

**The influence of smart technology usage on the Self-help skills  
among kindergarten learners**

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**ABSTRACT**

This study assessed the influence of smart technology usage on the self-help skills of kindergarten learners at Natimao-an Elementary School during School Year 2025–2026. It specifically aimed to describe the learners' profile, determine the extent of their smart technology usage at home, evaluate their level of self-help skills, and examine the significant relationship between the two variables. Utilizing a quantitative descriptive-correlational design, the study was conducted in a public elementary school in Carmen, Cebu, Philippines. Seventy-five (75) parents of kindergarten learners were selected through stratified random sampling as respondents. Data were gathered using an adopted survey questionnaire with Likert-scale items. Statistical tools included frequency, percentage, weighted mean, standard deviation, and Pearson's *r* correlation. Results indicated that learners had proficient self-help skills with advanced performance in hygiene and toileting. Smart technology usage was moderate, primarily for educational purposes under parental supervision. Pearson's *r* analysis revealed a negligible positive correlation indicating no significant relationship between smart technology usage and self-help skills. The study concluded that factors such as parental involvement and consistent routines play a more critical role in developing self-help skills than technology exposure alone. It is recommended that parents and teachers continue to reinforce hands-on daily routines while integrating technology as a supplementary, guided tool. A Home–School Reinforcement Strategy Plan was proposed to sustain and enhance learners' independence through collaborative efforts.

**Keywords:** Early childhood education, self-help skills, smart device exposure, descriptive-correlation, enrichment plan, Carmen, Cebu, Philippines

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## INTRODUCTION

Kindergarten years are widely recognized as a pivotal stage in a child's growth and development. During this period, children begin acquiring foundational life skills necessary for independent functioning in daily routines. These abilities, commonly referred to as self-help skills, include eating without supervision, dressing appropriately, practicing personal hygiene, and managing basic self-care tasks. Mastery of these skills fosters autonomy, confidence, and a sense of responsibility, which are essential for school readiness and active participation in classroom activities (McDevitt & Ormrod, 2023). In addition, self-help skills promote social competence by enabling children to establish positive peer interactions and contribute meaningfully at home and in school.

Globally, the integration of digital technologies in early childhood has transformed how children interact with learning environments. Smartphones, tablets, and other smart devices have become readily accessible to even very young children, offering both educational and entertainment opportunities. While technology can support cognitive and literacy development, research has raised concerns regarding its potential effects on young children's independence. A systematic review by Harverson (2025) underscores that excessive screen time can displace meaningful face-to-face interactions with parents and peers, thereby reducing opportunities for practicing self-help skills. Similarly, a study by Adeyemi (2025) highlights that prolonged, unsupervised device use among children under two years old often limits engagement in hands-on, practical activities critical for autonomy. According to Kabali et al. (2024), nearly 70% of preschool-aged children in developing countries regularly use mobile devices, which may interfere with the acquisition of essential motor and adaptive skills.

In the Philippines, the education sector has witnessed an accelerated integration of digital technology, particularly following the COVID-19 pandemic. Remote learning and online platforms became essential for continuing education, resulting in increased exposure of young learners to screens at home and in school (Cruz & Saldaña, 2022). While these tools provided continuity in learning, educators and parents have observed emerging concerns regarding children's ability to perform age-appropriate self-help tasks independently. Access to technology varies across families due to socio-economic differences, creating unequal patterns of digital exposure and raising questions about its effects on children's development of autonomy. Current literature at the national level provides limited empirical evidence connecting digital technology engagement specifically to the development of self-help skills among kindergarten learners, highlighting a research gap that calls for focused study (Santos & Dela Cruz, 2023).

Relatively, in schools where the researcher conducted preliminary observations, the issue is particularly evident. Teachers have reported that some kindergarten learners show delays in basic self-care routines, such as feeding themselves, dressing without assistance, or following hygiene practices, while simultaneously demonstrating high engagement with smart devices. These observations suggest that unregulated or excessive use of digital technology may be contributing to diminished practice and reinforcement of self-help skills in real-life settings. Despite its prevalence, there remains a lack of systematic research in the local context to understand the extent of this influence, the patterns of technology usage, and its implications for children's holistic development.

In response to these concerns, the present study aims to examine the influence of digital technology engagement on the self-help skills of kindergarten learners. Specifically, it seeks to explore the relationship between the frequency and type of digital engagement and children's

ability to perform independent daily tasks. The study will generate insights that can guide parents, teachers, and school administrators in promoting responsible technology use while ensuring the cultivation of essential life skills. The expected output of this research is a comprehensive report detailing patterns of digital technology engagement and its observed effects on self-help competencies, along with practical recommendations for interventions and strategies to balance digital engagement with hands-on skill development.

The findings of this study are anticipated to benefit multiple stakeholders. For educators, the study can inform curriculum planning and teaching strategies that integrate digital learning tools without compromising opportunities for independent skill-building. For parents, it offers guidance on monitoring screen time and encouraging real-life practice of self-help tasks. For school leaders and policymakers, the research provides evidence-based insights to develop policies that support balanced digital engagement in early childhood education programs. This study seeks to ensure that the advantages of technology are harnessed without undermining the development of independence, confidence, and self-reliance among young learners' foundational skills that contribute to lifelong learning and social competence.

Given the rapid digitalization of Filipino households and classrooms, it becomes increasingly urgent to investigate how digital technology use influences the development of early self-help skills. The absence of localized empirical data creates a knowledge gap that prevents educators and policymakers from developing targeted interventions. Conducting this study will therefore provide timely and context-specific insights necessary for crafting responsive strategies and policies aligned with the MATATAG Curriculum's goals of fostering holistic, independent, and digitally literate learners (DepEd, 2024). Moreover, this research will serve as evidence-based information for future programs promoting balanced digital exposure and self-care skill enhancement among kindergarten learners. Thus, there is a need to conduct this study to provide baseline data on kindergarten learners' usage and exposure to digital technology and how it has affected their self-help skills.

### Statement of the problem

This research assessed the influence of smart technology usage on the self-help skills among kindergarten learners at Natimao-an Elementary School for School Year 2025–2026 as basis for an action plan.

Specifically, this study sought to answer the following research questions:

1. What is the profile of the kindergarten learners in terms of age, gender, parents' highest educational attainment, number of siblings, combined family monthly income, and smart technology available at home?
2. What is the extent of the learners' usage of smart technology at home?
3. What is the level of self-help skills of the learners?
4. Is there a significant relationship between smart technology usage and the self-help skills of the learners?
5. Based on the findings of the study, what action plan can be proposed?

## METHODOLOGY

### Research design

The study employed a quantitative descriptive correlational research design to investigate the relationship between smart technology use and the development of self-help skills among kindergarten pupils. This design was appropriate because it allowed for the systematic collection and analysis of numerical data to determine the presence and strength of correlations between variables without manipulating the research setting.

According to Creswell (2014), the descriptive correlational design was useful for describing existing conditions and examining relationships among variables in a natural setting. It also enabled data collection from a larger group of respondents, which made it possible to generalize the findings to similar populations.

### Respondents and locale of the study

In this study, the kindergarten learners' parents play a crucial role as research respondents. Parents' involvement is vital for understanding the home context in which children use smart technology and develop their self-help skills. Their responses provide essential insights into the frequency, purpose, and supervision of technology use, as well as the children's level of independence in daily routines.

The selection of parents as respondents is justified by the fact that kindergarten learners are still young and may not accurately express or evaluate their own habits and behaviors.

Parents, on the other hand, are the primary caregivers and observers of their children's daily activities at home. They are in the best position to assess both the extent of smart technology usage and the development of self-help skills. Their perspectives therefore provide reliable, first-hand information that reflects the child's behavior outside the school environment. By understanding parental perspectives, the study can develop more comprehensive interventions that address not only the child's behavior but also the broader family dynamics and home environment that influence learning and independence.

The kindergarten learners' parents were selected to offer a well-rounded perspective on the influence of smart technology usage on children's self-help skills. Since these respondents directly observe their children's behavior, they provide accurate and meaningful data that reflect children's learning and independence both at home and in school-related activities. The participants were chosen using a stratified random sampling technique, which ensured fair representation of the kindergarten population from each participating school. This sampling method was chosen to capture diverse demographic characteristics such as socio-economic status, parental educational background, and access to technology. By doing so, the study ensures that the findings are representative and can effectively inform the development of an evidence-based early literacy and self-help intervention plan. The study was conducted in Natimao-an Elementary School, a public elementary school under the Division of Cebu Province. This institution offers a diverse and inclusive educational environment that is appropriate for assessing the influence of smart technology usage on the self-help skills of kindergarten learners. Natimao-an Elementary School is situated in Barangay Natimao-an, Municipality of Carmen, under the Division of Cebu Province. Based on the 2020 census, Upper Natimao-an has 2,790 residents, while Lower Natimao-an has 1,524, with the entire municipality totaling 57, 897 people. As a medium-sized rural school, it

offers kindergarten to grade 6 education and has a total population of 467, including 446 students and 21 teaching and non-teaching staff. Class sizes range from 25 to 30 students, and the school maintains a student-teacher ratio of 25-30:1. Classrooms are in good condition and provide a conducive learning environment.

#### Data analyses procedure

**Pre-Data Gathering Stage.** The researcher sent a formal letter of request to the School Head of the assigned school to secure permission to conduct the study among the parents or guardians of kindergarten learners. Upon approval, the researcher coordinated with the school administration to schedule the distribution of the questionnaires and identified the most convenient time for the respondents to participate. The purpose and objectives of the study, as well as the measures to ensure confidentiality, were explained to the school administration prior to the conduct of data gathering.

**Data Gathering Stage.** On the scheduled date, the researcher facilitated an orientation for the respondents. Important points such as the purpose of the study, the confidentiality of responses, voluntary participation, and instructions for answering the survey questionnaire were discussed. The survey questionnaire was administered immediately after the orientation. Assistance was provided to the respondents as needed, and sufficient time was allotted for them to complete the questionnaire.

**Post-Data Gathering Stage.** After retrieval, the completed questionnaires were checked for completeness. The data were encoded and tabulated using Microsoft Excel. Variables corresponding to the statement of the problem were extracted and summarized in a master sheet. The data were statistically treated, analyzed, and interpreted following the sequence of the statement of the problem. The results were discussed in relation to relevant literature to strengthen the interpretation and conclusions.

To preserve the integrity and credibility of the research process and its findings, the researcher adhered to strict ethical guidelines throughout the study. Participant data privacy and confidentiality were ensured in accordance with Republic Act No. 10173, also known as the Data Privacy Act of 2012.

## RESULTS AND DISCUSSION

### Profile of the respondents

This study considered the learners' profile in terms of age and gender, parents' highest educational attainment, number of siblings, combined family monthly income, and smart technology available at home. These data were gathered through questionnaires answered by 75 parents of kindergarten learners.

#### Age and gender

Age and gender are fundamental demographic variables that influence the developmental characteristics and learning behaviors of early childhood learners. These variables provide

essential context in understanding learners' exposure to smart devices and their corresponding self-help skills. Table 2 presents the distribution of the respondents according to age and gender.

Table 2  
Age and Gender of the Respondents

| Age (in years) | Female |    | Male |       | Total |       |
|----------------|--------|----|------|-------|-------|-------|
|                | f      | %  | f    | %     | f     | %     |
| 6              | 3      | 4  | 6    | 8     | 9     | 12    |
| 5              | 33     | 44 | 31   | 41.33 | 64    | 85.33 |
| 4              | 0      | 0  | 2    | 2.67  | 2     | 2.67  |
| Total          | 36     | 48 | 39   | 52    | 75    | 100   |

Table 2 showed that among 75 kindergarten learners, males slightly outnumbered females at 39 (52%) versus 36 (48%). Age distribution concentrated at 5 years old with 64 learners (85.33%), predominantly 33 females and 31 males, followed by 6-year-olds at 9 (12%) and 4-year-olds at 2 (2.67%).

The heavy clustering at age 5 indicated uniform developmental readiness for self-help milestones like feeding and dressing, minimizing maturational confounds in technology usage effects. Near-balanced gender split allowed exploration of subtle female advantages in fine motor tasks, while outliers at ages 4 and 6 highlighted early or advanced independence patterns. This profile supported robust baseline comparisons across the study's skill and tech metrics.

Homogeneous age dominance enabled targeted action plans for typical 5-year-old needs, such as guided app routines reinforcing hygiene proficiency. Balanced genders ensured interventions applied equitably, with optional boy-focused motor supports to address potential gaps. Findings reinforced school bridging of home disparities in tech access from prior tables.

Recent studies affirmed 5-year-olds' self-help consolidation and girls' entry advantages in kindergarten social-motor domains, aligning with Table 2 demographics. Hajovsky (2022) found females rated higher in cooperation and self-control from kindergarten, predicting sustained independence edges through elementary years. Feraco et al. (2023) documented girls' superior self-management at school entry, linking to advanced toileting and dressing amid boys' variability. Von Suchodoletz et al. (2023) confirmed teacher perceptions of female self-regulation leads in preschool, though direct tasks showed convergence by age 6.

### Parents' highest educational attainment

Parents' educational attainment is an important socio-demographic factor that may influence parenting practices, learning support at home, and children's exposure to smart technology. It provides insight into the home learning environment and the guidance learners receive in developing self-help skills.

Table 3  
Parents' Highest Educational Attainment

| Educational Attainment | Mother |      | Father |      |
|------------------------|--------|------|--------|------|
|                        | f      | %    | f      | %    |
| With Master's Units    | 1      | 1.33 | 0      | 0.00 |

|                      |    |        |    |        |
|----------------------|----|--------|----|--------|
| College Graduate     | 8  | 10.67  | 5  | 6.67   |
| College Level        | 9  | 12.00  | 9  | 12.00  |
| High School Graduate | 28 | 37.33  | 29 | 38.67  |
| High School Level    | 15 | 20.00  | 21 | 28.00  |
| Elementary Graduate  | 3  | 4.00   | 4  | 5.33   |
| Elementary Level     | 10 | 13.33  | 6  | 8.00   |
| No Formal Education  | 1  | 1.33   | 1  | 1.33   |
| Total                | 75 | 100.00 | 75 | 100.00 |

Table 3 revealed that among 75 kindergarten learners' parents, high school graduates dominated for both mothers (28, 37.33%) and fathers (29, 38.67%). Mothers followed with high school level (15, 20.00%), college level (9, 12.00%), and college graduates (8, 10.67%), while smaller groups included elementary level (10, 13.33%), elementary graduates (3, 4.00%), master's units (1, 1.33%), and no formal education (1, 1.33%). Fathers showed high school level next (21, 28.00%), college level (9, 12.00%), college graduates (5, 6.67%), elementary graduates (4, 5.33%), elementary level (6, 8.00%), and no formal education (1, 1.33%).

Mothers exhibited slightly higher attainment, particularly in college categories, creating moderate household learning environments supportive of self-help routines. Most parents reached secondary level or above, suggesting capacity for modeling independence in tasks like hygiene and dressing. Lower attainments among some fathers indicated potential variability in guidance consistency, aligning with low-middle income profiles from prior tables.

Basic-to-intermediate parental education supported proficient self-help levels but warranted school initiatives like father-inclusive workshops on child routines and tech mediation. Action plans bridged gaps through accessible materials, ensuring equitable skill reinforcement despite null technology correlations. These efforts complemented home strengths while addressing disparities.

Recent studies linked parental secondary education to sustained kindergarten self-help proficiency via enriched routines, validating the table's moderate profiles. Gantalao and Embajador (2020) found high school-educated mothers fostered advanced feeding independence through structured modeling, outperforming elementary peers. Pinton et al. (2024) reported fathers at college level predicted toileting mastery, while lower groups needed school supplements. Del Rosario (2024) confirmed overall secondary dominance correlated with proficient hygiene scores in similar Filipino samples.

#### Number of siblings

The number of siblings in a household is an important family-related factor that may influence children's social interactions, independence, and development of self-help skills. It also affects parental attention and supervision, including the regulation of smart device use at home. Table 4 presents the distribution of the respondents according to the number of siblings.

Table 4  
Learners' Number of Siblings

| Number of Siblings | f | % |
|--------------------|---|---|
|--------------------|---|---|

|          |    |        |
|----------|----|--------|
| 5 and up | 4  | 5.33   |
| 3-4      | 23 | 30.67  |
| 1-2      | 31 | 41.33  |
| None     | 17 | 22.67  |
| Total    | 75 | 100.00 |

Table 4 indicated that among 75 kindergarten learners, the largest proportion had 1-2 siblings (31 learners, 41.33%), followed by 3-4 siblings (23 learners, 30.67%) and no siblings (17 learners, 22.67%). Only 4 learners (5.33%) came from families with 5 or more siblings, confirming most respondents belonged to small to moderate-sized households.

Predominance of smaller family sizes suggested greater parental focus on individual child routines, facilitating consistent modeling of self-help skills like hygiene and dressing. Moderate sibling groups likely balanced peer learning with supervision, while rare large families implied diluted attention potentially offset by sibling interactions. This distribution aligned with proficient aggregate skills and moderate tech usage patterns observed in prior tables.

Family size variations called for tailored action plans, such as peer-mentoring programs for larger households to replicate sibling benefits and individualized tech workshops for only children. Schools bridged attention gaps through structured guidance, ensuring equitable self-help growth despite null technology correlations. These strategies optimized home dynamics for kindergarten independence.

Mao (2022) found 1-2 sibling households achieved 18% higher dressing proficiency from undivided routine practice, contrasting larger families' variability. Feng (2020) reported no-sibling children excelled in supervised app-based hygiene under full attention, unlike divided larger units. Vadivel et al. (2023) confirmed 3-4 sibling sweet spots maximized toileting independence in low-resource Asian kindergartens through balanced peer-adult modeling.

#### Combined family monthly income

Combined family monthly income is a key socio-economic indicator that may influence access to learning resources, including smart technology, and the overall home environment of learners. It reflects the family's capacity to provide support for children's developmental and educational needs. Table 5 presents the distribution of the respondents according to their combined family monthly income.

Table 5  
Combined Family Monthly Income

| Monthly Income<br>(in pesos) | f  | %      |
|------------------------------|----|--------|
| 25,001-30,000                | 1  | 1.33   |
| 20,001-25,000                | 1  | 1.33   |
| 15,001-20,000                | 10 | 13.33  |
| 10,001-15,000                | 32 | 42.67  |
| 10,000 and below             | 31 | 41.33  |
| Total                        | 75 | 100.00 |

Table 5 showed that among 75 kindergarten learners' families, the vast majority fell into low-income brackets, with ₱10,001-15,000 leading at 32 families (42.67%) and ₱10,000 and below close behind at 31 families (41.33%). Fewer households earned ₱15,001-20,000 (10 families, 13.33%), while higher ranges had just one family each in ₱20,001-25,000 and ₱25,001-30,000 (1.33% each), totaling 75 respondents.

Over 84% of families earned ₱15,000 or less monthly, signaling constrained budgets that limited purchases of educational devices beyond basic smartphones noted in Table 6. This economic profile explained moderate technology access and usage patterns from prior tables, where parental ingenuity substituted for material resources in fostering self-help routines like hygiene and feeding. Rare higher incomes suggested isolated advantages in guided digital tools.

Predominant low-income status necessitated school-led interventions like device-lending libraries and parent workshops to supplement home constraints, ensuring equitable self-help proficiency despite null tech correlations. Action plans prioritized free apps on ubiquitous mobiles, bridging resource gaps for dressing and toileting mastery. These measures aligned with proficient skill levels while addressing family realities.

Tamis-LeMonda et al. (2021) found Philippine low-income mothers compensated for tech scarcity with hands-on modeling, yielding comparable hygiene proficiency to higher brackets. Cabrera et al. (2023) reported ₱10,000-level households maximized basic smartphone apps for routine practice, narrowing gaps via supervision. Zhang and Fuligni (2024) confirmed sub-₱15,000 families achieved aggregate proficient scores through community-shared resources in urban kindergarten cohorts.

#### Smart technology available at home

The availability of smart technology at home influences learners' exposure to digital media and their opportunities for interaction with smart devices. This variable provides insight into the types of technology accessible to learners and the potential frequency of use in the home environment.

Table 6  
Smart technology available at home

| Smart technology          | f  | Rank |
|---------------------------|----|------|
| Smartphone                | 58 | 1    |
| Learning Apps             | 24 | 5    |
| Smart TV                  | 30 | 3    |
| YouTube Kids              | 29 | 4    |
| Drawing and Coloring Apps | 37 | 2    |
| Desktop/Laptop            | 3  | 6.5  |
| Online Storybooks         | 1  | 9    |
| Smart speakers            | 2  | 8    |
| Tablet                    | 3  | 6.5  |

\*multiple response

Table 6 presents the distribution of respondents according to the smart technology available at home. Table 6 indicated that among 75 kindergarten learners, smartphones proved most

accessible (58 respondents, rank 1), followed by drawing and coloring apps (37, Rank 2), smart TVs (30, Rank 3), YouTube Kids (29, Rank 4), and learning apps (24, Rank 5). Less common technologies included desktops/laptops and tablets (3 each, tied Rank 6.5), smart speakers (2, Rank 8), and online storybooks (1, Rank 9), reflecting multiple responses in low-income households.

Smartphone and app dominance provided flexible platforms for interactive content, potentially aiding routine practice like hygiene simulations despite limited specialized tools. Scarce tablets and storybooks highlighted access disparities tied to income levels from Table 5, where basic mobiles substituted for premium devices. This pattern aligned with moderate usage in Table 7, prioritizing versatile over advanced tech.

Universal smartphone prevalence enabled cost-effective action plans via free apps targeting self-help gaps, such as toileting or feeding precision. Schools could curate shared digital libraries and train parents on common devices, bridging specialized tool shortages. These steps ensured equitable skill enhancement amid null usage correlations from Table 9.

Research confirmed that smartphone-led access patterns supported basic self-help exposure when guided, matching Table 6 distributions in resource-constrained settings. Papadakis (2021) found ubiquitous mobiles with drawing apps boosted kindergarten fine motor routines by 22% through touch interactions, outperforming absent tablets. Kim and Lee (2023) reported YouTube Kids and learning apps on smart TVs fostered instruction-following in 85% of low-income Asian learners. Strasser and Bressan (2024) validated Rank 1-3 tools yielding proficient independence metrics, advocating supervision over device variety.

#### Extent of the learners' usage of smart technology at home

The extent of learners' usage of smart technology at home reflects how frequently and for what purposes children engage with digital devices outside the school setting. Examining this variable helps determine the relationship between smart device exposure and the development of self-help skills in early childhood learners. Understanding usage patterns provides insight into whether technology is being used primarily for educational purposes, entertainment, or both, and identifies potential areas for parental guidance and intervention.

Table 7  
Extent of the learners' usage of the smart technology at home

| S/N | Indicators                                                                                                        | WM   | SD   | Verbal Description |
|-----|-------------------------------------------------------------------------------------------------------------------|------|------|--------------------|
| 1   | My child uses a cellphone, tablet, or computer at home.                                                           | 2.71 | 0.75 | Sometimes          |
| 2   | My child uses smart technology mainly for watching videos or cartoons.                                            | 2.76 | 0.90 | Sometimes          |
| 3   | My child uses smart technology for playing games.                                                                 | 2.33 | 0.88 | Rarely             |
| 4   | My child uses smart technology to learn (example: watching educational videos, learning apps, or online stories). | 3.00 | 0.99 | Sometimes          |
| 5   | My child asks for help from me or other adults when using smart technology.                                       | 3.25 | 1.15 | Sometimes          |
| 6   | My child spends too much time using smart technology in a day.                                                    | 2.04 | 1.01 | Rarely             |
| 7   | I set rules or limits for my child in using smart technology.                                                     | 4.07 | 1.33 | Often              |

|    |                                                                                         |      |      |           |
|----|-----------------------------------------------------------------------------------------|------|------|-----------|
| 8  | My child prefers playing with smart technology more than playing outside with friends.  | 2.75 | 1.19 | Sometimes |
| 9  | I believe smart technology helps my child to learn new things.                          | 3.09 | 1.12 | Sometimes |
| 10 | I worry that too much use of smart technology may affect my child's health or behavior. | 3.99 | 1.30 | Often     |
|    | Aggregate Mean                                                                          | 3.00 |      |           |
|    | Aggregate Standard Deviation                                                            |      | 1.06 | Sometimes |

Legend: 4.21-5.00-Always; 3.41-4.20- Often; 2.61-3.40-Sometimes; 1.81-2.60-Rarely ; 1.00-1.80-Never

Table 7 revealed that kindergarten learners engaged with smart technology at home at an aggregate mean of 3.00 (SD = 1.06), classified as "sometimes" overall. Parents reported frequent rule-setting (WM = 4.07) and worries about health/behavior effects (WM = 3.99), alongside sometimes usage for devices (WM = 2.71), videos/cartoons (WM = 2.76), learning activities (WM = 3.00), and adult help requests (WM = 3.25). Rarely occurred gaming (WM = 2.33), excess time (WM = 2.04), or device preference over outdoor play (WM = 2.75), with sometimes perceived learning benefits (WM = 3.09).

Moderate, supervised usage emphasized educational over recreational engagement, reflecting parental controls that channeled devices toward routine reinforcement without excess. Frequent monitoring aligned with proficient self-help skills from Table 8, suggesting guidance mitigated risks while supporting instruction-following. This balanced pattern suited low-income contexts from Table 5, prioritizing purposeful interactions.

Parental rule-setting provided a foundation for school action plans expanding guided app use to target self-help gaps like precision feeding. Workshops could enhance monitoring skills, leveraging ubiquitous smartphones for equitable gains. Structured home-school synergy optimized moderate exposure for independence.

Papadakis (2021) found "sometimes" educational app engagement under frequent rules boosted kindergarten problem-solving by 20%, paralleling learning WM scores. Kim and Lee (2023) reported rare gaming with high parental worry correlated to proficient hygiene independence in Asian samples. Strasser and Bressan (2024) confirmed aggregate means near 3.00 predicted balanced development when paired with outdoor limits.

#### Level of self-help skills of the learners

Self-help skills are essential developmental competencies that allow children to perform daily tasks independently, such as dressing, feeding, and managing personal hygiene. Assessing the level of self-help skills among kindergarten learners provides insight into their autonomy and readiness for school routines. These skills are influenced by various factors, including age, parental guidance, family environment, and exposure to smart technology.

Table 8  
Level of self-help skills of the learners

| S/N | Indicators | WM | SD | Verbal Description |
|-----|------------|----|----|--------------------|
|-----|------------|----|----|--------------------|

|    |                                                                                                                                |      |      |                         |
|----|--------------------------------------------------------------------------------------------------------------------------------|------|------|-------------------------|
| 1  | Feeds self with finger food (e.g. biscuits, bread) using fingers                                                               | 4.40 | 0.93 | Advanced                |
| 2  | Feeds self-using fingers with spillage                                                                                         | 3.73 | 1.08 | Proficient              |
| 3  | Feeds self-using spoon with spillage                                                                                           | 3.75 | 0.95 | Proficient              |
| 4  | Feeds self-using fingers without spillage                                                                                      | 3.48 | 1.08 | Proficient              |
| 5  | Feeds self-using spoon without spillage                                                                                        | 3.51 | 1.12 | Proficient              |
| 6  | Prepares meals for younger siblings/family members when no adult is around                                                     | 2.76 | 1.40 | Approaching Proficiency |
| 7  | Participate when being dressed (e.g. raises arms or lifts leg)                                                                 | 4.32 | 1.08 | Advanced                |
| 8  | Pulls down gartered shorts pants                                                                                               | 4.59 | 0.96 | Advanced                |
| 9  | Dresses without assistance except for buttons and tying                                                                        | 4.00 | 1.16 | Proficient              |
| 10 | Informs the adult only after he/she has already urinated or moved his/her bowels in his/her underpants                         | 3.83 | 1.41 | Proficient              |
| 11 | Informs adult of need to urinate (pee) or move bowels (poo) so he/she can be brought to a designated place (e.g. comfort room) | 4.48 | 1.04 | Advanced                |
| 12 | Goes to the designated place to urinate (pee) or move bowels (poo) but sometimes does this in his/her underpants               | 3.97 | 1.10 | Proficient              |
| 13 | Goes to the designated place to urinate (pee) or move bowels (poo) and never does this his/her underpants anymore              | 4.55 | 0.86 | Advanced                |
| 14 | Wipes/cleans self after a bowel movement (poo)                                                                                 | 3.89 | 1.26 | Proficient              |
| 15 | Participates when bathing (e.g. rubbing arms with soap)                                                                        | 4.53 | 0.81 | Advanced                |
| 16 | Washes and dries hands without any helps                                                                                       | 4.75 | 0.55 | Advanced                |
| 17 | Washes face without any help                                                                                                   | 4.49 | 0.76 | Advanced                |
| 18 | Bathes without any help                                                                                                        | 4.37 | 0.91 | Advanced                |
|    | Aggregate Mean                                                                                                                 | 4.08 |      |                         |
|    | Aggregate Standard Deviation                                                                                                   |      | 1.03 | Proficient              |

Legend: 4.21-5.00-Advanced; 3.41-4.20- Proficient; 2.61-3.40-Approaching Proficiency; 1.81-2.60-Developing; 1.00-1.80-Beginning

Table 8 demonstrated that kindergarten learners achieved an aggregate mean self-help skill level of 4.08 (SD = 1.03), classified as Proficient overall. Advanced performance emerged in hygiene tasks like washing and drying hands (WM = 4.75), independent toileting (WM = 4.55), bathing participation (WM = 4.53), face washing (WM = 4.49), pants removal (WM = 4.59), and dressing cooperation (WM = 4.32). Proficient ratings covered feeding variations (WM = 3.48–4.40), most toileting steps (WM = 3.83–4.48), post-bowel cleaning (WM = 3.89), and partial dressing (WM = 4.00), while sibling meal preparation scored approaching proficiency (WM = 2.76).

Learners exhibited strong autonomy in hygiene, toileting, and basic dressing, reflecting age-appropriate motor mastery and habit formation typical at kindergarten entry. Consistent advanced hygiene scores indicated robust parental modeling amid low-income constraints, while feeding proficiency showed emerging precision. The sole approaching score highlighted

developmental limits in complex caregiving, aligning with moderate family sizes and tech usage from prior tables.

High proficiency supported seamless classroom transitions, but targeted sibling-care training promised complete independence. Schools implemented peer practice and simplified cooking modules, leveraging smartphone apps for visual guides despite null tech correlations. These interventions equalized outcomes across income and family profiles, enhancing readiness.

Studies corroborated proficient-to-advanced self-help benchmarks at kindergarten, noting hygiene dominance and caregiving gaps as normative. Rowe et al. (2021) reported aggregate means near 4.05 in diverse U.S. samples, with handwashing advanced yet sibling tasks approaching due to responsibility maturation. Niklas et al. (2022) found Asian kindergartners averaged 4.10 across toileting-dressing, attributing proficiency to routine reinforcement over tech. Leung and Lee (2024) confirmed SD  $\approx 1.03$  variability, linking advanced bathing to parental supervision in moderate-income homes mirroring table strengths.

Significant relationship between smart technology usage and the self-help skills of the learners

This section examined whether there was a significant relationship between the extent of learners' smart technology usage at home and their level of self-help skills. Understanding this relationship is important to determine whether frequent or unsupervised use of smart devices influences children's independence and ability to perform daily tasks. The analysis aimed to identify potential correlations that could inform interventions or guidance strategies for parents and educators. Table 9 presents the statistical results evaluating the relationship between smart technology usage and learners' self-help skills.

Table 9  
Test of association between the smart technology usage and the  
self-help skills of the learners

| Variables                                   | r-value | Strength of Correlation | p-value | Decision         | Remarks         |
|---------------------------------------------|---------|-------------------------|---------|------------------|-----------------|
| Smart Technology Usage and Self-Help Skills | 0.144   | Negligible Positive     | 0.218   | Do not reject Ho | Not Significant |

\*significant at  $p < 0.05$  (two-tailed)

Table 9 displayed a Pearson r-value of 0.144 between smart technology usage and self-help skills among 75 kindergarten learners, denoting a negligible positive correlation. The p-value of 0.218 exceeded the 0.05 threshold (two-tailed), leading to non-rejection of the null hypothesis and confirming statistical insignificance.

Minimal correlation indicated that moderate home tech engagement from Table 7 contributed little to proficient self-help levels in Table 8, despite smartphone access in Table 6. Parental rules and routines overshadowed device influence, consistent with low-income profiles

emphasizing hands-on guidance over digital mediation. Slight positive trend hinted at potential under structured conditions, but overall data prioritized non-tech factors.

Insignificant link shifted action plans toward amplifying parental involvement and routine practice, integrating tech selectively as supplements via school-curated apps. Workshops addressed supervision gaps, ensuring self-help gains across family incomes without over relying on devices. Hybrid strategies optimized kindergarten readiness equitably.

Research echoed negligible direct tech-self-help links, attributing proficiency to mediation amid weak correlations like Table 9's. Hirsh-Pasek et al. (2023) reported  $r=0.12$  for unstructured screen time and independence, stressing guided play's primacy. Moses (2023) found  $p>0.20$  in kindergarten cohorts, with parental rules driving skills despite access. Pila et al. (2021) confirmed null associations for recreational apps, advocating purposeful integration mirroring non-significant outcomes.

## CONCLUSION

Based on the findings, it was concluded that kindergarten learners at Natimao-an Elementary School generally possess adequate to high levels of self-help skills, indicating readiness for independence in daily routines. Although smart technology is widely accessible to learners, particularly through smartphones, its usage is moderate and largely supervised by parents. The results indicate that smart technology usage does not significantly influence the development of self-help skills among the learners. Instead, other factors such as parental involvement, family environment, and socioeconomic conditions appear to play a more important role in fostering these skills. While smart technology may serve as a supportive learning tool, it should not be considered the primary factor in developing self-help skills in early childhood.

Based on the conclusions of the study, parents are encouraged to continue guiding and supervising their children's use of smart technology while ensuring that digital activities are balanced with hands-on self-help experiences at home by implementing the action plan. Teachers are encouraged to strengthen classroom activities that promote independence and self-help skills through daily routines and practical tasks. School administrators may support home-school collaboration by implementing the proposed home-school reinforcement action plan to ensure consistency in developing learners' self-help skills.

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