



Assessing Confidence Level and Numerical Ability: Basis for Review Sessions as Extension Program Towards Success

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ABSTRACT :

Numerical ability is one of the core components the Career Service Examination, therefore, a solid conceptual understanding of it, is crucial for success. However, the majority of aspiring examinees shared that they struggle specifically with numerical and logical concepts due to inadequate foundations and lack of targeted study material. Thus, this study was conducted to determine the numerical and logical reasoning ability of CS examinees in the municipality of Aglipay and Cabarroguis, province of Quirino. Additionally, it also described their confidence level of the examinees in taking different areas under numerical ability. Result shows that and logical reasoning. Result reveals that most of the respondents were repeaters combining the number of those who have taken the examination twice and so on. As to level of confidence, they were described as confident with the different key areas but described as satisfactory as to their numerical ability. Also, there is a significant relationship between the confidence level and numerical ability of the respondents. This result leads to the extension program proposed by the BS Mathematics program of QSU-Cabarroguis Campus. The free review program offered to help the CS examinee pass the examination and have a better career-related opportunities that is not limited within government sector. Also, for them to have avenues for career growth, professional development, and opportunities to serve the community and the nation.

Keywords: *Career Service Examination, Numerical Ability, Number Sequence, CSE Takers, Worded-Problems*

INTRODUCTION

The Civil Service Commission administers the Career Service Examination (CSE), which is a prerequisite for employment in the Philippine government. Despite being a highly sought-after test, the majority of test takers fail due to inadequate preparation, a lack of review resources, and a lack of proficiency in fundamental skills in logic and numerical reasoning.

Factors influencing success and recruitment patterns revealed in the different researches. Limama et al. (2025) demonstrated strong predictive validity between entrance exam stanine scores and Career Service Exam (CSE) success among Bachelor of Public Administration students, with correlations of $\rho = .722$ for stanine scores and $r = .752$ for English grades. Lanuza et al. (2022) found that a 6-week free review program significantly improved CSE performance among public employees, with civil status and age bracket interactions affecting post-test results ($p = 0.047$). Gonzaga & Villafuerte (2025) identified successful strategies through interviews with 29 CSE passers, highlighting the importance of digital resources, personalized study schedules, and mental readiness for exam preparation. Lee et al. (2024) analyzed Korean youth panel data over 12 years, revealing that better-educated, prosocial, and well-off individuals are more likely to prepare for civil service examinations, while exam success correlates with talent and prosocial behavior rather than affluent backgrounds.

Similarly, Tan & Balasico (2018) found that mathematical ability, along with verbal ability and logical reasoning, served as key predictors of student academic performance in the National Career Assessment Examination. The importance of numerical reasoning extends beyond educational contexts, as Ejiogu & Trent (2007) established that numerical reasoning provides incremental validity over critical thinking in predicting job performance and overall potential as measured by supervisors' ratings. However, Al-Negheimish et al. (2021) caution that current assessment metrics may inadequately measure true numerical reasoning capabilities in machine reading comprehension tasks, suggesting potential limitations in how numerical reasoning is evaluated across different contexts.

Furthermore, numerical ability demonstrates strong correlations with academic achievement, significantly influencing mathematical literacy skills (Riani et al., 2022) and contributing 22.65% to learning achievement variance in mathematics education students (Anderha & Maskar, 2021). On the other hand, logical reasoning performance reveals several key factors influencing outcomes across different contexts. Cognitive development level significantly impacts performance, with students at formal operational levels demonstrating superior abilities compared to those at concrete or transitional levels (Bird, 2010). Gender differences appear in specific reasoning domains, with females showing better performance in proportional reasoning tasks (Ongcoy, 2016), though overall logical reasoning abilities remain comparable between genders across most areas including combinatorial reasoning, variable control, and correlational reasoning (Ongcoy, 2016).

Emotional states substantially influence numerical ability performance, particularly among adolescents where emotions strongly impact rational reasoning processes (Verma & Dubey, 2020). Career selection decisions involve multiple individual-related factors that can be scientifically analyzed to determine optimal career paths (Gunwant et al., 2023). Performance varies across different logical reasoning modes, with students typically performing better on

probabilistic reasoning tasks while struggling more with proportional and combinatorial reasoning problems (Ongcoy, 2016).

In addition, Utama & Yulianto (2022) developed a numerical ability test for clerical employee selection, demonstrating that such tests can reliably and validly measure administrative work performance through psychometric validation using Cronbach's alpha and criterion-related validity methods. Halizah & Napfiah (2024) found that students' numerical abilities vary based on cognitive styles, with field-independent students showing moderate numerical abilities compared to field-dependent students who demonstrated relatively low performance across problem-solving, mathematical calculation, and logical thinking indicators. Mustofa (2020) identified no gender differences in numerical competence among vocational students but highlighted specific difficulties including comparing diagram data (54.9%), analyzing tables (61.6%), and evaluating table-based questions (63.8%). Oktaviani & Rahmatika (2022) analyzed numerical literacy in elementary mathematics exams, finding that decision-making aspects and problem-solving characteristics were most prevalent in assessment questions during the 2020/2021 academic year.

On the other hand, research on civil service examination confidence and performance reveals several key factors influencing success. A phenomenological study of Filipino civil service passers found that mental readiness, self-confidence, positive thoughts, and stress tolerance techniques were crucial for exam success, alongside effective study scheduling and digital resources (Gonzaga & Villafuerte, 2025). Korean research examining civil service and bar exam applicants discovered that higher self-esteem and social support were negatively correlated with depression, though applicants generally experienced only minimal depression levels (Kim et al., 2007). Studies on test-taking confidence demonstrate that confidence significantly relates to test performance, with regression analyses showing confidence as a stronger predictor than perceived test-taking skills (Smith, 2002). These findings collectively emphasize the importance of psychological factors, particularly confidence and self-esteem, in civil service examination success.

Notably, there are also recent research that has focused on developing machine learning models capable of numerical ability in text comprehension tasks. Ran et al. (2019) introduced NumNet, a numerically-aware graph neural network for machine reading comprehension that achieved 64.56% EM-score on the DROP dataset by considering numerical relations among numbers. Xiao-Yu Guo et al. (2021) enhanced Neural Module Networks for complex question answering by making the interpreter question-aware and capturing entity-number relationships. Chen et al. (2020) proposed a question-directed graph attention network using heterogeneous graph representations to enable multi-step numerical reasoning over text contexts. Mishra et al. (2020) addressed the need for format-independent numerical reasoning by introducing NUMBERGAME, a multifaceted benchmark evaluating models across eight diverse question formats, highlighting the challenges in developing practical numerical reasoning systems that can handle various formats and incorporate commonsense knowledge.

Noting this, the Bachelor of Science in Mathematics of Quirino State University–Cabarroguis Campus saw this need of helping CSE takers to pass the exam and started a program that offered free tutorial through a review sessions to aspiring CSE test-takers. It is crucial to ascertain the target participants' degree of confidence and exam-related preparation before implementing the program. In which, the review program aims to enhance exam preparation, improve performance, and support participants in achieving their career goals.

Objectives of the Study

This study was conducted to determine the confidence level and numerical ability of the respondents.

Specifically, this aims to:

1. Determine the profile of the respondents in terms of:
 - 1.1 Age
 - 1.2 Gender
 - 1.3 Educational Attainment
 - 1.4 Place of Work
 - 1.5 Number of Taking
2. Determine the confidence level of the respondents in taking different areas under numerical ability.
3. Assess the numerical ability of the respondents.
4. Examine if there is significant relationship between confidence level and numerical ability of the respondents.
5. Proposed an extension program based on the result of the study.

Null Hypothesis

There is no significant relationship between confidence level and numerical ability of the respondents.

Conceptual Framework

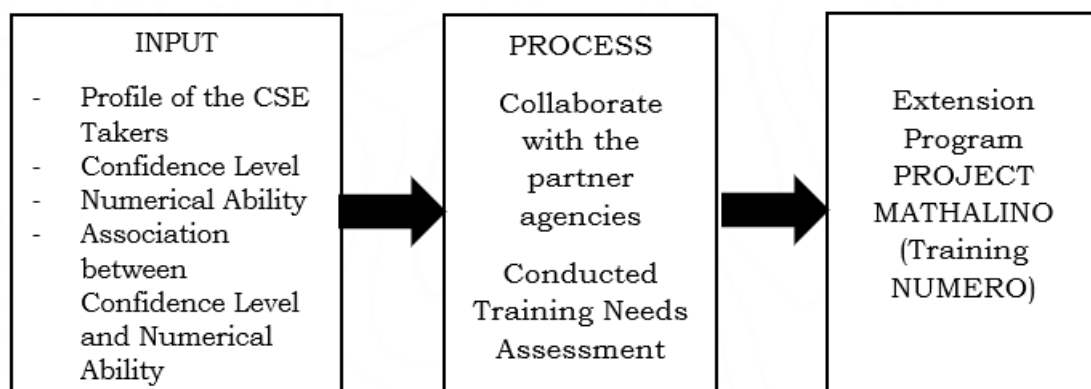


Figure 1 shows the conceptual framework of the study

Figure shows the framework of the study. In which, determining profile of the respondents such as age, gender, educational attainment, place of work, and number of times taking the CSE, confidence level, numerical ability and the association between confidence level and numerical ability were used as the Input. As to process, looking for the partner agencies which in this study, LGU Cabarroguis and LGU Aglipay who have a memorandum of agreement serve as the beneficiaries of this undertaking. From determining partner agencies to conducting of assessment on the specific needs of the CSE takers in particular. Finally, as a result of the assessment, the project MATHALINO which Training NUMERO to be specific was proposed and conducted to meet the needs of the said beneficiaries and help them achieve success towards their goals.

2. RESEARCH METHODOLOGY

This study utilized quantitative approach. Specifically, descriptive-correlational was used. It is descriptive for it determines profile of the respondents, confidence level and numerical ability of the CSE takers. Additionally, it is correlational, for it also examine if there is significant relationship between confidence level and numerical ability. Respondents of this study were from LGU Cabarroguis and LGU Aglipay were consent from municipal mayors were taken as part of the ethical consideration. Research instrument used is composed of three (3) parts. Part 1 is about their profile; part 2 is about their confidence level as to answering the different key areas under numerical ability; and lastly, part 3 is an assessment of their numerical ability which is divided into 3 (basic operations, number sequence, and worded-problems).

Statistical Treatment of Data

Frequency and Percent - Frequency tells how many times each value appears while percent is a way to express a part of a whole as a fraction of 100, percentages are often used to provide a relative understanding of the distribution of data. These were used in the distribution of profile of the respondents. Mean – is a measure of central tendency that represents the average value of a set of data. It was used to described the level of confidence and percent scores of the CSE takers as a result from their assessment test. In which, the following tables were used.

Table 1. Level of Confidence

Interval	Description
1.00 – 1.75	Highly Not Confident
1.76 – 2.51	Not Confident
2.52 – 3.27	Confident
3.28 – 4.00	Highly Confident

Table 2. Mean Percent Scores

Interval	Description
91.50 – 100	Excellent
85.50 – 91.49	Very Satisfactory
82.50 – 85.49	Satisfactory
74.50 – 82.49	Fair
69.50 – 74.49	Conditional
0 – 69.49	Failure

Source: QSU Student Manual

3. RESULTS AND DISCUSSION

The details included in this section include findings and statistical analysis associated to the objectives of the study.

Part 1. Profile of the Respondents

Table 3. Profile of the Respondents

Profile	f	%
Age		
23 and below	9	21.4%
24 – 26	8	19.0%
27 – 29	3	7.1%
30 and above	22	52.4%
Gender		
Masculine	15	35.7%
Feminine	23	54.8%
LGBTQIA+	4	9.5%
Educational Attainment		
College Graduate	33	78.6%

Vocational	5	11.9%
On-going Masters	4	9.5%
Work Place		
LGU Cabarroguis	20	47.6%
LGU Aglipay	14	33.3%
Others	8	19.0%
Number of Takes		
First Timer	17	40.5%
Second	17	40.5%
Third	6	14.3%
Others	2	4.8%
Total	42	100

Table 1 shows the profile of the respondents. In which, most of them, or 52.4%, are aged 30 and above, while 21.4% are 23 years old and below. In terms of gender, the majority are feminine (54.8%), followed by masculine (35.7%), and LGBTQIA+ (9.5%).

For educational attainment, most respondents are college graduates (78.6%), while a few completed vocational courses (11.9%) and 9.5% are on-going masters. As to their workplace, nearly half are employed in LGU Cabarroguis (47.6%), while 33.3% work in LGU Aglipay, and 19.0% are employed in other agencies.

As for the number of times they took the examination, 40.5% are first timers, another 40.5% are on their second take, 14.3% have taken it three times, and only 4.8% have taken it more than three times.

Part 2. Level of Confidence in the Different Key Areas of CSE Takers

Table 4. Level of Confidence in the Different Key Areas

Statement	Mean	SD	Description
<i>Nakakaintindi ng mga pattern (hal. number series, sequence)</i>	3.12	0.832	Confident
<i>Marunong mag-solve ng word problems</i>	2.90	0.790	Confident
<i>Marunong sa basic arithmetic operations (add, subtract, multiply, divide)</i>	3.24	0.692	Confident
<i>Marunong sa basic operations sa fractions</i>	3.02	0.841	Confident
<i>Marunong sa basic operations sa decimals</i>	3.12	0.670	Confident
<i>Marunong sa percentages</i>	2.98	0.715	Confident
<i>May kakayahang mag-analisa ng logic-based situations</i>	2.39	0.671	Not Confident
<i>Marunong mag-interpret ng graphs or charts</i>	2.81	0.773	Confident
<i>Marunong mag-interpret ng tables</i>	2.95	0.697	Confident
<i>Marunong sa problem solving under time pressure</i>	2.48	0.759	Not Confident
Overall Mean	2.90	0.744	Confident

Legend: 1 – 1.75 = Highly Not Confident

2.52 – 3.27 = Confident

1.76 – 2.51 = Not Confident

3.28 – 4.00 = Highly Confident

The table above shows that the overall mean of 2.90 (SD = 0.744), respondents were confident as to the different statements indicated referring how confident they are in the different key areas under numerical ability of the CSE. A closer look at the individual items reveals that students feel most confident in performing basic arithmetic operations (M = 3.24, SD = 0.692), followed by understanding number patterns or sequences (M = 3.12, SD = 0.832) and handling decimals (M = 3.12, SD = 0.670). These indicate strength in foundational computation skills.

However, relatively lower mean scores were observed in logic-based analysis (M = 2.39, SD = 0.671) and problem solving under time pressure (M = 2.48, SD = 0.759), both described as “Not Confident.” These areas suggest challenges in higher-order thinking and time-constrained reasoning. This implies that, while students generally demonstrate confidence in basic mathematical concepts, there remains a need for interventions focusing on analytical and time management skills to enhance their numerical ability.

Similarly, from the study of Gonzaga and Villafuerte (2025) mental readiness, as well as emotional considerations, such as self-confidence, positive thoughts and stress tolerance techniques were also important. Among the benefits noted, improved job opportunities and career progress were said to be some of the benefits.

Part 3. Numerical Ability of the CSE Takers

Table 5. Numerical Ability of the CSE Takers as to Scope

Scope	Mean Percent Score	Description
Basic Operation	91.74	Excellent
Number Sequence	82.61	Satisfactory
Word Problems	78.45	Fair
Overall	84.27	Satisfactory

Legend: 0 – 69.49 = Failure; 69.50 – 74.49 = Conditional; 74.50 – 82.49 = Fair; 82.50 – 85.49 = Satisfactory; 85.50 – 91.49 = Very Satisfactory; 91.50 – 100 = Excellent

The table above shows that CSE takers numerical ability is satisfactory with the mean percent score of 84.27. Ability on solving basic operations is described as excellent having the mean of 91.74. As to recognizing number sequence or pattern, they are satisfactory with the mean of 82.61 and lastly,

fair when it comes to worded-problems (78.45).

Research on numerical abilities and civil service examinations reveals several concerning patterns. Hitch (2020) found that industrial trainee apprentices, many with mathematics qualifications, performed poorly on basic numerical skills, particularly with decimals and fractions, while showing elementary conceptual difficulties that compound during manipulation tasks. This suggests fundamental gaps in numerical competency despite formal qualifications.

Part 4. Test of Significant Relationship Between Confidence Level and Numerical Ability of the CSE Takers

Table 6. Test of Significant Relationship Between Confidence Level and Numerical Ability of the CSE Takers

Confidence Level		
Numerical Ability	Pearson's r	0.781
	p-value	<.001
	Decision	Failed to Reject Ho

From table above, it shows that computed pearson's r is 0.781 which shows positive high correlation between confidence level and numerical ability of the respondents. Additionally, since the computed p-value is less than 0.05, then the association between confidence level and numerical ability is significant. This implies that as confidence level is increasing, their numerical ability is increasing too. Similarly, high ability in answering basic operations corresponds to high confidence. However, lower ability in answering worded problems also corresponds to lower confidence.

Similarly, from the result of the study of Permatasari & Sutarto (2022), students with higher confidence levels demonstrated better mathematical concept understanding abilities.

Empirical evidence supports this relationship, with fifth-grade students showing a significant positive correlation ($r = 0.504$, $p < 0.001$) between self-confidence and mathematics achievement, with self-confidence accounting for 25.4% of variance in learning outcomes (Roni et al., 2025). Realistic mathematics learning approaches effectively enhanced both problem-solving skills and self-confidence, with self-confidence effects reaching 67.1% on sequence and series materials (Kosim et al., 2020).

Part 4. Proposed Extension Program

- I. Title of the training: Training NUMERO: Nurturing Understanding Through Mastery and Exercises in Reasoning and Operations
- II. Type of Community Extension Service: Community Development
- III. Department Involved: Bachelor of Science in Mathematics
- IV. Cooperating Agencies: LGU Aglipay and LGU Cabarroguis
- V. Beneficiaries: CSE Takers on August from the Municipality of Cabarroguis and Aglipay
- VI. Rationale of the Training (brief description of the situation):
The BSMATH Department would like to help all the August CSE takers of the LGU Aglipay and LGU Cabarroguis. This training will focus on Logical Reasoning and Numerical Reasoning (Basic arithmetic practice, measurement and conversion exercise, data presentation from graphs, tables, and charts, real-life math application, and Interactive math games through digital tools). Passing the CSE will help them secure employment, and participate effectively in community development. Given these challenges, the QSU-Cabarrogus BSMATH ETS Team will be conducting a training to the CSE takers of LGU Aglipay and LGU Cabarroguis.
- VII. Objectives (General and Specific):

The numeracy training aims to improve and understand the basic mathematical skills and numerical literacy of the CSE Takers of LGU Aglipay and LGU Cabarroguis empowering them to confidently use math in daily life and enhancing their opportunities for education and employment. Specifically, it aims to:

1. To strengthen participants' proficiency of fundamental arithmetic operations.
2. To develop skills in measurement and conversion of units in both metric and customary systems for practical use in daily activities.
3. To improve participants' ability in presentation of data and interpretation of data from graphs, tables, and charts.
4. To apply mathematical concepts in real-life situations.

VIII. Description of the training, Strategies and Methods (Activities/Schedule):

The numeracy training for the CSE takers of LGU Aglipay and LGU Cabarroguis is on August 1, 2025 training designed to improve skills on basic arithmetic operations, number sequence and worded problems as part of the numerical ability in the CSE.

Strategies and Methods:

1. Interactive Lectures – Key mathematical concepts will be introduced through engaging presentations to ensure understanding.
2. Visual Aids and Manipulatives – Charts, graphs, and physical tools will be used to enhance the learning experience, especially in data interpretation and measurement.
3. Hands-On Activities – Real-life math applications will be practiced through individual and group exercises, such as fundamental operations, discovering patterns, measuring objects, converting units, presentation and interpretation of data, and problem-solving.

Training Schedule and Activity

Time	Activity
Morning	
7:30-8:30 am	Registration
8:31-8:45 am	Opening Remarks
8:46-9:45	Pretest

9:46-10:45 am	Lectures on Basic Operations
10:46-11:00 am	Break
11:01-12:00 am	Continuation of Lectures (Number Sequence)
12:01-1:00 pm	Lunch
Afternoon	
1:01-2:00 pm	Continuation of Lectures (Worded Problems)
2:01-3:00	Continuation of Lectures (Worded Problems)
3:01-3:15 pm	Break
3:16-3:45 pm	Test Taking Techniques and Tips
3:46-4:30 pm	Posttest
4:30-4:45	Distribution of certificates
4:45-5:00pm	Closing Remarks

CONCLUSIONS AND FUTURE WORKS

Conclusion

Profile of the respondents indicates that most of the CSE takers are adult professionals, predominantly female, college graduates, and currently working in local government units, and are repeaters. Confidence level is important in the success of taking civil service examination particularly on numerical ability because it may affect their mental readiness. The strong positive relationship between numerical ability and confidence level implies that improving students' actual mathematical proficiency especially in problem solving and logical reasoning—may also enhance their self-perceived confidence in mathematics as a whole.

Recommendation

- For the CSE takers that they consider boosting their confidence level by trying to practice mathematical concepts specifically the basic ones for them to set their mental readiness during examination.
- For the BS Mathematics Department that may continuously doing the extension program. Also, that they may consider inviting CSE takers from other LGUs to have a wider scope of the project. Additionally, they may consider providing additional supplementary review materials.
- For the institution that they may consider offering regular tutorial or review sessions for other scope or areas of the civil service examination.
- For the Local Government Units that they may consider giving their full support in letting their employees attend review sessions and access to learning resources. Additionally, by giving incentives to those who have passed the civil service examination.

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LITERATURE CITED

- Al-Negheimish, H., Madhyastha, P., & Russo, A. (2020). Numerical reasoning in machine reading comprehension tasks: Are we there yet? Proceedings of the Conference on Empirical Methods in Natural Language Processing (EMNLP).
- Anderha, R. R., & Maskar, S. (2021). Pengaruh kemampuan numerasi dalam menyelesaikan masalah matematika terhadap prestasi belajar mahasiswa pendidikan matematika. Jurnal Ilmiah Matematika Realistik, 2(1), 1–9.
- Chen, K., Xu, W., Cheng, X., Xiaochuan, Z., Zhang, Y., Song, L., Wang, T., Qi, Y., & Chu, W. (2020). Question directed graph attention network for numerical reasoning over text. Proceedings of the Conference on Empirical Methods in Natural Language Processing (EMNLP).
- Ejiogu, K. C., & Trent, J. D. (2007). Incremental validity of numerical reasoning over critical thinking. Gonzaga, N. T., & Villafuerte, R. B. (2025) Exams to excellence: Inspiring success stories of Civil Service passers: A case study of Central Bicol State University of Agriculture - Cala Banga Campus, Philippines Asian Journal of Advanced Research and Reports.
- Guo, X.-Y., Li, Y.-F., & Haffari, G. (2021). Improving numerical reasoning skills in the modular approach for complex question answering on text. Proceedings of the Conference on Empirical Methods in Natural Language Processing (EMNLP)
- Halizah, N., & Napfiah, S. (2024). Analisis kemampuan numerik siswa ditinjau berdasarkan gaya kognitif. Prismatika: Jurnal Pendidikan dan Riset Matematika, 7(1), 12–22.

- Hitch, G. (2020). The numerical abilities of industrial trainee apprentices. *British Journal of Psychology*, 69(2), 211–221. <https://doi.org/10.1111/j.2044-8295.1978.tb01644.x>
- Kim, H.-Y., Choe, K., Kwon, H.-J., & Yang, B. S. (2007). The factors influencing depression of applicants preparing for civil service and bar exams. *Journal of Korean Academy of Psychiatric and Mental Health Nursing*, 16(4), 377–385.
- Kosim, A., Sunardi, & Tirta, I. (2020). Analysis of realistic mathematics learning approach on the students' problem-solving skill and self-confidence on sequence and series materials. *Journal of Physics: Conference Series*, 1539, 012026. <https://doi.org/10.1088/1742-6596/1539/1/012026>
- Lanuza, M. H., Quintana, M., & Salvador, J. (2022). The CCC Oplan Kalinga: A bridge to wisdom through free Civil Service Examination review for public servants of LGU Calamba: A factorial MANOVA analysis. *Proceedings of the International Conference on Future of Education*.
- Lee, D. S., Chung, K. H., & Rhee, I. (2024). Who becomes a civil servant? Evidence from a decade of youth panel analysis. *Public Management Review*.
- Limama, L. A., Levara, F. S., Dagohoy, M. M. T., & Lagura, G. (2025). Predictive validity of entrance exam stanine scores and academic performance in English and Math on Career Service Exam success among BPA students. *International Journal of Research and Innovation in Social Science*.
- Mishra, S., Mitra, A., Varshney, N., Sachdeva, B. S., & Baral, C. (2020). Towards question format independent numerical reasoning: A set of prerequisite tasks. *arXiv preprint arXiv:2005.01836*.
- Mustofa, Z. (2020). Kompetensi numerasi siswa SMK ditinjau dari gender dan berbagai kesulitannya. *Jurnal Pendidikan Matematika Universitas Lampung*, 8(3), 210–219.
- Oktaviani, R., & Rahmatika, C. (2022). Analisis literasi numerasi dan berkarakteristik HOTS pada soal ujian matematika kelas V SD/MI tahun pelajaran 2020/2021 Kecamatan Menganti Gresik. *Jurnal Muassis Pendidikan Dasar*, 2(1), 33–45.
- Permatasari, D. N., & Sutarto, H. (2022). Analysis of the ability to understand mathematical concepts in terms of students' confidence in blended learning. *Unnes Journal of Mathematics Education*, 11(2), 150–158.
- Ran, Q., Lin, Y., Li, P., Zhou, J., & Liu, Z. (2019). NumNet: Machine reading comprehension with numerical reasoning. *Proceedings of the Conference on Empirical Methods in Natural Language Processing (EMNLP)*
- Riani, N. K., Husna, A., & Gusmania, Y. (2022). Pengaruh kemampuan verbal dan kemampuan numerik terhadap kemampuan literasi matematis. *Aksioma*, 11(2), 1004–1013.
- Roni, R., Muhamad, C., & Ngatman, N. (2025). Enhancing mathematics achievement through self-confidence: A correlational study of fifth-grade students in Indonesian public primary schools. *Journal of Literacy Education*, 4(1), 22–33.
- Smith, L. F. (2002). The effects of confidence and perception of test-taking skills on performance. *Educational Research and Evaluation*, 8(2), 145–157. <https://doi.org/10.1076/edre.8.2.145.3856>
- Tan, D. A., & Balasico, C. L. (2018). Students' academic performance, aptitude and occupational interest in the National Career Assessment Examination. *PUPIL: International Journal of Teaching, Education and Learning*.
- Utama, R. P., & Yulianto, A. (2022). Penyusunan numerical ability test untuk seleksi karyawan bidang klerikal. *Buletin Poltanesa*, 25(2), 45–54.