

Development and Validation of an Achievement Test in Araling Asyano with Questions Addressing the K to 12 Araling Panlipunan Skills

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ABSTRACT The study aimed to develop and validate an achievement test in Araling Asyano for Grade 7 students that can measure the mastered and least mastered skills in the K-12 Araling Panlipunan. The researcher, together with a pool of experts, categorized the learning competencies of Araling Asyano, the result of which became the basis in preparing the test blueprint. Based on the test blueprint, a set of 150 questions with four options was formulated. The draft of the instrument was submitted to a panel of experts for content validation. Also, the test underwent two try-outs. After the final administration, a total of 65 items were included in the final form of the test. To ensure reliability, the achievement test underwent the process of test-retest method, split-half method, and KR-21 formula. Similarly, the data gathered through concurrent validity and known group technique of validation supported the validity of the instrument. The researcher concluded that the achievement test is valid and reliable for it covers the areas of Araling Asyano, and the items were responsive to the skills of K-12 Araling Panlipunan.

Keywords: Araling Asyano, K-12 Araling Panlipunan, test development and validation

Introduction

Social Studies or Araling Panlipunan (AP) is one of the academic areas in the Enhanced Basic Education Curriculum (EBEC) which deals with the study of man, their community and society, and on how they lived in the past and at present. Primarily, Araling Panlipunan aims to hone and produce citizens who are censorious/analytic, contemplative, responsible, productive, nature-friendly, nationalistic, and humanitarian who have national and global perspective and appreciation of the issues of the society in the past, present, and future. Moreover, the goals of the K-12 Araling Panlipunan Curriculum is anchored on the four pillars of learning, namely learning to know, learning to do, learning to live together, and learning to be (K-12 Gabay Pangkurikulum, 2013).

The K-12 Curriculum Guide (Gabay Pangkurikulum) identified the varying scope of Araling Panlipunan subjects, one of which is Asian studies (Araling Asyano) in the Grade seven level. Araling Asyano aspire to mold students who are capable of understanding and appreciating the rich history, geography, culture, society, government, and economy of the Asian countries towards the formation of Asian identity and the joint effort to achieve development by facing the challenges in Asia. It is expected that with Araling Panlipunan subjects which includes Araling Asyano, the skills of critical mindedness, informed decision, research and investigation, historical skills, communication and global perspective, and creativity will be honed and developed among the students throughout the entire course of Araling Panlipunan.

Purpose of the Research

This study aimed to develop and validate an achievement test in Araling Asyano that will address the content and learning competencies of Araling Asyano and K-12 Araling Panlipunan skills. More specifically, the study aimed to:

1. Construct test items based on the content/ learning competencies of Araling Asyano that will address the skills of the K-12 Araling Panlipunan curriculum;
2. Try out the test items;
3. Determine the difficulty and discrimination indices of each test item;
4. Establish evidences of validity and reliability of the test; and
5. Prepare a manual for administering, scoring, and interpreting the test.

Literature Review

Tracing Test Development for Social Studies

In the area of Social Studies, Cacho (1997) developed and validated an achievement test in Heograpiya, Kasaysayan at Sibika (HEKASI) for Grade 5 students in which the test items were apparent to the content and standards of the Minimum Learning Competency (MLC). Camacho (1997), on a similar note, made an achievement test in Philippine History for high school freshmen patterned after the content and competencies of the National Secondary Education Curriculum (NSEC) while Simeon's (2003) achievement test in Philippine History made use of the PSSLC (Philippine Secondary School Learning Competencies) in formulating the test items in the instrument.

More recent studies in the field of Social Studies on test development were made by Osabede (2014) and Mahajan (2015). Both experts constructed and validated

an achievement test in Economics. Osabede (2014) constructed a 100-item test patterned after the content of the senior secondary school economics curriculum of the government of Nigeria. Mahajan (2015), on the same hand, constructed a 90-item test based on the selected topics in Economics. However, unlike Osabede (2014), Mahajan (2015) pilot tested the achievement test to 100 students in order to determine the difficulty and discriminating power of the test items. Additionally, Mahajan (2015) employed varied test item formats such as multiple choice questions, fill-in-the-blank, true or false, and one word, but he did not do a second try-out.

Tracing Test Development in Related Subject Areas

In the area of Science education, Pasagui (1991) made an achievement test in Physics for senior high school students based on the content and standards of the NSEC. On the same hand, Echague (2004) constructed an achievement test in Science for Grade 3 pupils while Adeleke and Joshua (2015) developed and validated a scientific literacy achievement test for senior high school students to assess their learning acquisition in physics. Another expert who ventured in the field of instrument validation was Castromero (2004) who validated an existing achievement test in Science and Mathematics for freshman students as a basis in developing a Regional Science Achievement Test (RSAT). He used an existing achievement test constructed by Region IV SED Office to measure the proficiency of first year high school students in science and mathematics.

In the field of mathematics education, both Pacis (2003) and Zamora (2003) made an achievement test in mathematics for Grade 6 pupils. A distinctive achievement test in mathematics that addresses higher order thinking skills was developed and validated by Oribiana (2006) for Grade 5 pupils. Hashmi, Zeeshan, Saleem and Akbar (2012)

constructed and validated an achievement test in mathematics for high school students while Jayanthi (2014) developed and validated an achievement test in mathematics for high school students in Chennai.

Aside from social studies, science, and mathematics, test development and validation have been prevalent also in other subject areas. Lebrudo (1996) developed and validated an achievement test in Home Economics & Livelihood Education (HELE) for Grade 6 pupils while Parrotina (1994) made an achievement test for the same level of students but in the field of music. Santarin (1996) constructed an achievement test for Physical Education majors of the Philippine Normal University. Similarly, Samaie and Khosravian (2014) developed and validated an achievement test to measure the reading comprehension skills of Iranian students while Sagarán (2003) made an achievement test in English for Grade 2 pupils in an inclusive setting.

Similarly, developing and validating instruments to measure other important skills and observable behavior are highly prevalent in other areas. For instance, Banan (1983) developed and validated a scientific attitude inventory test that assesses the scientific attitude possessed by Grade 6 students. Dacanay (1988) developed and validated a creative thinking test that measures the creative thinking ability of senior high school students in Metro Manila while Abulencia (2003) developed and validated an instrument that measures the academic freedom of college instructors/professors in some universities in Manila. All the studies mentioned above are proven to be original and classic in their respective fields which underwent a very intricate, rigorous, and intensive process of instrument development. In the case of Banan (1983) and Dacanay (1988), both of them included a varied group of students as participants in their researches. The sophisticated frameworks of both researches included the components of a scientific attitude inventory and creative

thinking based on the ideas and evaluation of several noted experts. Abulencia (2003) is also commendable for his in-depth discussion of the four major bases of academic freedom which provided a very strong support for his instrument in particular and his research in general.

Although the aforementioned experts in test development and validation employed a very intricate and rigorous method to achieve the purpose of their studies, most of these instruments and achievement tests were made more than a decade ago. Most of the researchers who constructed achievement tests in their subject area conducted their study during the 1990s and early 2000s, the years in which the K-12 Philippine Basic Education Curriculum was not yet implemented in the country. Most of those tests are patterned after the RBEC and, in some older cases, the NSEC and NESC which are defunct curriculum and are not anymore implemented in the Philippine basic education.

Hence, there is really a need to make an up-to-date research on instrument validation. There is a need to develop tests that will be responsive to the learning competencies and skills of respective subject areas, achievement tests that are situated in the framework of the K-12 Philippine Basic Education Curriculum. Hence, this study is indeed timely, relevant, and a cutting edge compared to other previous studies since it is the first one to dwell on the K-12 Araling Asyano and on the learning skills of the K-12 Araling Panlipunan. It is a new venture as the K-12 Program is a recent development in the country which apparently has made tremendous changes in the teaching of Araling Panlipunan and other subject areas.

The K-12 Curriculum and Assessment for Social Studies

Primarily, Asian Studies covers four major areas: Geography of Asia (Heograpiya ng Asya); Ancient Civilizations of Asia (Kabihasanan ng Asya); South and West Asia during the Transition Period of 16th-20th Century (Timog at Kanlurang Asya sa Transisyunal at Makabagong Panahon 16th-20th Siglo); and East and Southeast Asia during the Transition Period of 16th-20th Century (Silangan at Timog Silangang Asya sa Transisyunal at Makabagong Panahon 16th-20th Siglo).

Table 1. Content Learning Areas of the Achievement Test in Araling Asyano

Content Areas (Nilalaman)	Performance Standards	Araling Panlipunan Skills	Cognitive Dimensions
Heograpiya ng Asya <i>(Geography of Asia)</i>	Ang mga mag-aaral ay malalim na nakapaguugnay-ugnay sa bahaging ginampanan ng kapaligiran at tao sa paghubog ng sinaunang kabihasanang Asyano. <i>(The students can establish connections on the role of environment and people that paved way to the development of ancient civilizations in Asia).</i>	Mapanuring pag-iisip (Critical-mindedness);	Remember;
		Matalinong pagpapasya (Informed decision);	Understand;
Sinaunang Kabihasanan sa Asya <i>(Ancient Civilizations of Asia)</i>	Ang mga mag-aaral ay kritikal na nakapagsusuri sa mga kaisipang Asyano, pilosopiya at relihiyon na nagbigay daan sa paghubog ng sinaunang kabihasanan sa Asya at sa pagbuo ng pagkakilanlang Asyano. <i>(The students can critically analyse Asian ideas, philosophies, and religions that paved way to the development of ancient Asian civilizations).</i>	Pagsasaliksik at pagsisiyasat (Research and Investigation skills);	Apply;
		Kasanayang pangkasaysayan (Historical skills);	Analyze;

Timog at Kanlurang Asya sa Transisyunal at Makabagong Panahon 16th-20th siglo(<i>South and West Asia during the Transition Period of 16th-20th Century</i>).	Ang mga mag-aaral ay nakapagsasagawa ng kritikal na pagsusuri sa pagbabago, pagunlad at pagpapatuloy sa Timog at Kanlurang Asya sa Transisyonal at Makabagong Panahon (ika-16 hanggang ika-20 siglo). (<i>The students can critically analyse the changes, development and continuity in South & West Asia during the 16th-20th century</i>).	Likas-kayang pinagkukunan ng yaman (Sustainable development); Pakikipagtalastasan at pandaigdigang pananaw (Communication and Global Perspective);	Evaluate; Create
Silangan at Timog Silangang Asya sa Transisyunal at Makabagong Panahon 16th-20th Siglo (<i>East and Southeast Asia during the Transition Period of 16th-20th Century</i>).	Ang mga mag-aaral ay nakapagsasagawa ng kritikal na pagsusuri sa pagbabago, pag-unlad, at pagpapatuloy ng Silangan at Timog Silangang Asya sa Transisyonal at Makabagong Panahon (ika-16 hanggang ika-20 siglo). (<i>The students can critically analyse the changes, development, and continuity in East and Southeast Asia during the 16th-20th century</i>).	Pagkamalikhain (Creativity).	

Each area has a corresponding content and performance standards. In the first sub-area which is the Geography of Asia (Heograpiya ng Asya), the students are expected to understand the relation of people with their environment that paved way to the beginning of ancient civilizations in Asia. The second sub-area aims to hone students who can critically analyse Asian ideas, philosophy, and religion that paved way to the development of ancient Asian civilizations. The third sub-area focuses on honing students who can critically analyse the changes and development in South and West Asia during the 16th-20th century while the fourth sub-area expects students to appreciate the responsiveness of Asians to the challenges brought by changes and development in East and Southeast Asia during the 16th-20th century.

The content and performance standards reflect the lifelong learning skills that students should acquire

from their learning experience in Social Studies. The skills are the following: critical-mindedness (*mapanuring pag-iisip*), informed decision (*matalinong pagpapasya*), research and investigation (*pagsasaliksik at pagsisiyasat*), historical skills (*kasanayang pangkasaysayan*), sustainable development (*likas-kayang paggamit ng pinagkukunan ng yaman*), communication and global perspective (*pakikipagtalastasan at pandaigdigang pananaw*), and creativity (*pagkamalikhain*). These skills are to be measured in the achievement test in Araling Asyano together with Krathwohl's cognitive process dimensions, namely: remember, understand, apply, analyse, evaluate, and create. The researcher situated the test items in the test based on the content and performance standards of Araling Asyano, cognitive dimensions and Araling Panlipunan skills. It is expected that the Araling Panlipunan skills will be honed and developed among the students throughout the entire course of the K-12 Araling Panlipunan Curriculum.

Methodology

This portion of the study contains the stages undertaken by the researcher in deciding what should make up an achievement test in Araling Asyano for Grade 7 students. The first stage was the phase in which the researchers reviewed some of the existing learning materials in Araling Asyano and specified which among the content areas should be included. It was also in this stage in which the researchers decided on the test format and prepared the test blueprint. The second stage was the phase in which the test items were formulated and the initial draft submitted to a panel of experts for content validation which is a vital step for this study. The third stage included the test try-outs of the instrument. In the fourth stage, the instrument underwent the evaluation phase to estimate the reliability and establish the validity of the test.

Preliminaries (Planning Stage)

The researchers made an inventory of the books and other instructional materials used in teaching Araling Asyano, namely the Curriculum Guide for K-12 Araling Asyano, learning module and teaching guide issued by the Department of Education (DepEd), and textbooks prepared by curriculum developers. These materials were the bases in constructing the test. During this stage, the researchers sought the assistance of experts in classifying and categorizing the learning competencies of Araling Asyano. Eventually, the multiple-choice type was chosen to be the format of the instrument since most achievement and teacher-made tests in the secondary level use it. Also, many national and regional achievement tests, including entrance exams, battery tests, and board examinations, utilize the said format. This makes it one of the most popular and widely used formats in educational testing and measurement. The researchers constructed the first draft of the test specifications based on the categorization of the learning competencies of Araling Asyano.

Development Stage (Test Construction Stage)

Upon completing the first draft of the test blueprint, the researchers formulated a total of 150 test questions for the test. The test questions were arranged according to the cognitive process dimensions of Krathwohl and Anderson. The said cognitive dimension was adopted by the DepEd to be used in lesson development and in formulation of assessment tasks and activities in the classroom.

After writing the test items, the researchers presented the test to the pool of experts. This stage was very crucial, for the experts assessed and evaluated if the test questions were coherent and congruent to the learning competencies, cognitive process dimensions, and Araling Panlipunan skills.

Wiersma (2008) defined content validity as the process of establishing the representativeness of the items with respect to the domain of knowledge, skills, tasks and so forth of whatever is being measured. Gay and Airasian (2000) added that content validity is the degree to which a test measures an intended content area, and it requires both the item validity and sampling validity. During this stage, the experts thoroughly checked and examined the test items' coherence and alignment with the aforementioned elements.

Try-out Stage

Try-out is important in order to ensure that the test is a good instrument. The researchers sought the permission of the Superintendent to allow the conduct of the study in the Division. The letter of endorsement from the Schools Division Office was imperative to make the research official and legal. Six schools from the Second District of Quezon City were included in the try-out.

The first try-out was administered to 100 randomly selected Grade 9 students of School A. The Grade 9 students were chosen to answer the test since they already took and completed the content areas of Araling Asyano in the previous year. The Grade 7 and 8 students were still in the period of completing the competencies of Araling Asyano when the instrument was tested. In selecting the students, the researchers randomly picked 10 students from 10 sections in the Grade 9 level. They provided each student-participant a copy of the instrument and answer sheet. After the researchers had briefly given the instruction and discussed the purpose of the test, the students started answering. It took two and half (2 ½) hours for the students to finish answering the one hundred and fifty (150) test items.

An item analysis was made after the researchers had scored the individual test items, and only the items that fall under the .26 – .76 difficulty index and .20 – .40 discrimination indices were accepted. Based on the result of the first item analysis, 43 items were retained, 82 items were revised, and 25 items were rejected from the original 150 items. Similarly, an options analysis was made in order to ameliorate the quality of the distracters in the test.

A total of 82 items were revised after the item analysis of the first try-out and before the second try-out. Table 2 shows a sample of the original and revised form of the test items in the instrument. Moreover, the researchers also made necessary adjustment on the table of specifications in order to match and suit the revised form of the achievement test.

Table 2. Original and Revised Questions of the First Try-Out

Original Item	Revised Item	Explanation
7. Bakit palay ang pangunahing pananim ng maraming bansa sa Asya?	2. Bakit pangunahing pananim ng mg abansa sa Asya ang palay?	Item no. 7 was revised based on the result of the item analysis. The result of the Option Analysis also says that Option D has to be revised.
A. Ito ang pangunahing pagkain ng rehiyon.	A. Ito ang pangunahing pagkain ng rehiyon	Hence, from the original statement, it was changed to compliment the result of the option analysis.
B. Karamihan sa mga Asyano ay magsasaka.	B. Karamihan sa mga Asyano ay magsasaka.	
C. May matabang lupa at sapat na ulan para sa patubig.	C. May matabang lupa at sapat na ulan para sa patubig.	
D. Lubos ang suporta ng pamahalaan sa mga magsasaka.	D. Naglalaan ng pondo ang gobyerno para sa mga magsasaka.	

9. Paano naimpluwensiyahan ng relihiyog Islam ang pamumuhay ng mga Arabo?	3. Paanong ang relihiyong Islam ay nakaimpluwensiya sa pamumuhay ng mga Arabo?	Item no. 9 was revised based on its rating in the item analysis. Option B was changed based on the results of Option Analysis. As for Gronlund (1995), all alternatives should be plausible.
A. Sila ay hindi kumakain ng baboy alinsunod sa kanilang paniniwala.	A. Pagdarasal ng limang beses sa loob ng isang araw bawat linggo.	
B. Kailangan nilang magdasal ng limang beses sa loob ng isang araw.	B. Sila ay hindi kumakain ng baboy alinsunod sa kanilang paniniwala.	
C. Masasalamin ito sa kanilang pagkain, pananamit, pagsamba at iba pa.	C. Masasalamin ito sa kanilang pagkain, pananamit, pagsamba at iba pa.	
D. Makikita ito sa paraan ng kanilang pananamit lalo na sa mga kbabaihan	D. Makikita ito sa paraan ng kanilang pananamit lalo na sa mga kababaihan.	

After the revision of the test items and improvement of the distracters during the item and option analysis, the test was ready for the second and final administration. The second try-out was administered to four hundred sixty-two (462) Grade 9 students from five (5) secondary schools in the Second District of Quezon City. The students spent approximately 2 hours to answer the test which was shorter compared to the 2 ½ hours during the first try-out.

Based on the results of the item analysis, 65 items were retained, 57 items were revised, and only three items were discarded. However, for the purpose of this research, only the 65 retained items were included in the final form of the test. In addition, another options analysis was made in order to further enhance the quality of the distracters in the test. Furthermore, the researchers made necessary adjustment to the test specifications in order to match and suit to the final form of the achievement test.

Results and Discussion

The instrument is a developed and validated achievement test in Araling Asyano composed of 65 questions with four options in each item. The test covers the four learning areas of the subject area, and the test questions were situated to the K-12 Araling Panlipunan skills and cognitive process dimensions of Krathwohl. The kind of test items ranges from simple recall to questions addressing higher-order thinking skills. Several items require students to compare and contrast and analyze the cause and effect of a particular event or situation. Thus, the test has a wide-ranging type of questions.

Achievement Test in *Araling Asyano*

Sample Items

Panuto: Basahin at unawain ang bawat katanungan. Piliin ang titik ng wastong sagot mula sa pagpipilian at markahan ito sa sagutang papel. Huwag sulatan ang *test paper*.

1. Ang paniniwala ng mga Hapon na ang kanilang Emperador ay nagmula sa lahi ng mga diyos.
 - a. Devaraja
 - b. Divine Origin
 - c. Mandate of Heaven
 - d. Sinocentrism

2. Bakit pangunahing pananim ng mga bansa sa Asya ang palay?
 - a. Ito ang pangunahing pagkain ng rehiyon.
 - b. Karamihan sa mga Asyano ay magsasaka.
 - c. May matabang lupa at saat na ulan para sa patubig.
 - d. Naglalaan ng pondo ang gobyerno para sa mga magsasaka.

3. Paanong ang relihiyong Islam ay nakaimpluwensiya sa pamumuhay ng mga Arabo?
 - a. Pagdarasal ng limang beses sa loob ng isang araw bawat linggo.
 - b. Sila ay hindi kumakain ng baboy alinsunod sa kanilang paniniwala.
 - c. Masasalamon ito sa kanilang pagkain, pananamit, pagsamba at iba pa.
 - d. Makikita ito sa paraan ng kanilang pananamit lalo na sa mga kababaihan.

4. Bakit ipinagbabawal ang suttee ng mga British sa India noong 1829?
 - a. Masamang halimbawa ito para sa mga kababaihan.
 - b. Maaari ito pagmulan ng mga rebelyon at pag-aalsa.
 - c. Labag ito sa paniniwala at katuruan ang Simbahang Katolika.
 - d. Naniniwala ang mga British na ito ay hindi makatarungan at labag sa karapatang pantao.

5. Bakit nagpagawa ang mga British sa India ng mga daan, tulay, riles, dam at dike?
 - a. Nais nilang matulungan ang mga Indyanong naghihirap.
 - b. Batid nila na mainam ito upang mapadali ang transportasyon sa India.
 - c. Upang masuportahan ng mga dam at dike ang irigasyon sa mga pananim tuwing tagtuyot at krisis.
 - d. Hangad ng mga British na mapabilis ang pag-aani at ligtas na mailuwas ang mga produkto mula sa mga lalawigan patungong mga lungsod.

6. Bakit nag-alsa ang mga sundalong Sepoy laban sa mga British?
 - a. Mataas ang buwis na sinisingil ng mga British sa India.
 - b. Dahil sa pagbabawal ng mga British sa pagsasagawa ng suttee.
 - c. Hindi na nagbabayad ng buwis ang mga British sa mga Hindu sa mga telang iniluluwas sa India.
 - d. Ikinagalit ng mga sundalong Sepoy nang malaman ipinapahid ng mga British ang taba ng baka at baboy sa kanilang mga rifle.

7. Bakit tutol si Ayatollah Khomeini sa pagpasok ng mga Kanluranin sa Iran?
 - a. Makakasama ito sa Iran sapagkat taktika lamang umano ito upang makontrol ang produksiyon ng langis sa bansa.
 - b. Ang pagimpluwensiya ng mga Kanluranin sa hari ng Iran ay paraan umano upang masakop ng USA ang kanilang bansa.

8. Bakit tutol si Mohandas K. Gandhi sa paggamit ng karahasan upang makamit ang kalayaan ng India?
 - a. Maaaring matamo sa mapayapang pamamaraan ang kasarinlan.
 - b. Para lamang sa mga mahihina at matatanda ang mapayapang pakikibaka.
 - c. Mahalaga ang pondo upang makapaglunsad ng mga rebelyon at demonstrasyon
 - d. Walang patutunguhan ang mapayapang pakikibaka sapagkat malalakas ang armas ng mga Kanluranin.

9. Ano ang naging resulta ng HINDI pagkakasakop ng mga Espanyol sa mga Moro at Igorot?
 - a. Pag-aaklas na nauwi sa pagpapalayas sa mga Kastila.
 - b. Pananakop ng mga Moro sa iba't ibang lupain sa bansa.
 - c. Pagpapanatili ng mga Moro at Igorot ng kanilang tradisyon at kultura.
 - d. Naging paulit-ulit ang labanan sa pagitan ng mga Moro at Igorot laban sa mga Kastila.

Sumangguni sa mga larawan para sa **No. 10**



Source: www.hanamoflorist.com/blackplume.wordpress.com/en.wikipedia.org

10. Ano ang mababatid mula sa mga larawan?
 - a. Magkakaiba ang kultura at kontribusyon ng mga Asyano at walang mga ugnayan.
 - b. Mababakas ang mga kontribusyon na nagpapakita ng mayamang kultura ng mga Asyano.
 - c. Salungat ang mga kontribusyon ng mga bansa sa Asya na nagpapakita ng walang pagkakaisa.
 - d. Ang karamihan sa mga kontribusyon ng mga Asyano ay mula sa impluwensiyang Kanluranin.

**Note: For the complete details of the achievement test in Araling Asyano for Grade 7 students, you may e-mail the researchers at winstonebagat@yahoo.com or send a personal message through their Facebook account.*

Difficulty and Discrimination Indices

The difficulty and discrimination indices of the achievement test in Araling Asyano ranged from .35 to .76 and .20 to .40, respectively. The mean difficulty index of the test was .544 while the discrimination index, .318 which means that the test is of moderate difficulty, and its discriminating power is average.

Validation and Evaluation Stage

To establish the concurrent validity of the instrument, the achievement test was administered to two groups. The first group (Group A) comprised 150 randomly selected Grade 9 students of School A while Group B was composed of 50 randomly selected Grade 8 students from the same school. The test scores of Group A were correlated to their final grade in Araling Asyano. On the other hand, the test scores of Group B were correlated to their cumulative grade in Araling Asyano from first to third quarter since they have not finished the subject yet. The calculated value of Pearson (r) for the Grade 9 students was .80 while with the Grade 8 students, a validity coefficient of .88 was obtained, suggesting that there was a high correlation between the two sets of measures. The calculated validity coefficient attests that the achievement test is valid.

To further establish the validity of the test, the researchers employed the Known-Group Technique of validation. It is a technique which is based on the premise that two disparate groups should hold different attitudes towards a given object or situation. Furthermore, a valid scale to measure the ability in question should yield different scores for these groups (Banan, 1983, Dacanay, 1988).

To apply the aforesaid theory, three disparate groups of students were identified and included in this stage. The first group was composed of 50 randomly selected Grade 6 students of School F. The second group included 50 randomly selected Grade 8 students of School A while the third group comprised 50 randomly selected Grade 9 students from the same school. The hypothesis was that there is a difference in terms of achievement in Araling Asyano among the Grade 6, 8, and 9 students. To verify the hypothesis, the mean scores and standards deviation of the students' scores in the achievement were calculated.

Table 3 shows that the Grade 9 group had the highest mean value of 41.36. Since they already completed and finished the content/learning standards of Araling Asyano, it was expected that they would yield higher scores. This group was followed by the Grade 8 group, with a mean of 35.10, slightly lower than that of the Grade 9 group.

Table 3. Descriptive Statistics of Test Scores (3 Grade Levels)

Grade Level	N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
Six	50	19.56	6.89	.974	7.00	40.00
Eight	50	35.10	10.38	1.47	15.00	51.00
Nine	50	41.36	6.53	.924	29.00	54.00
Total	150	32.0067	12.23	.999	7.00	54.00

To test the significance of the difference among the mean scores of the three groups of students, the one-way analysis of variance was applied. A summary is presented in Table 4. The obtained F-value was 95.50, indicating that there was a significant difference between the test scores of the students from the three grade levels.

Table 4. Analysis of Variance for Difference among Mean Scores of the Three Groups of Students

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	12598.65	2	6299.33	95.50	.000
Within Groups	9696.34	147	65.96		
Total	22294.99	149			

To determine which groups differ significantly in their mean scores, the Scheffe method of multiple comparisons was computed. The results are presented in Table 5. The data revealed that significant differences exist among the mean scores of the three groups of respondents. The assumption that the third group would score significantly higher than the first and second group was accepted. The assumption that the second group would score significantly higher than the first group was also accepted.

Table 5. Scheffe Method of Multiple Comparisons for Differences among the Mean Scores

Grade Level	A	B	C
6		91.47**	180.02**
8			14.84**
9			

***p < 0.01

In this study, to determine the reliability of the instrument, the researchers formed four groups of students who were given a retest at different time intervals. The first group (Group A) composed of Grade 9 students had a one-week interval. The same was done with Group D which consisted of Grade 8 students. The test was given on January 22, 2015 while the retest was administered on January 29, 2015 or a week after to both groups. On the other hand, Group B and C, both consisted of Grade 9 students, had a two and three-week interval. The computed reliability coefficient

value of Group A was .71 and .92 for Group D while Group B and C had a reliability coefficient value of .74 and .78, respectively. This means that the instrument had a satisfying measure of stability. Popham (2000) said that a stability coefficient ranging from .70 to .90 would be satisfying enough for a well-developed achievement tests.

To establish the split-half reliability of the instrument, the test was administered to 50 randomly selected Grade 9 students of School A. The researchers picked 10 students from the five sections in the Grade 9 level. The computed value of Split-Half Coefficient was .91. This was corrected by the Spearman-Brown Coefficient with a calculated value of .95 which means that the test had a high level of reliability.

Another popular measure of internal consistency is the Kuder-Richardson Formula-21. This estimate was first used by Kuder Richardson in 1973 to determine homogeneity (Ary et al., 2002). Kubiszyn and Borich (2007) said that this method measures the extent to which items within one form of the test have as much in common with one another. In order to determine the KR-21 value of the instrument, the test was administered to 50 randomly selected Grade 9 students of School A. The calculated value of KR-21 was .92 which means that the test had a high degree of internal consistency. Fraenkel and Wallen (2009) stated that the reliability coefficient for many achievement tests, when using Kuder-Richardson Formula 21, is typically .90 or higher.

Features of the Test

The instrument is a developed and validated achievement test in Araling Asyano for Grade 7 students. It aims to measure the proficiency of students in Araling Asyano in terms of the content and learning competencies, and to identify the mastered and least mastered skills of the students in the K-12 Araling Panlipunan. The achievement

test is composed of 65 items, with four options in each item. The content of the test covers the four learning areas of Araling Asyano, namely: Geography of Asia (Heograpiya ng Asya); Ancient civilizations of Asia (Kabihasanan ng Asya); South and West Asia during the Transition Period of the 16th-20th Century (Timog at Kanlurang Asya sa Transisyunal at Makabagong Panahon 16th-20th Siglo); and East and Southeast Asia during the Transition Period of the 16th-20th Century (Silangan at Timog Silangang Asya sa Transisyunal at Makabagong Panahon 16th-20th Siglo).

In addition, the test items were constructed in such a way that they would be responsive to the Araling Panlipunan skills which is one of the major components of the K-12 Araling Panlipunan Framework. The skills are the following: critical-mindedness (*mapanuring pag-iisip*), informed decision (*matalinong pagpapasya*), research and investigation (*pagsasaliksik at pagsisiyasat*), historical skills (*kasanayang pangkasaysayan*), sustainable development (*likas-kayang paggamit ng pinagkukunan ng yaman*), communication and global perspective (*pakikipagtalastasan at pandaigdigang pananaw*), and creativity (*pagkamalikhain*). Thus, the validated achievement test is not solely based on the content areas of Araling Asyano but responsive also to the skills of the K-12 Araling Panlipunan.

For instance, item nos. 17, 18, 19, 20, 21, and 22 are situated to “being critical-minded citizens” (*mapanuring mamamayan*). These particular items are expected to measure the ability of the students to be critical and mindful of some issues and problems in the society.

Item nos. 5, 8, 13, 52, 53, and 57 are responsive to the skill on informed decision (*matalinong pagpapasya*). The aforementioned questions will test the ability of the learners to come up with firm and informed decisions which will reflect

and encompass how they handle a particular situation. These items will test their proficiency in making wise decision.

Item nos. 23, 24, 25, 26, 27, 28, and 30 are situated to research and investigative skill (*pagsasaliksik at pagsisiyasat*). These test questions are expected to measure the ability of the students to do research and investigation on historical and socio, economic, and political issues in the society. These Social Studies skills are some of the most significant skills since they awaken the curiosity of the students which is a pre-requisite to become a knowledge-seeker citizen. These skills develop students' ability to search for knowledge and meaning.

Item nos. 4, 9, 31, 32, 33, 35, 36, and 37 are associated with historical skills (*kasanyag pangkasaysayan*). These items will measure the historical skills of the learners. Developing learners' historical skills is one of the basic competencies/skills in Social Studies since most of the subjects in this discipline deals with people, events, and ideas that have made significant impact in the past. Social Studies trains students to look at a certain cause from the point of view of historians who are capable of analysing historical events free from biases.

Item nos. 2, 11, 15, 16, 36, 45 and 53 are related to the skill of sustainable use of the resources or development (*likas-kayang paggamit ng pinagkukunan ng yaman*). The above-mentioned items aim to measure the students' ability to make proper use of the natural resources. This particular skill is relevant in the 21st century and contemporary society due to the pressing issues of sustainability in the environment faced by many Asian countries at present. These questions will reflect students' responsiveness to their environment and ecology.

Item nos. 4, 7, 8, 14, 38, 46, and 49 are allied to communication and global perspective skill (*pakikipagtalastasan at pandaigdigang pananaw*). These test items are expected to measure the ability of the students to communicate effectively and impart their perspective. These skills are of prime importance since it will train students to effectively communicate and impart their stand regarding an issue.

Item nos. 10, 12, 63, 64, and 65 are responsive to the skill of creativity (*pagkamalikhain*). These items aim to measure the creativity of the students in organizing and presenting their ideas. Creativity is a must-have skill for students in this fast-changing society. Being creative will make the students stand out above the rest outside the classroom since it will hone their skills not just in organizing and presenting ideas but as well as in finding ways and solutions to a problem which will make them capable of adapting to change.

Moreover, it is also worth mentioning that these skills are not independent from one another; rather, these skills are interdependent and fluid which means that a particular test item can measure one or more Social Studies skills. Some items like item nos. 18, 19, 20, and 21, for instance, test both the critical-mindedness and research and investigative skills of the students. Other questions like item no. 60 can test six skills. This only proves that these skills are not separate entities, but they are complements to some other skills and are important to develop such.

Furthermore, the test items were also formatted based on Krathwohl's cognitive process dimensions, namely remember, understand, apply, analyse, evaluate, and create. The type of questions ranges from simple recall to questions leading to higher-order thinking in which students will have to weigh before making judgment and conclusion. Many of

the questions will let the students to compare and contrast and analyse the cause and effect of a specific situation or event both at the present times and in the past. Also, there will be instances in which students have to read texts before answering a specific question. There are several items that present data and chart from which students will have to deduce in order to come up with a conclusion. Hence, the type of questions in the validated achievement test for the K-12 Araling Asyano offers variety and complexity.

Manual for Administering, Scoring, and Interpreting the Test

Direction and Administration

Test Administration

The achievement test is designed to measure the achievement of Grade 7 students in Araling Asyano. It is highly advised that the teacher or examiner consider the psychological and physical environment of the testing area, such as the seating arrangement of the students, ventilation, and chair alignment.

The achievement test has a total of 65 items and based on the final administration of the test, on the average, it takes 60-80 minutes for the students to finish the exam. The materials that will be used by the students will be the following: test booklet, answer sheet, and a pencil or a ballpoint to blacken the circle that corresponds to their answer.

Administering the Achievement Test in Araling Asyano

Before administering the test, the teacher or examiner will say to the students:

“Today, you will be taking an achievement test in Araling Asyano. This examination is designed

to measure your mastery level in the subject area. You will be given a test paper and an answer sheet. Read the directions carefully. Read and understand each and every question in the test. Shade the letter in the answer sheet that corresponds to your answer.”

Having said/read aloud the statement above, the teacher or examiner will then distribute the answer sheets and ask students to write their name, section, and other information that are being asked.

The teacher/examiner will say:

“Make sure that you write your name, section, and other information in the answer sheet.”

After the answer sheets have been distributed and filled-out by the students, the teacher/examiner will distribute the test booklet to the students.

The teacher/examiner will then say:

“Be sure that each one of you has an answer sheet and a test booklet. Once you have received your test booklet, kindly check the number of pages, and make sure that it has 15 pages. You may also check for blurred and misprint items or pages for replacement.”

Once the students are done checking their test booklet, the teacher/examiner will say:

“Before you start answering, do not forget to read the general instruction.”

The teacher/examiner will then read the instruction for the class to hear. The teacher/examiner will also remind the students that they are not supposed to write anything on the test booklet.

**Note: For the complete details of the Manual of Instruction of the achievement test in Araling Asyano for Grade 7 students, you may e-mail the researcher at winstonebagat@yahoo.com or send a personal message through his Facebook account.*

Limitations of the Achievement Test in Araling Asyano

This achievement test in Araling Asyano cannot measure the outcomes of product-/performance-based task which is one of the major components of the K to 12 Araling Panlipunan curriculum. Despite undergoing a rigorous and intricate process, having high value of validity and reliability coefficients, and being situated to the Araling Asyano content and Araling Panlipunan skills, this validated instrument cannot measure the outcomes of product- and performance-based tasks of the students because most of the questions in this dimension were removed due to mortality during test try-outs. Besides, such skills can be best measured using authentic assessment task tools depending on the preference of the teacher and the product/performance task that will be measured or assessed. Hence, Araling Panlipunan teachers may develop another instrument for the said purpose.

Although the test items in the achievement test were formulated based on the content and performance standards of Araling Asyano, there are still some cultural and social aspects concerning the test if it will be administered in other parts of the Philippines, e.g., Visayas and Mindanao. Students from those areas may not be able to grasp some of the questions in the test due to localization or contextualization since most of the test items in this achievement test were situated to the experience of the researchers and students in Metro Manila. Furthermore, there should be some cultural and social sensitivity if this achievement test will be given to some minority groups, e.g., Muslims, Hindu, Indigenous People, Filipino-Chinese, international students, due to some scenario/situational questions in the test.

Conclusion

Based on the findings, the researcher concluded that the constructed achievement test in Araling Asyano for Grade 7 students is valid and reliable. It covers the four sub-areas of the K-12 Araling Asyano, as follows: Geography of Asia, Ancient Civilizations in Asia, South and West Asia during the Transition Period, and East and Southeast Asia during the Transition Period. Also, the test items are consistent with and responsive to the skills of the K-12 Araling Panlipunan curriculum, namely critical-mindedness (*mapanuring pag-iisip*), informed decision (*matalinong pagpapasya*), research and investigation (*pagsasaliksik at pagsisiyasat*), historical skills (*kasanayang pangkasaysayan*), sustainable development (*likas-kayang paggamit ng pinagkukunan ng yaman*), communication and global perspective (*pakikipagtalastasan at pandaigdigang pananaw*), and creativity (*pagkamalikhain*).

Additionally, test development is proven to be a tedious and rigorous process. It requires a lot of time starting from specifying the content areas and objectives, preparing the table of specifications and especially to formulating test questions. It will be better for teachers and researchers to attend workshops on test writing and be familiar with the different kinds of questions. Reading and analysing test instruments would be of great help to grasp an idea on how to write a good test item. Likewise, checking and validating the test questions in the instrument cannot be done alone by the researcher. Choosing a panel of experts who will evaluate the content and consistency of test items to the content, competencies, and cognitive process dimension is proven to be an extremely vital stage in test development. It is better to choose credible experts who will devote time and effort to check the alignment of the test questions to the content and competencies.

Another vital step is choosing the student-participants who will be included in the survey. The researcher should ensure that the students are credible which means they will take the test seriously by reading the questions thoroughly before answering it. Many students will get bored reading long questions, but they should be reminded that they have to read carefully. To guarantee this, the researcher should personally administer the test to safeguard that all things regarding the test is taken care of. Time is also an important factor. Students answering the test should be given a considerable amount of time to answer each and every question.

Moreover, the researcher should choose a sizeable number of students to answer the instrument to obtain a more reliable result both in the test try-out and instrument validation phase. Likewise, one of the keys in developing an achievement test is in the test administration. The test examiner should be adept in giving instructions for the test and should be able to answer all the possible questions that may arise during the try-out. Thus, the researcher should be present during the test try-out and not just let other examiners to monitor the test administration.

Recommendations

The researchers proposed the following recommendations based on the findings of the study and conclusion made: First and foremost, the achievement test in Araling Asyano may be administered to schools in other Divisions in Metro Manila, both public and private. It can also be administered to other educational institutions outside Metro Manila, whether public or private, in order to establish standardized norms for the groups. Second, the achievement test in Araling Asyano may be administered at the offset of the academic year in order to measure the achievement of Grade 7 students in the subject and for teachers to identify the mastered and least mastered

skills of the students. Giving it at the onset of the academic year will defeat the purpose of this test. Third, the developed achievement test in Araling Asyano can serve as a backbone in developing a better achievement test in the future. Since the K-12 Program is currently at its infancy stage, there will still be a lot of changes and adjustments in the Social Studies curriculum. Hence, teachers and teacher-researchers should always keep themselves abreast of the development and trends in Social Studies teaching in the country.

Fourth, similar research may be conducted in World History (*Kasaysayan ng Daigdig*), Economics, and other subject areas (e.g., Filipino, ESP, MAPEH, TLE). Fifth, researchers can look into the kind of questions that teachers asked/constructed in the periodical test, achievement test, and other related assessment instrument and identify the most tested skills. Sixth, curriculum and subject area specialists in Social Studies (Araling Panlipunan) may develop and validate a learning module that will truly cover the content and performance standards of Araling Asyano. Seventh, curriculum experts and/or researchers can check and verify if Araling Panlipunan teachers are able to finish the scope and coverage of Araling Asyano and suggest possible recommendations if found otherwise. Eighth, curriculum experts, subject area specialists, and researchers can look into the sequence of scope and topics in Araling Asyano and “thematise” these scope and topics especially in the third and fourth quarter.

Ninth, teachers and teacher-researchers may develop and validate an achievement test in Araling Asyano for non-reader students and students with special learning needs since giving this same instrument to those students will put them at a disadvantage situation. Tenth, a correlation study can be made on teachers’ teaching performance/strategy and achievement test performance. Eleventh, teachers and teacher-researchers may use this achievement test to identify

the mastered and least mastered skills of Grade 7 students in Araling Asyano and come up with remedial program/activities for the least mastered skills. Twelfth, a focus group discussion (FGD) may be conducted by future researchers to obtain qualitative data on the pedagogy used by teachers in teaching the subject. Lastly, researchers and Araling Asyano teachers may establish a test bank or repository of item questions in the subject area that are responsive to the learning competencies of Araling Asyano, cognitive dimensions, and Araling Panlipunan skills.

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