Stability of the K-12 Program in Philippine Education

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ABSTRACT

This meta-analysis study examined articles written by various researchers that investigate the K–12 program in Philippine schools from the perspective of different stakeholders. The study aimed to assess the stability of the K–12 program in Philippine education based on the perceptions and experiences of students, teachers, parents, and other stakeholders. A systematic and logical approach was employed, considering both the inclusion and exclusion of relevant data to understand the challenges and potential improvements of the program. The findings reveal both positive and negative aspects of the programs' stability, providing valuable insights for future research and recommendations. Most respondents' experiences were viewed positively, indicating a considerable level of stability in the K–12 program. However, there were also negative experiences reported, suggesting areas where the program needs improvement. The study serves as a valuable reference for understanding the stability of the K–12 program in Philippine education and provides actionable recommendations to improve the quality of education.

Keywords: *Meta-analysis; K-12 Program; Philippines; Stability; Education*

Introduction

Education holds significant power to impact individuals' lives, serving as a crucial tool for personal development. It facilitates the acquisition of knowledge, skills, personality traits, and attitudes, collectively enhancing one's quality of life. Furthermore, education cultivates logical and critical thinking skills, transforming weaknesses into strengths and empowering individuals to make independent decisions (Black, 2021). Additionally, it equips individuals with resources and approaches to comprehend and resolve problems, fostering mental flexibility for wise decision-making (Black, 2021).

The Philippines, before the introduction of the K-12 system, had a ten-year pre-university education curriculum, distinguishing itself as one of the few Asian countries with such a structure. The implementation of K-12 programs demonstrated commendable educational quality, aligning with global standards, enhancing employability, and improving overall skills (Dizon et al., 2019). This initiative aimed to produce well-educated individuals with foundational skills for both employment and lifelong learning, promoting mutual recognition of Filipino learners and professionals internationally (Dizon et al., 2019).

The K-12 Basic Education Program seeks to establish a functional fundamental system, producing responsible, productive, and knowledgeable individuals prepared for job opportunities. The government emphasizes the value of high-quality education to reduce poverty (Department of Education, 2020). According to the K-12 Education Vision, graduates of the Enhanced K-12 Basic Education Program are empowered individuals who have acquired knowledge through a program rooted in solid principles and geared towards excellence (Department of Education, 2020).

Despite stakeholder engagements, policy discussions, and education summits in response to the shift in the educational cycle, the K-12 program faces ongoing scrutiny. While positive feedback has been received on its execution, various challenges and issues have been noted by parents, teachers, students, and other stakeholders. To synthesize this information, a meta-analysis was conducted to evaluate the evidence's quality and assess any potential effects. Despite challenges, many stakeholders hope for long-term benefits for Filipino graduates, suggesting the need for continued research and development projects to refine the K-12 curriculum in Philippine education. The data collected can serve as a foundation for future initiatives aimed at improving and sustaining the K-12 program.

Methodology

This meta-analysis study employed a systematic and logical approach to assess the stability of the K-12 program in Philippine education by analyzing relevant research studies. The identification of pertinent studies was carried out through a comprehensive search of databases and academic journal sources. Inclusion criteria were agreed upon to ensure the relevance of the studies, while exclusion criteria were determined to address any identified gaps in the research.

The process of data extraction involved capturing details from the selected studies, including information on respondents, research methods, key findings, and recommendations. Respondents' responses were then subjected to frequency counts and percentage analysis, providing valuable insights into the stability of the K-12 program in Philippine education. This methodological approach enhances the rigor and reliability of the study, allowing for a comprehensive examination of the available evidence and contributing to a nuanced understanding of the program's stability.

Results and Discussion

Table 1 shows the research title, methodology, findings, and recommendation/s made by the author in response to what they have found out about the stability of K-12 programs in the Philippines.

Table 1: Meta-analysis on the stability of K-12 programs in the Philippine education

	TITLES	METHODOLOGY	FINDINGS	RECOMMENDATIONS
1.	Evaluating the Academic Performance of K-12 Students in the Philippines: A Standardized Evaluation Approach	Descriptive analyses *Scholastic Abilities Test for Adults *A Standardized Test for measuring the academic competence of adults, is used in the study to measure scholastic abilities.	• A mismatch between coursework offered in Philippine K-12 educational institutions with industry demands.	• Results obtained in this study would aid stakeholders in overseeing strategies that would address current gaps in the K-12 educational system of the country. Development of more robust strategy frameworks for positioning the current K-12 educational system to global and industry demands.
2.	A scoping review on the implementation of the Spiral Progression Approach	Arksey and O'Malley's scoping review framework	• Learner-centered teaching strategies and methods are employed. • Teachers and students both have positive and negative perceptions towards its implementation, though they too have more pessimistic views, and • A spiral curriculum generally produces positive results, though there are noted exceptions.	• The implementation can be improved through the enhanced curriculum and pedagogical knowledge of teachers and the various instructional procedures taking place inside the classroom for mastery learning.
3.	Perspective on the Implementation of the K-12 Program in the Philippines	Used a systematic approach and review design to come up with a general idea that answers the main objectives	• Learners were able to master the skills and develop core competencies which are essential things to meet the demand of the global market	• Make possible recommendations that help improve the curriculum to make sure that quality education can be delineated to all the learners who will be part of this new program.
4.	Developing Communication Technology (ICT)		• The researcher believes that developing these standards is a decision-making process that	• Technological leadership is a crucial component in developing and implementing ICT curriculum standards.

	Curriculum Standards for K-12 Schools in the Philippines		will dictate how Filipino students will acquire ICT concepts and skills to help them achieve the greater benefits of learning. • Targeting holistic growth for learners is a crucial factor in realizing the need to develop ICT curriculum standards for K-12 schools in the Philippines	• Teachers' attitude, skills, and acceptability of utilizing ICT in the classroom. • Support coming from school principals and administrators and the government to innovate, monitor, and sustain good practices is a major contributor to the success of implementing these standards. • Know and prepare for the challenges ahead
5.	Research Review on K-12 Curriculum Implementation In the Philippines: A Generic Perspective	The analysis used a systematic approach and review design to come up with a general idea that answers the main objectives of this research review.	• It described the various problems that arise because of the implementation of this new program and the action plans established by the government to address these issues	• The important thing is to establish that development is present because of the new program.
6.	Teachers' Perceptions of Integrating Technology In Mathematics Classroom Among School Teachers In Cagayan De Oro City, Philippines	Randomly selected took part in this study by answering the survey questionnaire on their level of perception of using technology in the classroom	• Results reveal that although mathematics teachers had a positive perception of integrating technology in mathematics classrooms, they still need to be trained on the use of different technological tools that are effective in improving students' achievement in mathematics	• Higher education institutions (HEIs) in collaboration with DepEd may design a long-term term training-workshop on integrating technology in mathematics classrooms. Technology must also be integrated into the curriculum to attain the desired results. Research may be conducted on the effectiveness of the program to be implemented most especially the impact of this training on students' mathematics performance and teachers' level of TPACK.
7.	The effects of Distance Educ. on k-12 students Outcomes: A Meta-Analysis	Systematic approach random-effects model	• Distance education has become a platform for the delivery of education around the globe. Nations are seizing the opportunities. This learning tool is offering and thereby providing anytime anywhere forms of education to bridge the educational gap in respective nations.	• Given this expansion, assessing the effectiveness of distance education within the context of traditional classroom delivery of instruction is expedient. This will better inform educational institutions in planning a distance education program.
8.	Game-Based Learning (GBL) in	Descriptive and experimental method. The descriptive method, where	• In validating the mechanical GBL (Game-Based	• Mobile Apps of GBL (Game-Based Learning) development

	Teaching Primary Mathematics	the developed mechanical Game-Based Learning, was validated by eighty (80) pre-service teachers as a major teaching strategy in primary mathematics and tested its' effectiveness using the pre and post-test design.	Learning) –A mathematical Snake- and Ladder game boarding in eighty (80) pre-service teachers for their practicum-classroom demonstration, manifested agreeable perceptions (x =4.30) terms of technical quality, content quality and instructional quality. Using the mechanical GBL as a major instructional aid in teaching basic mathematics got very satisfactory (x = 3.50) respondents' responses in the actual classroom demonstration.	
9.	Usability Study of an Augmented Reality Game for Philippine History	This paper presents a series of usability tests. Used to investigate the target audience	• Discovered issues that compromised player enjoyment, including fatigue during gameplay, hurdles in learning AR-specific game mechanics, game repetitiveness, and outdoor safety concerns, in addition to minor technical issues	• Augmented Reality can contribute to effectiveness and enjoyment in the context of history-game-based learning
10.	The effects of Blended Learning on K-12th Grade Students	Twenty-five peer-reviewed studies published between 2008 and 2016 were selected for analysis in this review.	• The reviewed research indicates that student engagement, student achievement, and positive student perceptions of learning increased when blended learning was used. Students also developed additional skills using blended learning, such as the ability to self-pace and self-direct.	• Future research into implementing blended learning in K-12 classrooms was recommended.

Table 2 delineates the inclusion and exclusion criteria employed in the study. Inclusions, such as addition, attachment, agreed, effectiveness, and effective, capture positive responses from respondents. Conversely, exclusions, including eliminating, and prohibiting, barriers, disagreements, and problems, address negative responses or identified gaps in the study. The central issue or criterion revolves around the escalating technological advancements and industry demands for a skilled workforce. Four respondents expressed that the alignment between curricular offerings in academia and industry needs has been globally addressed in the K–12 educational system, mirroring the situation in their own country. However, five respondents contradicted this claim.

Among the reviewed articles, "Provide a comprehensive review of the spiral progression approach" garnered the highest agreement from respondents, with a frequency of 7 out of 10. Students exhibited a positive attitude due to the "learner-centered approach" (Perez, 2020). Following closely are the articles "Department of Education Agrees with Industries for Employment Opportunities for K–12 Graduates" and "The Effects of Blended Learning on K–12 Grade Students," both receiving support from six respondents. In contrast, experts in teacher professional development acknowledged various limitations. The proliferation of online and blended learning, while facilitating growth, also introduced complexities, particularly in the diverse learning models. Respondents identified this as the most common problem in professional development for K–12 online classes, with a frequency of 55.

The results in the table indicate that respondents perceived and encountered issues, as indicated by the frequency (f = 49, 54%). The frequency or percentage results demonstrate that over half of the respondents viewed the stability of the K–12 program in Philippine education as significant (f = 54%). In contrast, exclusions (prohibitions, barriers, and disagreements) mentioned in the table results fall below 50%, specifically f = 46, implying that the outcomes contradict the perception of stakeholders and suggest that the stability of K-12 in the Philippines may not be as robust as perceived.

Table 2: Inclusion and exclusion criteria

K-12 Program	Criterion	Inclusion	N (f, %)		Exclusion	N (f, %)	
1. Evaluating the Academic Performance of K-12 Students in the Philippines: A Standardized Evaluation Approach	With growing technological advancements, demands for industry with a skilled and equipped workforce are proportionately rising.	• The introduction of the K-12 educational system in the Philippines has induced mixed remarks in the country. The match between curricular offerings in academia and in the industry has been addressed in many countries across the globe through initiatives such as the K-12 educational system, in some countries like the Philippines. • The Scholastic Abilities Test for Adults (SATA), a standardized test for measuring the academic competence of adults, is used to measure scholastic abilities to address current gaps in the K-12 educational system of the country.	4	44	• Several groups have strongly opposed the implementation of the curriculum primarily due to diverse opinions regarding the success of the curricular change. • Mismatch between coursework offered or expectations set for the program in Philippine K-12 educational institutions with industry demands. • Lack of research • Lack of student interest/long years • High-cost education/socio-economical factor	5	56
2. A scoping review on the implementation of the Spiral Progression Approach	Provide a comprehensive review of the spiral progression approach.	• Launched curricular reform in the Philippines using the spiral progression approach in organizing the contents of the subjects in the K-12 curriculum. • Learner-centered teaching strategies and methods are employed. • Teachers and students have both positive and negative perceptions towards its implementation, though	7	70	• Contrary, to others notion the topics are too difficult. • Lack of resources in school • Teachers generally do not feel themselves sufficient in terms of content knowledge. • The study revealed that with higher rating provided by	3	30

		they too have more pessimistic views. • Increased physics achievement • Students disclosed that learning is more interesting, effective, and enjoyable in K-12 because they learn all four components of science areas. • Suggest the need for close monitoring of the program coupled with continuous professional training of teachers. • Increased motivation towards language learning • Connections with other institutions that can provide materials can be helpful. • Scoping review undertakes the stages in a rigorous, reflective, and transparent manner and its explicitness allows further replication, reliability, and response to any suggestion of deficiency.			the respondents is on the teacher factor affecting the spiral approach.		
3. Perspective on the Implementation of the K-12 Program in the Philippines	K to 12 programs are believed to be the key to increasing the quality education of in the country that addresses the demand of the global market where skills are essential to be possessed by any graduate to become employable all throughout the country.	• The K to 12 Program covers Kindergarten and 12 years of Basic Education to provide sufficient time for mastery of concepts and skills, develop lifelong learners, and prepare graduates for tertiary education, middle-level skills development, employment, and entrepreneurship	5	50	• K to 12 programs presented the following challenges: o lack of preparation and professional development. o excessive academic burden on students; and o integration of lessons in the real-life context.	5	50
4. Developing	ICT	• ICT can improve the	5	50	• ICT is used to	5	50

Communication Technology (ICT) Curriculum Standards for K-12 Schools in the Philippines	curriculum standards for K-12 schools in the Philippines will serve as a framework for technology integration in various academic content area instructions from kindergarten through grade 12.	quality of education and heighten teaching efficiency through pre-service training and programs that are relevant and responsive to the needs of the education System. Allow teachers to have sufficient subject knowledge, a repertoire of teaching methodologies and strategies, and professional development for lifelong learning.			enhance teaching styles, and "should not replace the role of the teacher." A teacher's technological literacy directly affects whether students can incorporate technology into the curriculum to improve student's academic achievements		
5. Research Review on K-12 Curriculum Implementation In the Philippines: A Generic Perspective	Look for the different perspectives of teachers, parents, and students	• The full implementation of the K-12 system in the country. • Received mixed reactions: a combination of backlashes and praises among stakeholders. • The whole community was interviewed which serves as a curriculum resource. • The K-12 of DepEd is a great help to every student. • Strongly agreed that K-12 offers a balanced approach to students: equipped with skills competencies and 2 year – college degree. • DepEd agreed with industries for employment opportunities for K-12 graduates. • Teachers are likely to have prepared for the implementation of K-12 in terms of skills. • Used a systematic approach and review design to come up with a general idea.	6	67	• Teachers' seminars, training, and readings related to their area of specialization-hinders them to design lessons/activities. • Not updated/familiar with the latest teaching strategies and techniques • No exposure/integration of students to community resources due to limitations of engagement to excursion/field trips • Insufficient resources: computers • It will add financial problems of the individual family.	3	33
6. Digital games in K-12 mathematics education	Effectivity of digital games in improving students' performance in	• Increasing numbers of students are using technology as a tool for learning because educators find that implementing technology	4	57	• There was no significant effect of computer games on students' cognitive test performance (achievement) or	3	43

	mathematics education	helps them incorporate varied activities to fit their student's needs. Digital games are increasingly reported to be effective in improving student's motivation and performance in mathematics education.			metacognitive awareness development. There were a large portion of these studies had no control group or pre-test.		
7. The effects of Distance Educ. on k-12 students Outcomes: A Meta-Analysis	The growth in the number of students learning online and the importance of online learning as a solution to educational challenges has increased the need to study more closely the factors that affect student learning in virtual schooling environments.	• Distance education can have the same effect on measures of student academic achievement when compared to traditional instruction. Distance education for school-age children is increasing in enrolment or time in school as education programs reach underserved regions, broader educational opportunities for students who are unable to attend traditional schools	4	44	• Virtual schooling, like classroom schooling, has had limited success in some situations. Distance between tutor and learner in an online instrumental music program has negative effects on performance quality, student engagement, and development and refinement of skills and knowledge.	5	56
8. Game-Based Learning (GBL) in Teaching Primary Mathematics	Cultivate programs of professional development for online teachers	• The professional development process entails teachers creating study lessons together by planning, teaching, observing, critiquing, and revising lessons as groups to become more effective teachers.	5	45	• Experts in teacher professional development recognized various limitations. While growth in online and blended learning increases, this growth also complicates the process as the learning models differ widely.	6	55
9. Usability Study of an Augmented Reality Game for Philippine History	Achieve innovative and sustainable education through augmented reality (AR)	• Augmented reality (AR) allows virtual objects to be interactively overlaid on real-time images. AR interfaces allow users to see the real world while viewing virtual imagery attached to real-world locations and objects	3	50	• The use of AR for educational purposes has some limitations.	3	50
10. The effects of	Examines the effects of	• 25 peer-reviewed studies published between 2008	6	60	• Focused solely on the achievement	4	40

Blended Learning on K-12th Grade Students	blended learning on student engagement, achievement, and perception in K-12 grade classrooms	and 2016 were input saying "students' engagement, achievement and positive perceptions of learning increased when blended learning was used. • Developed ability to self-pace and self-direct. • Future research into implementing blended learning in K-112 classrooms was recommended. • The study found that blended learning produced higher scores compared to purely online or face-to-face learning. • The author more studies need to be done at the elementary level, there is a large gap in the research when it comes to blended learning and younger students. • Stakeholders must be on board for the • blended learning has a higher chance of success		instead of looking at other effects that blending learning might have. o In the contrary, there was no difference between younger learners and older learners in terms of effectiveness of blended learning. • Contrast, students' scores/grades decreased		
		Overall frequency	**49**	**54**	**42**	**46**

The results illustrated that most of the respondents, including the authors, encountered and perceived inclusions and exclusions at rates of f = 49 (54%) and f = 42 (46%), respectively. The inclusions exceeding 50% (f = 49) indicated that the respondents and authors believed the stability of the K–12 program in Philippine education is substantial. Conversely, the results of exclusions—prohibiting, removing barriers, and eliminating them—suggested that the implementation of K-12 in the Philippines may still lack stability.

Conclusion

The analysis of respondents, including students, parents, teachers, authors, and other stakeholders, led to the conclusion that the stability of the K-12 program in Philippine education is perceived as not yet fully established. The frequency count of seven gaps highlights an insufficiency in preventing potential issues, suggesting that it is premature to make a definitive judgment on the stability of the education transformation. The transformation process requires more time to develop fully. Regarding proposed action plans, it was determined that a policy equivalent to "no child left behind" should extend to teachers, ensuring equal opportunities for professional growth and global competitiveness through access to fast and high-technology resources. The assessment of experienced and perceived stability in the K-12 program in Philippine education revealed significantly higher frequencies than those in the exclusions categories. Proposed action plans aimed at addressing identified gaps, such as the lack of professional development, recognized limitations in the field of teacher professional development. Challenges include the wide disparity in learning models, the use of Augmented Reality, and the government's insufficient facilities. The synthesis of categorized results from various articles provides a baseline for future research in alignment with the study. It is highly recommended that all education agencies and stakeholders collaborate to rigorously implement the K-12 system policy. Parents are encouraged to actively participate in their children's education, guiding them in selecting tracks and strands to avoid misalignment with industry needs during tertiary education.

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