dx.Doi.Org/10.1787/9789264270695-En>.
- [9] Hagos, L. And Dejarne, G. (2008). Our Lady of Fatima University Enhancing Curriculum in Philippine Schools in Response to Global Community Challenges. Proceedings of the Edu-Com 2008 International Conference.
- [10] Iroegbu, E.E. And Uyanga, R.E. (2019). Teaching Staff Professional Ethics and Quality of Educational Output in Federal Universities, South-South Zone of Nigeria. *American Journal of Educational Research*, Vol. 7, No. 8, 548-56
- [11] Joskin, A. (2013). Investigating The Implementation Process of Curriculum: A Case Study from Papua New Guinea. Research Archive. Vuw.Ac.Nz.
- [12] Kamamia, L., Ngugi, N. and Thinguri, R. (2014). To Establish the Extent to Which the Subject Mastery Enhances Quality Teaching to Student –Teachers During Teaching Practice. *International Journal of Education and Research*, 2(7).
- [13] Kurt, S. (2019, September 16). Tpack: Technological Pedagogical Content Knowledge Framework. Retrieved at <https://Educationaltechnology.Net/Technological-Pedagogical-Content-Knowledge-Tpack-Framework/>
- [14] Marzano, R. J., and Toth, M. (2013). Teacher Evaluation that Makes a Difference: A New Model For Teacher Growth and Student Achievement. Alexandria, Vi: Ascd. Google Scholar.
- [15] Mishra, P. and M. Koehler. (2006). Technological Pedagogical Content Knowledge: A Framework for Teacher Knowledge. *ResearchGate*. DOI:10.1111/j.1467-9620.2006.00684.x
- [16] Montalvo-Javé, E.E., Mendoza-Barrera, G. E., Valderrama-Treviño, A. I., Alcántara-Medina, S., Macías-Huerta N. A. and J. Tapia-Jurado, J. (2016). The Importance of Master's Degree and Doctorate Degree in General Surgery. *ResearchGate*, 84(2):180-185 DOI:10.1016/j.circen.2016.02.004
- [17] Park, M. and Sung, K. (2013). Teachers Perception of The Recent Curriculum Reforms and Their Implementation: What Can We Learn from The Case of Korean Elementary Teacher? *Asia Pacific Journal of Education*, 33(1).
- [18] Rice, J.K. (2003). Understanding The Effectiveness of Teacher Attributes. Teacher Quality. Retrieved on March 5, 2020 at https://Www.Epi.Org/Publication/Books_Teacher_Quality_Execsum_Intro/
- [19] Rogan, J.M. And Grayson, D. (2003). Towards A Theory of Curriculum Implementation with Particular Reference to Science Education in Developing Countries. *International Journal of Science Education*, 25 (10).
- [20] Tawana, L. (2009). Identifying Relevant Factors In Implementing A Chemistry Curriculum In Botswana. Retrieved on April 2, 2020 at <https://Core.Ac.Uk/Download/Pdf/39666088.Pdf>
- [21] Tzanakou, C. (2014). The Wider Benefits of a Phd. University World News. Retrieved on April 10, 2020 at <https://Www.Universityworldnews.Com/Post.Php?Story=20140409095727966>
- [22] Vlassenroot, S., Brookhuis, K., Marchau, V., and Witlox, F. (2010). Towards Defining a Unified Concept for The Acceptability of Intelligent Transport Systems (Its): A Conceptual Analysis Based on the Case of Intelligent Speed Adaptation (Isa). *Transportation Research Part F* 13(3), 164-178. Doi 10.1016/J. Trf2010.02.001.