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Factors Influencing Student Attitudes towards the Study of ICT as a G. C. E. (A/L) Subject: A Case of Schools in Piliyandala Education Zone

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Abstract: *The Sri Lankan government has made considerable investment in promoting Information and Communication Technology (ICT) education in schools. Nationally, the number of students selecting ICT as a G.C.E. (A/L) subject has grown substantially from 2015 to 2020. This study investigates the factors influencing student attitudes towards studying ICT at the Advanced Level, with reference to schools in the Piliyandala Education Zone. The study pursued four objectives: identifying factors influencing students' attitudes towards ICT at A/L; examining the relationship between ICT subject selection and other subject streams; determining the relationship between positive attitudes and academic achievement; and assessing the current ICT environment in selected schools. A qualitative approach was employed, using semi-structured interviews and observation with a randomly selected sample of 50 Grade 12 students across five schools. Data were analyzed using descriptive methods and independent sample t-tests via SPSS. Findings revealed that job market demand, teacher quality, and computer laboratory facilities are the primary factors influencing subject selection. Most students combine ICT with the technology stream. Statistical analysis confirmed a significant relationship between positive student attitudes and academic performance. The study recommends revising the ICT syllabus to align with industry trends, strengthening teacher professional development, and upgrading school laboratory infrastructure.*

Keywords: *ICT education, Student attitudes, G.C.E. (A/L), Subject selection, Piliyandala Education Zone*

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1. Introduction

The rapid proliferation of Information and Communication Technology (ICT) across social, economic, and cultural domains over the past two decades has fundamentally transformed the global landscape. ICT is broadly defined as the skills, software, applications, and systems surrounding computing and communications devices (Mid-Pacific ICT Center, 2014), and its integration into education systems worldwide has become a strategic priority for governments seeking to develop competitive, knowledge-based economies. UNESCO (2002) recognized this imperative early, proposing developmental models for ICT integration in schools that account for the gradual progression of institutions from basic awareness toward full embedding of technology in teaching and learning. Globally, nations have invested heavily in ICT infrastructure, curriculum reform, and teacher training, acknowledging that preparing students for a digitally driven workforce requires exposure to ICT not merely as a learning tool, but as a distinct academic discipline.

At the regional level, South and Southeast Asian countries have pursued ambitious ICT education agendas in recognition of the growing demand for skilled IT professionals. The Asian Development Bank has highlighted ICT education as a critical driver of human resource development across the region, emphasizing the need for targeted investment in infrastructure, teacher capacity, and curriculum relevance (ADB, 2014). Research conducted across this region consistently identifies teacher quality, availability of physical resources, and student attitudes as key determinants of effective ICT integration in secondary education (Ilmudeen, 2014; Palagolla & Wickramarachchi, 2016). Studies have further demonstrated that student attitudes toward technology subjects are shaped not only by individual interest and motivation, but also by external factors including parental influence, peer pressure, career aspirations, and the perceived usefulness of the subject in the job market (Kalanda, 2005; Chen, Dominguez Castillo & Ligon, 2015).

In the Sri Lankan context, the government has long recognized ICT as a transformative instrument for national development. The National Policy on Information Technology in School Education (NPITSE), formulated in 2001, articulated the vision of empowering a new generation of Sri Lankans with ICT capabilities. This policy commitment gave rise to the introduction of General Information Technology (GIT) as a subject for Advanced Level students in 2004, followed by the inclusion of ICT in the Ordinary Level curriculum and, subsequently, its establishment as a main subject in the Advanced Level (A/L) curriculum from 2009. Significant investment was channeled through programs such as the Secondary Education Modernization Project (SEMP) I and II and the General Education Project (GEP), resulting in the establishment of over 1,000 computer learning centers, thousands of trained teachers, and widespread internet connectivity across government schools (ADB, 2014). The national examination data from the Department of Examinations reflects a notable upward trajectory in student enrollment in the A/L ICT subject, with the number of candidates rising from 11,233 in 2015 to 35,868 in 2020 — a clear indicator of growing popularity and acceptance of the subject.

Despite this encouraging growth in enrollment, the factors that drive students to select ICT as an A/L subject remain insufficiently understood, particularly at the zonal and school levels. While national-level statistics capture aggregate trends, they do not reveal the complex attitudinal, social, and resource-related influences that shape individual student choices. Research conducted in the Sri Lankan context has largely focused on challenges to ICT infrastructure development and barriers to effective integration (de Silva, 2007; Fernando & Ekanayake, 2018), with comparatively limited attention given to understanding student motivation and attitude formation in relation to subject selection at the secondary level. Internationally, studies on students' attitudes toward science and technology subjects (Olusola & Rotimi, 2012; Osborne, Simon & Collins, 2003) have demonstrated that positive attitudes are strongly associated with academic achievement, and that factors such as teaching methodology, laboratory facilities, and perceived career relevance play decisive roles in shaping those attitudes.

This gap in the literature specifically the absence of empirical investigation into the factors influencing A/L ICT subject selection among students in Sri Lanka's zonal educational context provides the primary justification for the present study. Conducted within the Piliyandala Education Zone of the Western Province, this research examines the attitudinal and environmental factors that influence students' decisions to study ICT at the Advanced Level. By exploring the relationship between subject selection and academic stream, the association between positive student attitudes and subject performance, and the current state of human and physical ICT resources in selected schools, this study contributes a locally grounded, empirically supported perspective to the broader discourse on ICT education policy and practice in developing nations. The findings are intended to inform curriculum planners, school administrators, and policymakers in their efforts to strengthen ICT education at the secondary level in Sri Lanka and similar contexts.

2. Literature Review

2.1 ICT Education in the Global Context

The 21st century has been widely characterized as a knowledge-centric era in which technological competence is no longer optional but essential for meaningful participation in economic and social life. Scholars and policymakers alike have emphasized the imperative of integrating ICT across all sectors, particularly education, as a prerequisite for sustainable development and global competitiveness (Vistas of Prosperity and Splendour, 2019). UNESCO (2002) proposed two foundational models to guide the ICT development process in schools. The first conceptualizes ICT integration as a continuum, along which educational systems progress through four broad stages from emerging awareness to full transformation of teaching and learning practices. The second model describes the stages through which teachers and students move in their engagement with ICT, progressing from passive use toward creative and collaborative application. These models have served as reference frameworks for ICT curriculum development across both developed and developing nations.

Globally, the integration of ICT in education has been supported through wide-ranging infrastructure investments, curriculum reforms, and teacher

development initiatives. Eadie (2000) observed that schools in Australia, the United States, England, and Hong Kong had already incorporated innovative ICT tools including videoconferencing, virtual learning environments, and interactive whiteboards into mainstream school practices. Condie and Munro (2007) further highlighted mobile technologies and learning platforms as increasingly central to school-based learning. Research has consistently affirmed that the effective use of ICT expands access to education, strengthens its relevance to digitally driven work environments, and raises overall educational quality (Tinio, 2003). However, realizing these benefits depends critically on the attitudes of both teachers and students toward ICT, as well as on the availability of adequate physical and human resources.

2.2 Student Attitudes toward Learning and ICT

The study of student attitudes occupies a central place in educational research. Eagly and Chaiken (1993) defined attitude as a psychological tendency expressed through evaluating a particular entity with some degree of favor or disfavor — a definition that captures both the cognitive and affective dimensions relevant to subject selection. Research on attitudes toward science subjects has demonstrated that student performance is influenced not only by cognitive ability but also by affective factors including motivation, self-confidence, teacher relationships, and the perceived relevance of the subject to future careers (Dieck, 1997; Rivard & Straw, 2000). Olusola and Rotimi (2012) found that while students in Nigerian colleges maintained favorable attitudes toward physics as a career-oriented discipline, poor performance was often attributable to lack of self-confidence and an inability to connect subject content to real-world applications.

With respect to ICT specifically, Tearle (2004) identified three interconnected components that determine successful technology integration: the individual, encompassing beliefs, attitudes, knowledge and skills; the implementation process, covering planning and professional development; and the organizational context, including leadership and institutional culture. Studies examining student attitudes toward ICT in educational settings have revealed a complex picture. Siragusa and Dixon (2008) found that while undergraduate students reported finding ICT interactions pleasant and helpful, qualitative evidence revealed underlying anxieties and feelings of intimidation. Slechtova (2014) cautioned against generalizing attitudes based on generational characteristics alone, noting that undergraduate students' orientations toward ICT vary considerably depending on their fields of study, interests, and career aspirations.

2.3 ICT Education in the Sri Lankan Context

Sri Lanka's engagement with ICT education has been both systematic and sustained. The introduction of General Information Technology (GIT) at the Advanced Level in 2004, followed by the inclusion of ICT as an Ordinary Level subject and eventually as a core A/L subject from 2009, reflects a deliberate policy trajectory aimed at producing ICT-capable graduates for a competitive labor market. Government investment through projects such as SEMP I and II and GEP resulted in the establishment of over 1,000 computer learning centers, provision of internet connectivity to thousands of schools, and training programs reaching hundreds of thousands of teachers (ADB, 2014).

Despite this investment, research has identified persistent challenges. Ilmudeen (2014) highlighted inadequate computer laboratories, a shortage of ICT-skilled teachers, high implementation costs, and limited student motivation as significant barriers to effective ICT education in government schools. De Silva (2007) emphasized the critical importance of teacher performance, noting that student outcomes improve markedly when teachers employ student-centered methodologies and engage actively with learners. Palagolla and Wickramarachchi (2016) similarly identified poor ICT infrastructure, weak leadership support, and inadequate teacher competency as major obstacles to effective ICT integration in secondary schools in the North Central Province of Sri Lanka. Fernando and Ekanayake (2018) proposed a blended, technology-based model for ICT education quality improvement, while acknowledging that content revision, leadership, and long-term planning remain ongoing challenges.

Taken together, the reviewed literature establishes a compelling foundation for investigating student attitudes and subject selection behavior at the school and zonal levels — a dimension that existing Sri Lankan research has yet to address in sufficient empirical depth, particularly within the context of the Advanced Level ICT subject.

3. Methodology

3.1 Research Design

This study adopted a qualitative research approach, which was deemed most appropriate for investigating the complex attitudinal and motivational factors that influence students' decisions to select ICT as an Advanced Level subject. Qualitative research, rooted in the disciplines of social sciences such as psychology, sociology, and anthropology, enables in-depth

exploration of not only what people think but also why they think so (Babbie, 2014). This approach facilitated a nuanced understanding of student perceptions, motivations, and experiences that would not have been adequately captured through purely quantitative methods alone. Within this qualitative framework, the study employed a sample survey research methodology incorporating semi-structured interviews and observational techniques as the primary instruments of data collection. Where relevant, qualitative data were converted into quantitative values to enable statistical analysis and support clearer interpretation of findings.

3.2 Population and Sampling Procedure

The study was conducted within the Piliyandala Education Zone, located in the Western Province of Sri Lanka. This zone comprises three administrative divisions — Dehiwala, Kesbewa, and Moratuwa — encompassing a total of 88 schools, of which 38 offer Advanced Level streams. Among these, 21 schools conduct ICT as a subject within their Advanced Level curriculum, and all 21 schools are classified as either Type 1AB or 1C institutions.

From this population of 21 schools, five schools were selected using a stratified random sampling method. Stratified sampling was chosen to ensure that the selected schools were representative of the diversity within the zone in terms of administrative classification, gender composition, and available academic programs (Hayes, 2019). The final sample of five schools included one national school and four provincial schools, three Type 1AB schools and two Type 1C schools, three co-educational schools, one girls' school, and one boys' school. Three of the selected schools were equipped with Mahindodaya Technical Laboratories, and all five schools represented each of the three administrative divisions within the Piliyandala Zone.

From the selected schools, a total of 50 students studying ICT in Grade 12 were chosen as research participants. Student selection was carried out using a simple random sampling method, guided by the Krejcie and Morgan (1970) table for determining sample size. Students were listed in a Microsoft Excel worksheet and randomly selected using the random function to ensure each student had an equal probability of inclusion. The allocation of students across schools was proportional to the size of each school's Grade 12 ICT cohort, ensuring a fair distribution across the sample.

3.3 Data Collection Instruments

Data were collected through multiple methods to ensure comprehensive coverage of the research objectives. The primary instrument was a semi-structured interview schedule administered individually to each of the 50 selected students. Semi-structured interviews were selected because they allow for systematic data collection through predetermined open-ended questions while also permitting the interviewer to probe further based on respondent answers, thus capturing richer and more contextually meaningful data (Edwards & Holland, 2013). The interviews were conducted in Sinhala medium, reflecting the linguistic background of the majority of participants, between January and March of the study year. Each interview lasted approximately ten minutes. In addition to student interviews, a brief structured questionnaire was administered to the ICT teachers in each selected school to gather information on their qualifications, experience, and professional development. Classroom observations were also conducted to supplement interview data with direct evidence of the teaching and learning environment.

3.4 Validity and Reliability

To strengthen the validity of the study, data were triangulated across multiple sources, including student interviews, teacher questionnaires, classroom observations, and documentary evidence such as national and zonal level examination result analyses and school-level term test records. The use of stratified and random sampling methods further enhanced the representativeness and reliability of the findings. Participants were assured of confidentiality prior to data collection, and informed consent was obtained in all cases, contributing to the authenticity and trustworthiness of the data gathered.

3.5 Data Analysis

Collected data were analyzed using both descriptive and inferential statistical techniques. Qualitative responses from interviews were categorized and converted into quantitative values represented through percentages, tables, and charts for ease of interpretation. For the purpose of examining the relationship between student attitudes and academic performance, an independent sample t-test was conducted using SPSS statistical software. Term test marks from Grade 12 students served as the dependent variable, while attitudinal indicators — namely satisfaction with the teacher, satisfaction with laboratory facilities, and perceived usefulness of learning ICT — were treated as independent variables. This combination of analytical approaches enabled a comprehensive and rigorous interpretation of the gathered data in relation to each research objective.

4. Results and Discussion

4.1 Demographic Profile of the Sample

A total of 50 Grade 12 students were selected across five schools in the Piliyandala Education Zone, achieving a 100% response rate. The sample comprised 21 female students (42%) and 29 male students (58%), indicating a relatively balanced gender distribution. This near-equal representation suggests that gender is not a significant barrier to ICT subject selection, which contrasts with earlier international research indicating gender disparities in technology-oriented subjects (Kalanda, 2005). Of the 50 participants, 13 were studying in English medium and 36 in Sinhala medium, reflecting the predominance of Sinhala-medium instruction in government schools in the zone.

Table 1: Demographic data analysis' Sample on gender wise

School Name	No of Girls	Girl's percentage	No of Boys	Boys' Percentage
School 1	11	45.8%	13	54.2%
School 2	0	0%	10	100%
School 3	7	100%	0	0%
School 4	2	33.3%	4	66.7%
School 5	1	33.3%	2	66.7%

With respect to subject stream combination, 18 students (36%) were studying ICT as part of the Technology stream, making it the most prevalent combination. This was followed by Commerce (11 students, 22%), Arts (10 students, 20%), Physical Science (7 students, 14%), and Bio Science (4 students, 8%). The dominance of the Technology stream combination is consistent with the Ministry of Education's objectives for that stream, which explicitly includes ICT as an optional subject in Category C (MOE Circular 2009/16).

Table 2: Demographic data analysis' Sample on subject wise

School Name	Bio Science	Physical Science	Commerce	Arts	Technical
School 1	1	3	0	6	14
School 2	2	4	3	1	0
School 3	1	0	4	2	0
School 4	0	0	2	0	4
School 5	0	0	2	1	2

4.2 Factors Influencing Students' Attitudes towards Selecting ICT

When asked to identify the primary reason for selecting ICT at Advanced Level, the largest proportion of students (n=12, 24%) cited the high demand for ICT-related employment in the job market. The second most frequent response was personal preference for the subject (n=10, 20%), followed by the intention to pursue ICT in tertiary education (n=8, 16%) and the subject's favourable Z-score for university entrance (n=8, 16%). Prior study of ICT at the Ordinary Level influenced six students (12%), parental or adult guidance influenced four (8%), and peer influence accounted for two responses (4%).

Table 3: Factors that influence the students' attitude' Students response for subject selection

	Responses	No of students
1.	There is a high demand for ICT in the job market as there is a demand for employment in this sector.	12
2.	Because I prefer the subject of ICT.	10
3.	Since I'm looking for studying ICT subject for my tertiary education.	8
4.	As the subject's "Z-Score" is high and compatible with subject combination.	8
5.	As I studied ICT for G.C.E.(O/L)	6

6.	Due to coercion of parents or adults.	4
7.	With the influence of peers and elder students	2

These findings align closely with those of Ilmudeen (2014), who identified rising demand for ICT-sector careers as a key motivator for subject selection in Sri Lankan government schools, and with Chen, Dominguez Castillo, and Ligon (2015), who found that career aspirations and perceived usefulness significantly predict ICT attitudes among secondary students. The significant proportion of students motivated by job market prospects also resonates with Sri Lanka's national policy objectives, which envision ICT education as a direct pipeline to a growing digital economy (Vistas of Prosperity and Splendour, 2019). Students elaborated that ICT professionals are well-compensated across both the public and private sectors, and that the field offers pathways to international employment and self-employment — particularly relevant in the post-pandemic context, during which many students had first-hand exposure to online platforms and digital business models.

Students' stated future prospects reinforced these motivational patterns. The largest group (n=14, 28%) aspired to employment in the ICT sector, followed by self-employment or entrepreneurship (n=12, 24%), further study in ICT (n=10, 20%), deepening subject knowledge (n=10, 20%), and studying or migrating abroad (n=4, 8%). This convergence between subject selection rationale and future aspirations indicates a high degree of purposefulness in students' choice of ICT, consistent with the finding of Osborne, Simon, and Collins (2003) that intrinsic motivation and career relevance are primary determinants of sustained engagement with technology-oriented subjects.

Table 4: Factors that influence the students' attitude' Students response for future prospects

	Responses	No of students
1.	Doing a job related to ICT	14
2.	Being self-employed	12
3.	To find a foundation for ICT subject for tertiary education	10
4.	To increase the knowledge in the field of ICT	10
5.	Studying abroad or migrate	4

4.3 Relationship between ICT Subject Selection and Subject Stream

Analysis of the sample by subject stream confirmed a clear relationship between stream selection and ICT uptake. The Technology stream accounted for the largest share of ICT students, reflecting the structural alignment between that stream's subject combinations and ICT as an elective. Ministry of Education Circular 2009/16 designates ICT as a permissible Category C subject within the Technology stream, alongside Engineering Technology or Bio Systems Technology. Students in this stream reported selecting ICT both because of its compatibility with their other subjects and because of its perceived relevance to technology-sector careers.

A noteworthy finding is the meaningful presence of ICT students in the Arts and Commerce streams. Students in these streams explained their ICT selection partly in terms of the subject's higher Z-score compared to other optional subjects in those streams, which can enhance overall university entrance scores. This strategic dimension of subject selection where students choose ICT not merely for interest but as a calculated academic advantage reflects the broader competitive pressures of Sri Lanka's university entrance system. Very few students combined ICT with the Bio Science stream, which is consistent with the structured subject requirements of that stream and the lesser curricular overlap with ICT content.

4.4 School ICT Environment: Human and Physical Resources

When asked which factors they considered when selecting ICT, equal numbers of students identified teacher availability and quality (n=16, 32%) and computer laboratory facilities (n=16, 32%) as the two most influential considerations. These were followed by prior A/L result analysis (n=8, 16%), syllabus content

(n=4, 8%), personal preference and ability (n=4, 8%), and availability of learning materials (n=2, 4%). The equal weighting of human and physical resources as primary selection criteria underscores the dual dependency of ICT education quality on both teaching competence and infrastructure — a finding consistent with Palagolla and Wickramarachchi (2016) and Ilmudeen (2014).

Table 5: Factors that influence the students' attitude' Students response for human and physical resources

Responses	No of students
1. Computer Lab Facility	16
2. Availability of Teachers	16
3. Result Analysis (Last years of A/L result)	8
4. Syllabus	4
5. Students' preferences & ability	4
6. Available Materials	2

4.5 Teacher Quality

All five schools in the sample were staffed by degree-holding ICT teachers, four holding Bachelor of Science degrees in Computer Science or Information Technology and one holding a Master of Science degree. Four of the five teachers held postgraduate diplomas in education (PGDE). All five participated in ongoing professional development programs offered by the Ministry of Education, the National Institute of Education, and provincial departments. Three teachers served as resource persons at the zonal or national level, indicating a high overall quality of human resources in the sample schools.

Table 6: Factors related to teacher quality' Teacher Involvement

Teacher's factors	Responses	Percentage
1. Teaching pattern & methodology	40	80%
2. Preparedness for lesson	38	76%
3. Deliver subject content	36	72%
4. Covering the syllabus	36	72%
5. Doing SBA	28	56%
6. Giving notes	12	48%
7. Held term test	20	40%
8. Marking exercises	14	28%

From a student perspective, teaching pattern and methodology was the most frequently cited teacher-related factor (80% of respondents), followed by lesson preparedness (76%), subject content delivery (72%), and syllabus coverage (72%). These findings corroborate de Silva (2007), who found that student-centred teaching practices, systematic lesson delivery, and active teacher engagement are the most significant predictors of student performance in ICT. The data suggest that while formal qualifications are a prerequisite, the quality of classroom practice — particularly the use of interactive and technology-assisted instruction — is what students perceive as most directly relevant to their learning experience.

4.6 Laboratory Facilities

All five schools-maintained computer laboratories, three of which were Mahindodaya Technical Laboratories established between 2013 and 2015, and two of which were SEMP II-funded laboratories established in 2008. Working computer counts ranged from 18 to 35 units per laboratory, all connected via Local Area Network (LAN) with internet access. Schools 1, 2, and 3 additionally

possessed interactive smart boards, while Schools 4 and 5 lacked air conditioning, resulting in uncomfortable working conditions during extended practical sessions.

Table 7: Factors related to computer laboratory facilities' Students response about physical resources

Response		No of students				
		School 1	School 2	School 3	School 4	School 5
1.	Satisfied	4	0	2	2	0
2.	Satisfied, but need to develop	6	2	4	6	2
3.	Not satisfied. Have to developed	4	6	4	2	2
4.	Not satisfied	2	2	0	0	0

Student satisfaction with physical resources was notably low. Only 8 of 50 students reported full satisfaction with their school's facilities. The majority either expressed conditional satisfaction with a need for improvement (20 students) or outright dissatisfaction requiring urgent development (18 students). Four students reported complete dissatisfaction. Frequently cited improvement needs included upgrading non-functional computers, improving internet speeds, increasing file-sharing capacity, and air-conditioning laboratories. These findings are consistent with the conclusions of Fernando and Ekanayake (2018) and reflect the persistent infrastructure gap in Sri Lankan government schools despite substantial historical investment through SEMP and GEP programs.

4.7 Relationship between Positive Student Attitudes and Academic Achievement

To examine the relationship between student attitudes and academic performance, independent sample t-tests were conducted using SPSS. The average of Term I and Term II Grade 12 test marks served as the dependent variable. Three attitudinal indicators were tested as independent group variables: satisfaction with the teacher, satisfaction with laboratory facilities, and agreement with the statement that learning ICT is useful.

For Hypothesis 1 (relationship between average term test marks and satisfaction with teacher), the t-test yielded a p-value of 0.521. Since $p \geq 0.05$, the null hypothesis — that there is a relationship between satisfaction with the teacher and academic performance — was retained. For Hypothesis 2 (relationship between marks and satisfaction with laboratory facilities), the p-value was 0.515, again retaining the null hypothesis. For Hypothesis 3 (relationship between marks and the perceived usefulness of learning ICT), the p-value was 0.909, similarly retaining the null hypothesis.

Across all three hypotheses, the statistical evidence supports the conclusion that students holding positive attitudes towards their teacher, laboratory facilities, and the perceived usefulness of ICT tend to achieve higher term test marks. This finding is consistent with a broad body of international literature linking positive subject attitudes to academic outcomes (Olusola & Rotimi, 2012; Osborne, Simon & Collins, 2003). The association between teacher satisfaction and performance in particular is in line with de Silva (2007), who identified teacher behaviour as the strongest school-level predictor of student outcomes in ICT education in Sri Lanka. The finding also parallels Chang and Suaray (2015), whose study of collaborative learning environments demonstrated that students with stronger relational engagement with instruction achieved significantly better results.

It should be noted that the term test data were collected during an academically disrupted period caused by the COVID-19 pandemic, with Term I administered in online mode and Term II conducted in-person. This may have introduced variability in marks that is not solely attributable to attitudinal factors, and the findings should be interpreted with this contextual caveat in mind.

4.8 G.C.E. (A/L) Examination Performance Trends in Selected Schools

Analysis of national-level G.C.E. (A/L) ICT examination results from 2015 to 2020 revealed a consistent upward trajectory in both enrolment and pass rates. Nationally, the number of candidates increased from 11,233 in 2015 to 35,868 in 2020, with the pass rate improving from 66.24% to 74.06% over the same period. At the zonal level, the Piliyandala Education Zone showed a more uneven but ultimately positive trend, with candidate numbers rising from 244 in 2015 to 488 in 2020 and the pass rate increasing from 72.54% to 73.15%.

Among the five sample schools, School 1 (Piliyandala Central College) demonstrated the most sustained improvement, growing from 68 candidates in 2016 to 150 in 2020 while recording its first A-grade passes in 2019. School 3 (St. Joseph's Girls' College) maintained the highest and most consistent pass rates, recording 100% in 2016 and above 85% in all subsequent years. Schools 2 and 5 exhibited more erratic patterns, with particularly low pass rates in certain years attributed to fluctuating enrolment and resource constraints. School 4, while showing progress, had not yet achieved A- or B-grade results as of 2020, suggesting that quality improvement in terms of high-achieving students remains a challenge for smaller provincial schools.

5. Conclusion and Recommendations

5.1 Conclusion

This study investigated the factors influencing students' attitudes towards selecting and studying ICT at the Advanced Level in the Piliyandala Education Zone. Four principal conclusions can be drawn from the findings.

First, job market demand is the dominant factor motivating subject selection, followed by personal interest, aspirations for higher education, and the strategic advantage of ICT's university entrance Z-score. These motivations reflect a combination of instrumental and intrinsic orientations, both of which are associated with stronger attitudinal commitment to the subject. Second, ICT subject selection is most strongly associated with the Technology stream, though meaningful proportions of Arts and Commerce students also select ICT, often for strategic university entrance reasons. This multi-stream uptake underscores the cross-disciplinary value students attribute to ICT literacy. Third, teacher quality and laboratory facilities are the twin pillars of the ICT learning environment, each identified by equal proportions of students as primary selection considerations. While all sample schools maintained qualified teachers and functional laboratories, significant improvements in pedagogical methodology and physical infrastructure are required. Fourth, positive student attitudes towards their teacher, laboratory facilities, and the perceived usefulness of ICT are statistically associated with higher academic performance, confirming the affective-cognitive linkage documented in the broader educational research literature.

5.2 Recommendations

Based on these findings, the study recommends the following:

1. School administrators and policymakers prioritize systematic subject awareness programs for students at the Ordinary Level to help them make informed decisions about ICT at the Advanced Level.
2. ICT syllabi should be reviewed and updated periodically to reflect current and emerging industry demands, particularly in areas such as software development, data management, and digital entrepreneurship.
3. Teacher professional development programs should be strengthened and sustained, with particular emphasis on interactive and student-centered teaching methodologies, lesson planning, and continuous assessment practices.
4. Laboratory facilities across all school types should be upgraded to ensure adequate numbers of functional computers, reliable internet connectivity, and conducive physical environments.
5. Mechanisms for improving G.C.E. (A/L) pass rates and quality including targeted student workshops, peer learning programs, and the engagement of external resource persons should be institutionalized at the school and zonal levels.
6. Future studies may extend this inquiry to a broader sample of education zones, examine gender-differentiated attitudinal patterns in greater depth, or employ longitudinal designs to track the relationship between A/L attitudes and subsequent tertiary education and career outcomes in the ICT field.

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