

**A Study of Emergency Learning-Teaching Methods (ELTM)
Implemented by the Stakeholders of Kandy Educational Zone (KEZ)
during COVID-19 Pandemic**

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Introduction

The COVID-19 pandemic is recognized as the world's largest education crisis ever experienced in the recent past. According to UNESCO, during the first wave of the COVID-19 pandemic, over 190 countries had implemented nationwide closures, affecting more than 90% of the world's student population (Abdulmir and Hafidh, 2020). Interruption in continuous education leads to many repercussions that are beyond mere losses in learning, including increased drop-out rates, loss of nutrition, and reductions in future earnings – the effects of which are disproportionately experienced by the more vulnerable (Liguori and Winkler, 2020).

In response to the first wave of COVID-19 pandemic on 12th March 2020, all educational institutions including schools and universities were closed down island-wide in Sri Lanka with an overnight switch to the emergency education mode via distance teaching and learning process. Following the national guidelines, Kandy Educational Zone (KEZ) closed down all schools and other educational centers and turned overnight to emergency learning teaching methods as a measure to respond to the COVID-19 pandemic. KEZ comprises two Divisional Secretariat divisions, namely Gangawatakoralaya and Pathahewaheta. Gangawatakoralaya division consists of 60 schools with a student population of 67,661 (excluding private and international schools). At KEZ, the emergency learning-teaching methods mainly occurred via online channels, with teachers sending large volumes of material as PDF documents to students via WhatsApp and Viber. Few schools initiated standard online education processes using MS-Teams, Google Classroom

and Zoom etc. In addition, some teachers conducted Teaching-Learning process through traditional distance Teaching-Learning methods according to the guidelines of the health authorities.

Traditional classroom settings at the school, despite many disparities, attempted to bring all the students into a common equitable platform irrespective of their different cultural or socio-economic backgrounds by ensuring the co-values of free Education. According to a survey conducted in 2018 by DCS, only 52% of Sri Lankan households with school-aged children owned a smartphone or computer (laptops 52%, desktop 10%, tabs 3%) which are essential for online learning. Only 40% had an internet connection, primarily via mobile phones (mobile phones and dongles 37%, Fibre/ ADSL/ Wireless 4%). This survey report projected the reality of the availability of computer-related appliances at the household-level in Sri Lanka. Accordingly, only less than half of the households in Sri Lanka have the possibility of engaging in online distance education. (This paper consists of the preliminary findings; as such the full report is yet to be finalized).

Objective

This paper attempts to explore the constraints faced by stakeholders in the Kandy Educational Zone while implementing Emergency Learning - Teaching Methods (ELTM) during COVID-19 pandemic lockdown. Special attention is given to socio-economic disparities within the framework of ELTM.

Methodology

The study uses descriptive statistics method for analyzing data. Primary data for the analysis was collected covering students, teachers and parents in KEZ. A list of all the government schools was taken from the Provincial Education Department. We received a list of 55 schools and of them 19 schools were selected at random. In order to select the sample from each school, approximately 10 to 25 sample of each category is taken. We only consider secondary level education in this study. Therefore, Type 3 Schools are excluded from the selection process due to the unavailability of secondary education. Accordingly, the final sample size was 797 and the survey was carried out covering all selected schools between August and

September, 2020. A survey questionnaire was distributed among the participants (teachers, parents and students) at the schools. Only 16 schools responded positively. Approximately 797 survey questionnaires were distributed among the participants and 351 completed questionnaires were returned which includes teachers (116), parents (102) and students (133). When we analyze the data, various descriptive data analytical techniques were used. In addition to that, Probit regression model was used to identify the factors that determine the ELTM.

Results and Discussion

This study focused on the household average monthly income, expenditure, educational level, distance travelled to the school or workplace, ICT literacy, availability of internet and computer appliances at the household level of teachers, students and parents. Table 1 displays the demographic data collected from the survey. It shows a similar picture in the teacher's category across school types, but at the parents level it shows a gap between 1AB and 1C groups of schools in overall income and education. The students category displayed a gap concerning the distance travelled to the schools in daily routine with average 1AB students travelling 37 Km per day while type 2 students travel only 2.5 Km per day.

Table 2 shows the data of Likert scale question asked about the usage of ICT in the teaching-learning process at the school. A response placed at 'Never' shows a low value in parent's income and education level (1AB only up to A/L and in type 2 up to primary level) whereas the response 'All the times' shows comparatively high value. Table 3 shows the data of the ICT literacy among teachers at the three types of schools. Accordingly the 1AB group has the highest percentage of ICT literacy and Type 2 group has the lowest percentage of ICT literacy whereas the 1C group shows the highest percentage of advanced literacy-rate.

Table 4, 5 and 6 shows the data on the availability of ICT appliances at the domestic level, Laptop or desktop computer at home is common in the 1AB schools group and smartphone at homes is common among the type 2 schools. Table 7 shows the data on the usage of social media among the teachers, students and parents. It shows comparatively lower percentage among the type 2 category. Tables 8 and 9 shows the data of the

commencement of online Teaching and engagement of online Teaching during the COVID-19 pandemic lockdown period, displaying comparatively less progress in the Type 2 group compared to 1AB group but it shows progress among parents and students engagement in 1C and 1AB groups of schools. Finally, Table 10 shows the attitudinal response to the usage of ICT in the teaching-learning process. The Technology Acceptance Model (TAM), developed by Davis (1989) was used to explain the determinants of computer acceptance and user behavior across a broad range of computing technologies and populations.

According to the above ICT acceptance model, over 80% of the responses of teachers, students and parents attitudinally accepted the usefulness of ICT in the Teaching-Learning process. Besides, Table 9 shows over 60% of engagement in online education, even though 1AB schools type shows greater response of behavioral intention to ICT usage compared to Type 2. This projects a positive technology acceptance according to the Davis TAM Model, among the teachers, parents and students. Most of the variables in the Probit regression model is not significant. Therefore, these results are not included into the analysis.

Conclusion

This study concludes that there are visible disparities among privilege and non-privileged school in the urban settings of KEZ. In this case, 1AB categories of schools are identified as privileged and type 2 categories of schools are identified as non-privileged schools. The teachers, principals and all administrators are appointed to the respective schools and regulated by the KEZ. According to the survey results, a positive gap is noticeable among the privileged and non-privileged schools of KEZ when implementing ELTM.

According to the Davis et al. (1989) technology acceptance model, a positive technology acceptance is evident among the stakeholders of the KEZ but a gap of different variables is also visible among privileged and non-privileged schools categories which could be due to many reasons especially the affordability of appliances and the cost.

There are no positive disparities among teachers' income or qualification level at these schools. An examination of the net income level of the parents

of these schools indicates that there is a positive gap among 1AB and type 2 category schools. It also reveals that the students coming from under privileged settings are polarized to the type 2 category of schools of the KEZ. This could be the possible reason for the gap created when implementing ELTM among privileged and non-privileged schools settings at KEZ.

References

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Appendices

Table 1: General Information about the Respondents

	Teachers			Parents			Students		
	1AB	1C	T 2	1AB	1C	T 2	1AB	1C	T2
Age	45.5	45.4	50.2	46.5	46.5	47.5	16.7	15.4	15.1
Female (%)	88.4	86.8	96.0	53.8	57.1	41.6	62.0	86.9	40.7
Income *	48701	49943	43975	52122	42563	14115	N/A	N/A	N/A
Income **	218909	132904	101728	89399	67481	36600	N/A	N/A	N/A
N	115			83			112		

Note: Average educational qualification of teachers is in between A/L and graduate level. * represents the average income level (Rs.) of respondents while ** represents the average income of the family.

Table 2: Usage of ICT Facility for Teaching -Learning process at the School of KEZ

	Teachers (%)			Parents (%)		
Never (%)	19.61			9.21		
Rarely (%)	29.41			13.16		
Sometimes(%)	32.35			52.63		
Often(%)	15.69			19.74		
All the times (%)	2.94			5.26		
Total Responses	102			76		
Family income	Below 50000	51,000-100,000	Above 100,000	Below 50000	51,000-100,000	Above 100,000
Never	66.67	40.91	13.33	5.88	15.00	0.00
Rarely	0.00	13.64	33.33	11.76	10.00	0.00
Sometimes	33.33	31.82	23.33	52.94	55.00	55.56
Often	0.00	9.09	23.33	23.53	20.00	22.22
All the times	0.00	4.55	6.67	5.88	0.00	22.22
Total Responses	3	22	30	17	20	9
	Teachers (%)			Parents (%)		
Education	Below Graduates	Graduates	Above Graduates	Below AL	AL	Graduates
Never	8.11	31.58	22.22	31.43	8.00	11.11
Rarely	35.14	23.68	16.67	5.71	20.00	16.67
Sometimes	35.14	34.21	33.33	45.71	48.00	44.44
Often	16.22	10.53	22.22	14.29	16.00	22.22
All the times	5.41	0.00	5.56	2.86	8.00	5.56
Total responses	37	38	18	35	25	18

Table 3: ICT knowledge of teachers (%)

	1AB	1C	TYPE 2
Introductory level courses	43.48	40.48	47.37
Elementary level courses	18.84	19.05	26.32
Advance level courses	2.90	14.29	5.26
Special training for the usage of IT tools interactive boards laptops.	14.49	14.29	10.53
ICT for pedological purposes	20.29	11.90	10.53

Table 4: Desktop/Laptop Computer Availability at Home (%)				Table 5: WIFI /INTERNET Availability at Home (%)			
	1AB	1C	TYPE 2		1AB	1C	TYPE 2
Parents	82.86	14.29	2.86	Parents	66.67	21.21	12.12
Students	85.07	11.94	2.99	Students	77.19	12.28	10.53
Teachers	53.42	28.77	17.81	Teachers	50.70	33.80	15.49
Table 6: Smart Phone Availability at Home (%)				Table 7: Usage of social media (%)			
	1AB	1C	TYPE 2		1AB	1C	TYPE 2
Parents	59.21	22.37	18.42	Parents	68.33	25.00	6.67
Students	75.51	16.33	8.16	Students	76.60	14.89	8.51
Teachers	47.66	32.71	19.63	Teachers	52.13	32.98	14.89
Table 8: Commencement of online programme (%)				Table 9: Engagement of the Participants in Online Teaching (%)			
	1AB	1C	TYPE 2		1AB	1C	TYPE 2
Parents	60.76	17.72	21.52	Parents	63.77	20.29	15.94
Students	65.29	17.36	17.36	Students	64.96	17.09	17.95
Teachers	52.53	33.33	14.14	Teachers	58.62	27.59	13.79

Table 10 Technology Acceptance (TAM) (%)					
'According to my knowledge ICT is helpful to Teaching to learning process'				'According to my knowledge ICT is not helpful to Teaching to learning process'	
Response	Students	Parents	Teachers	Students	Teachers
Strongly Agree	23.77	26.51	25.23	1.80	6.59
Agree	59.84	63.86	63.96	9.91	19.78
Uncertain	12.30	6.02	6.31	21.62	4.40
Disagree	3.28	1.20	3.60	49.55	47.25
Strongly Disagree	0.82	2.41	0.90	17.12	21.98
Total responses	122	83.	111	111	91