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Strategies for School Level Educational Reforms to Overcome Covid-19 Pandemic Situation Induced Barriers

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Abstract

The current Covid-19 induced situation has negatively affected the continuation and the quality of the School Education System in Sri Lanka. There are a number of strategies currently in place for continuation of the school education system, including e-Learning strategies and use of television programmes. However, the effectiveness of these strategies in terms of accessibility and quality is largely questionable. The main objective of this paper is to discuss the opportunity of using an offline supported learning management system for improving the quality and accessibility of the Sri Lankan School Education system.

Keywords: Covid-19 Pandemic, School Education, Distance Education, e-Learning, Learning Management Systems

Introduction

Disaster situations can occupy nominal world routines in numerous scales and can be categorized into multiple cases. Based on the cause of the occurrence, disaster situations are classified into 3 categories (Zobel and Baghersad, 2020).

Natural – Naturally occurring phenomena (disasters associated with weather, meteorological or hydrological conditions like storms, earthquakes, and tsunamis and, disasters associated with biological conditions like infectious diseases)

Man-made – Phenomena occurring due to the acts of humans (wars, explosions and fires)

Hybrid – When natural phenomena and human errors occurring interactively to elevate the final damage (settlements near volcanic eruptions and forest fires)

If an unpredictable or out of control disaster has taken place and hindered the routine processes, and no action has been taken to counter the damage, the whole governing system can reach a definite downfall. The same results can arise from the process of controlling disasters like infectious diseases. Amidst the Covid-19 pandemic, the Sri Lankan government imposed some strict rules, which include curfew and time to time lockdown since 2020 for several times. The highly infectious novel corona virus, SARS-CoV-2, is leading to a devastating illness which mandated island wide curfew to mitigate the disease spread and the measures were not without an inevitable industrial and service sector downfall. When managing disaster situations, education is a factor which is often overlooked and poorly managed in Sri Lanka and elsewhere. Be it the catastrophe caused by civil war, suicide bombings or Easter bombings, or the infrastructure damage caused by a natural disaster, or even the countermeasures taken to avoid pandemics like Covid-19, the final result was the closure of the schools until the threats subside (Chandasiri, 2020; Ilankoon, Kisokanth and Warnakulasuriya, 2020; Rameez, Fowsar and Lumna, 2020).

Existing Barriers for Containing School Education in a Disaster Situation

The main concern of education strategy development in any country is that the education system of the country should allow the students to carry out their educational tasks with minimum effects from external factors including a disaster situation. Furthermore, it is required to set up universal quality control strategies across the country. In this Covid-19 induced situation also, the continuation of educational activities is essential without the physical attendance of students in schools (Liyanagunawardena and Williams, 2021). This could be done by integrating distance learning techniques for the school education system. There are several barriers for integrating distance learning techniques for the school education system as listed below (Gunawardene and Ranawana, 2019).

- Adoption of distance learning techniques is rarely seen in the Sri Lankan education system. The few applications are mainly limited to universities. Because of the lack of experience in such concepts, both students and teachers would have been hesitant at first to make use of them.
- Lack of disaster management and disaster training knowledge within the syllabi.
- As illustrated in Table 1, television and e-learning media have their own limitations.

Table 1: Analysis of distance learning media

Medium	Limitations	Remarks
Television Programs	<p>Only up to the Grade level</p> <p>There are 10000+ schools and dedicating airtime for individual schools is not feasible</p> <p>Around 90% of students have constant access to television media</p>	<ul style="list-style-type: none"> - Scheduled TV programs can be broadcasted. - Each will be dedicated to a specific subject in a specific language, taught to the students of a specific grade - The availability of TVs in households is considerably high so the reachability is high
e-learning	<p>All the way to the teacher level</p> <p>Each teacher should be allowed to make their own accounts in the portal. They should conduct the lectures as real-time video conferences</p> <p>Around 47% of students have constant access to internet</p>	<ul style="list-style-type: none"> - The teacher-student interaction is very high. The student will be able to actively interact with the teacher and conduct their studies. - Q&A sessions and interactive activities are possible - Since the availability of internet facilities is limited, the reachability will be lower than the TV medium

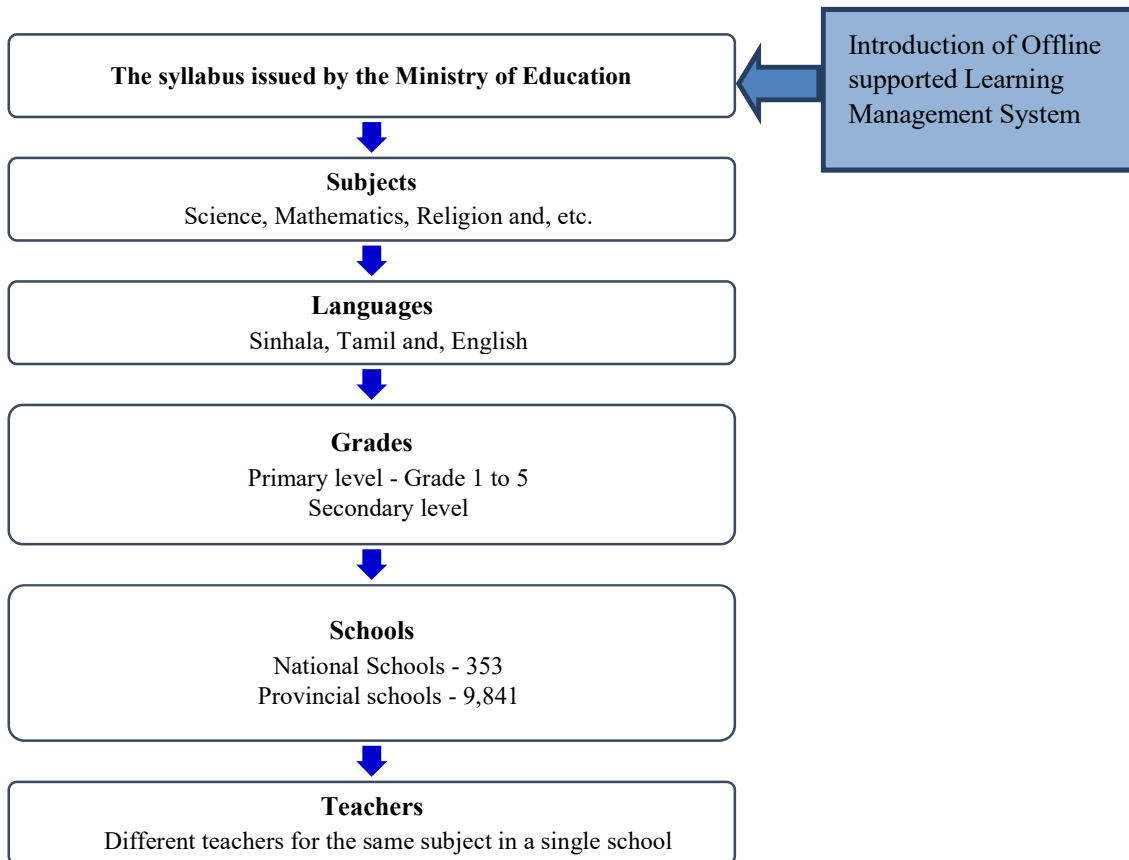


Figure 1: Breakdown of the levels of the Sri Lankan School education system under different variables and stage of incorporating offline supported LMS system

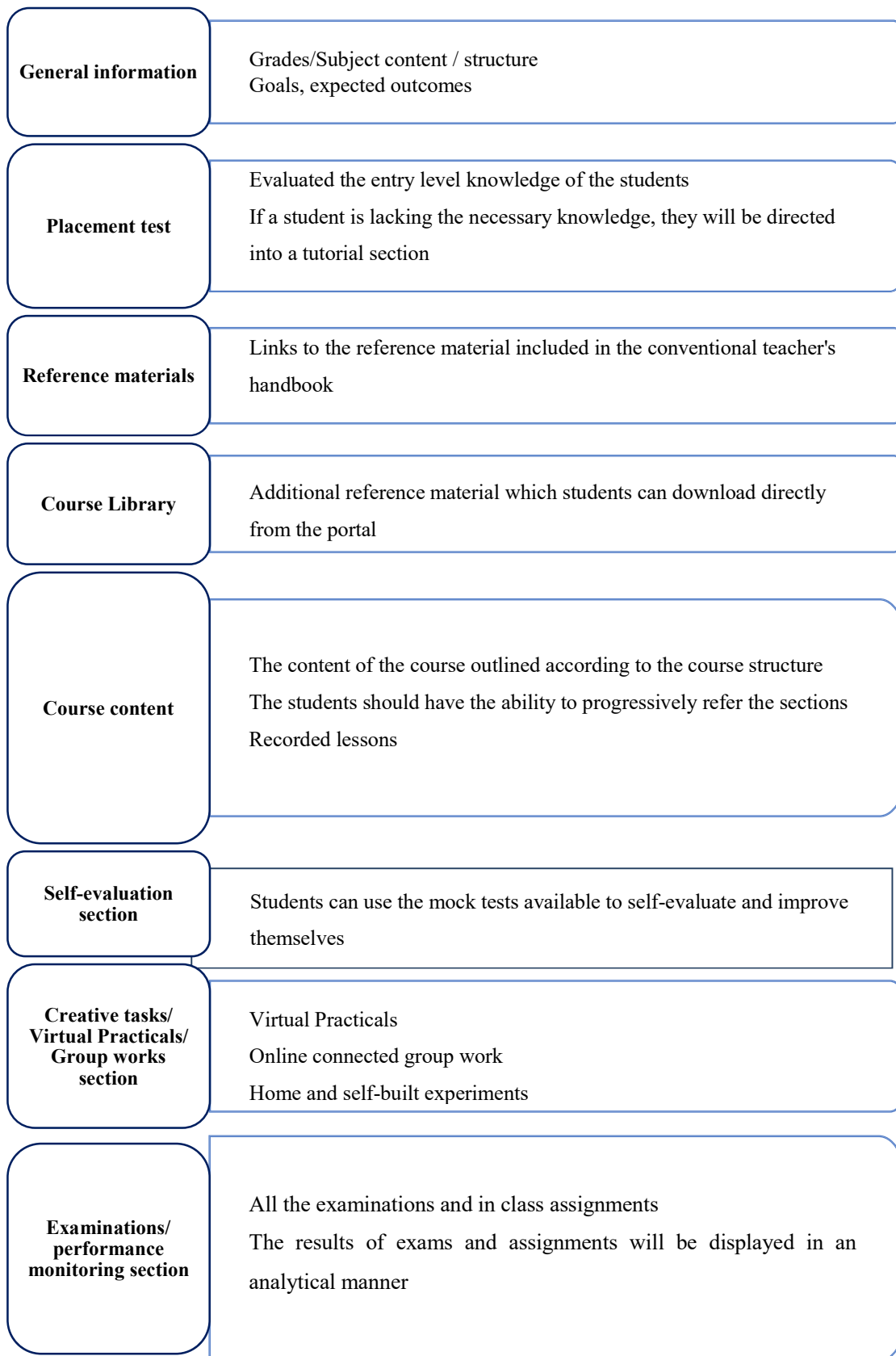


Figure 2: Essential features of the proposed Learning Management System (LMS)

Educational Reform Strategies for a Disaster Situation

Sri Lankan education system prioritizes theory-based education under primary and secondary stages. Even though there is a single syllabus for the school children around the country, the existence of numerous subjects, grades and schools make up a complex system. However, there is a simple way to break down the structure of the education system for creating a common platform. Figure 1 illustrates the breakdown of the levels of the Sri Lankan school education system under different variables (Department of Census and Statistics, 2021).

Currently, the main scope of the Ministry of Education of Sri Lanka is to develop and update syllabi, guidance books for students and necessary teacher guidance books for all levels of Sri Lankan school students (Liyanagunawardena and Williams, 2021). To overcome the current barriers for distance education in Sri Lanka, it is proposed to introduce a Learning Management System (LMS) which can be used in offline conditions as well, where students will be able to update time to time by using possible internet connections. Further, such a common learning management system for the entire country will provide equal opportunities for students to receive extensive higher quality education across the country. Figure 2 illustrates the essential features of the proposed learning management system for Sri Lankan school education.

The visually appealing media like cartoon-based and music-based programmes could be introduced for junior-level students in the same platform. Moreover, this system will enable and promote self-studying among the students. Integration of virtual experimental models will bring a novel innovative learning opportunity for school level students. The system should, in a way, ensure that higher secondary level students will be encouraged to use instruments provided in the virtual platform to set up and carry out their experiments. This proposed new LMS system design strategy should consider three main areas, which include the ways of delivering the subject content, the methodology of conducting laboratory and practical sessions by introducing virtual labs and student evaluation and assessment methods. Further, there are several benefits in introducing a common learning management system for all the school students in Sri Lanka including increased opportunity of continuing and distance learning, equal distribution of resources, common curriculum delivery, unique quality assurance process for all the school in the country, reduce the dominance of tuition based private education and improvement of the English and soft skills of students.

Conclusions

The natural and man-made disasters taking place from time to time, force governing parties to close down Sri Lankan schools and educational institutes. This brings the whole educational system to a

complete standstill as there are minimum protocols to cushion and rectify the problem. The recent island wide lockdown prompted by the Covid-19 pandemic pushed the entire country to a similar situation. In this context, it is high time that we encourage digital tool based education and introduce an “off-line supported Learning Management System” for school students. Accordingly, the current education system needs to be restructured and should be made suitable for the proposed new digital tool integrated system.

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