SCHOOL CHILDREN IN E-CAMPUS - NEW INSIGHT

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ABSTRACT

INTRODUCTION: The current pandemic has affected the education of children in an unprecedented way. Children are not able to go to school and in a short span of time schools have tried to come up with online teaching methods which have not been validated. This study was undertaken to assess children's viewpoint on this new mode of teaching.

AIMS AND OBJECTIVES: The primary objective of the present study was to assess the clarity, logical flow and effectiveness of online teaching learning in middle school and high school students. The secondary objective was to assess the student satisfaction after 6 months of online teaching. We also wanted to identify the mental health of students after e-learning.

METHODOLOGY: After obtaining consent from parents and school principal, a questionnaire on new learning method and the ease of understanding was shared with students in google form. Their responses were assessed in various dimensions.

RESULTS: Students felt lonely and tired at the end of e-learning sessions. They felt that they are missing on co-curricular and extracurricular activities. There was difficulty in falling asleep and missing of peer groups.

CONCLUSION: E –learning is the need of the hour. Despite user ease and accessibility, e-learning cannot completely replace in-campus learning. Multiple aspects of student mental health are being compromised in a pure e-learning school. Blended learning is a useful modality and its implications remain to be analyzed.

KEY WORDS: e-learning, in-campus learning, online teaching

INTRODUCTION:

In the current COVID pandemic social distancing, financial constraints, increase in student number, students dispersed in various geographical locations and increased competition in world edupreneurship[1-3] have put an immense pressure to start online virtual campuses for school children. Without support and training for staff and students this new approach can be a financial fiasco. It is also known to cause increased depression in school students. [1][4]

E –learning has presented a new paradigm. [4] It includes preparedness in multiple arenas of technology, organization and finances. The e-curriculum content, human resources and teaching methods and tools have to be standardized. [5] The e-literacy of trainers and learners and use of e-communication tools needs to be promoted. At the same time, we must be mindful of culture and environment issues [4][6][7]. There are concerns for coexisting use of 4G and 5G and young children in the campus.

"Learning Effectiveness means that learners who complete an online program receive education that represents the distinctive quality of the institution. The goal is that online learning is at least equivalent to learning through the institution's other delivery modes, in particular through its traditional face-to-face, classroom- based instruction. Interaction is key."[1][7]

Materials and Methods

This study was conducted in the Department of Pediatrics, Saveetha Medical College from March 2020-August 2020, over a period of 6 months. Written permission was obtained from the school principal for the conduct of study. The school management provided a central resource base of e-learning in the form of suite accounts for all subjects. Written informed consent was obtained from the parents of school children. The school principal and principal investigator had access to the data that was stored in a password protected computer. Confidentiality was maintained during data collection by using anonymous Google forms

(https://docs.google.com/forms/d/1BPT-PlKayxrN86o46jCUn56qyygwM9jT6l6se78X-L7h8/viewform?edit_requested=true).

On 1st March 2020 the online teaching was started. The students required a very small induction session for online classes. The preliminary 1 hour training was done for faculty and students to get the grip of technology and most of them were "Just in time learners" and were able to grasp the traditional to online transition easily. This suggests that too much initial training is unnecessary, is not effective and is not popular. Students adapted with ease the shift from real to virtual classrooms.

In delivering the online course materials Internet breaks, incompatibility problems and dead hyperlinks were avoided. Clear instructions were given. All students of age 10-15 years whose parents were willing to give consent were included.

Six months of online teaching was done via the school Google suite account. After six months of e-teaching a questionnaire (13 MCQ and 1 open ended questionnaire) covering the 7 dimensions was sent to parents' email as a Google form. The dimensions assessed were (a) user ease and accessibility, (b) comprehensiveness and completeness of training (c) impact on mental health. The questionnaire was adapted from "DSM Children depression score" and validated [2]. This was Qualitative research with an exploratory sequential design with open-ended questionnaires so that the truth or reality is not masked by a constructivist paradigm. Cronbach's alpha was used to validate the questionnaire and it ranged from 0.81-0.86 for all questions.

Statistical Analysis: Statistical analysis was performed using automated pie charts. Instead of a sample size calculation a saturation of data has been considered, as this is a qualitative research. We stopped collecting data only after we reached meaningful conclusions.

Results

Student characteristics

Out of 279 students that participated in the study, 167 (59.85%) were males and 112 (40.15%) were females.

Respondents

A total of 279 responses were obtained from 300 students giving a response rate of 93%. Out of 279 responses all students 264 students provided their names on the questionnaire (94.62%). Of the students who provided their names 159(60.22%) were males and 105(39.77%) were females.

Use of e-learning resources

All students accessed the e-resources as it was made mandatory by the school principal. Figure 1 shows that 155/274 (56.66) percent of students found the online classes good, enjoyable and useful. Figure 1 also shows that 52/274 (19 percent) of students found it exciting while 43/274 (15.7%) found online classes average. Another 24/274 (8.8%) students found it dull or boring.

Figure 1

How do you find the online classes conducted by teachers in past previous 4 months?

274 responses
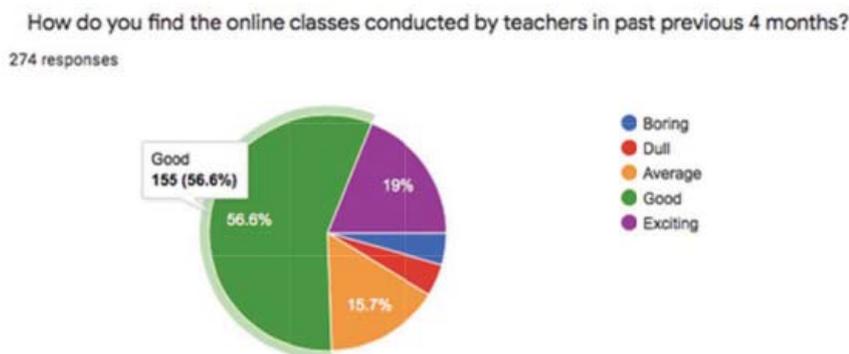
Elements in e-learning resources

Figure 2 shows that majority of the students 174/272(64%) prefer an extracurricular activity along with the curriculum.42/272(15.4 %) did not want any extracurricular activity while 56/272 (20.66%) were not sure of the need of extracurricular activities.

Figure 2

Would you prefer an extracurricular activity during your school hour in your e-class?
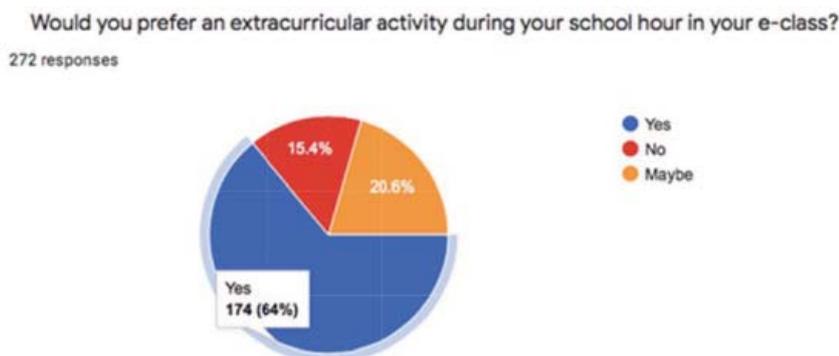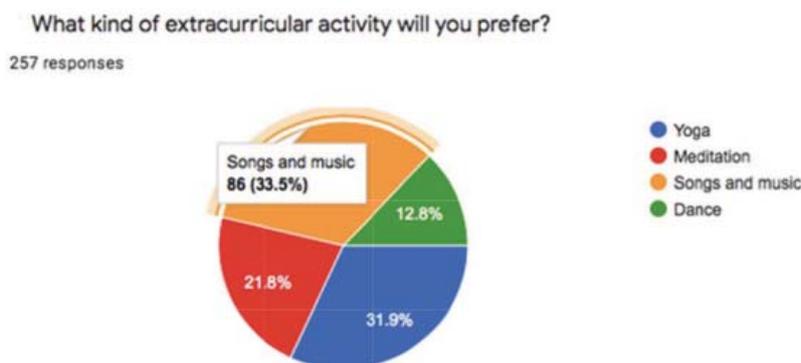
272 responses

Figure 3 shows that the most popular extracurricular activity 86/257 (33.5%) among school students was songs and music while 82/257 (31.9%) preferred Yoga. Other preferred activities were meditation 56/257(21.8%) and dance 33/257(12.8%).

What kind of extracurricular activity will you prefer?

257 responses

Figure 3

16

Quality of information and Comprehensiveness of Content

Figure 4 shows that the majority of students, 72/276(27.4%) strongly agreed and 137/269 (50.9 %) agreed that the syllabus was covered well in online classes. Another 64/269(23.8%) were neutral about the completeness of the syllabus while 27/269 (10%) did not agree that the syllabus was covered properly.

Figure 4

Were the topics covered completely in content and context?

269 responses

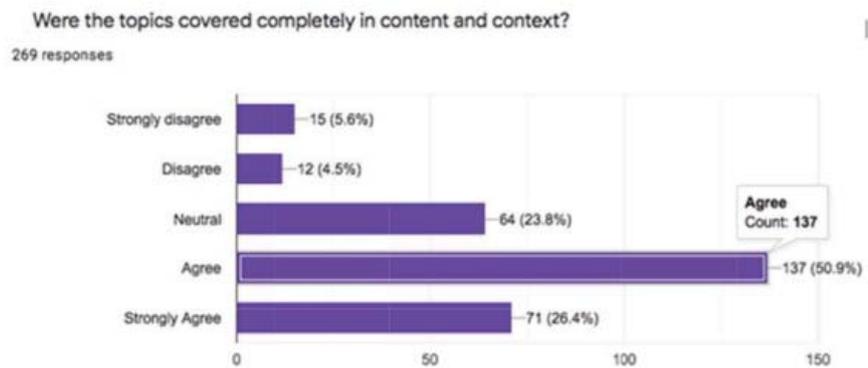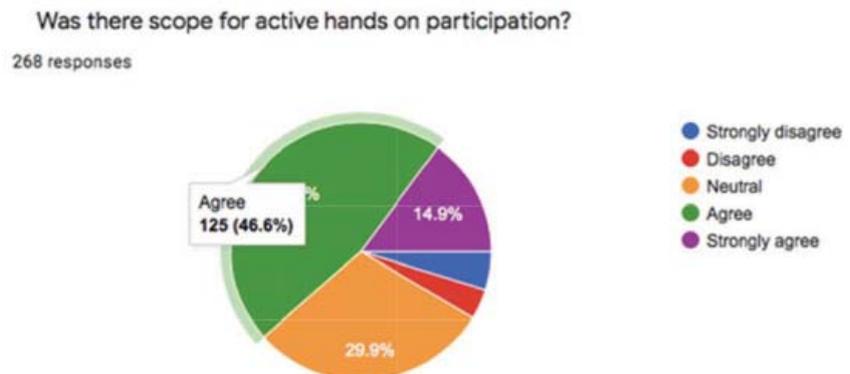| Category	Count (%)
Strongly disagree	15 (5.6%)
Disagree	12 (4.5%)
Neutral	64 (23.8%)
Agree	137 (50.9%)
Strongly Agree	71 (26.4%)

Agree Count: 137

Figure 5 shows that 125/268 (46.6%) agree that there was scope for hands on participation even in online teaching. Around 14.9% (40/268) strongly agreed. Around (29.9%) 80/268 students were neutral about active hands on participation. Around (3.7%) 10/268 disagreed and around (4.9%)13/268 have strongly disagreed about having hands on participation in online teaching.
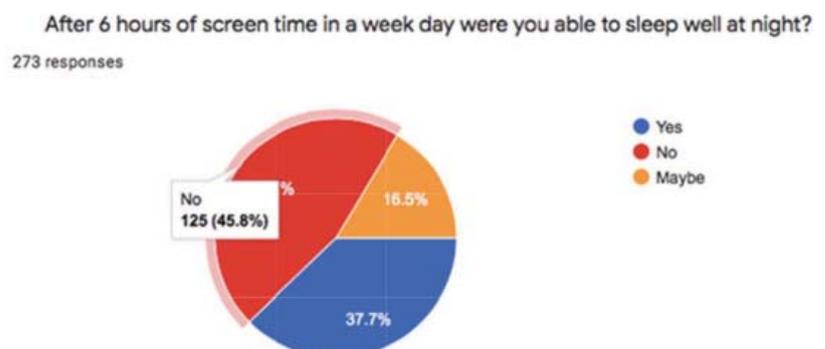
Figure 5

Was there scope for active hands on participation?

268 responses

Agree 125 (46.6%)

14.9%

29.9%

Legend: Strongly disagree, Disagree, Neutral, Agree, Strongly agree

Effects on sleep patterns

Figure 6 shows that 125(45.8%) out of 273 students did not have good quality of sleep after 6 hours of screen time per day in a week, whereas 103 (37.7%) were able to sleep well despite spending 6 hours of screen time. Remaining 45(16.5%) were not sure

Figure 6

After 6 hours of screen time in a week day were you able to sleep well at night?

273 responses

No 125 (45.8%)

16.5%

37.7%

Legend: Yes, No, Maybe

Effects on solitude

Figure 7 shows 128 (47.9%) out of 268 students did not have any inter-personnel change among friends' groups with private chat options whereas 73 (27.3%) students were not sure about it. In contrast 66(24.7%) students agreed that teaching resulted in an inter-personnel change.

Figure 7

Did the teaching result in any inter personnel change among the friend groups with private chat options?

267 responses

- Yes
- No
- Maybe

27.3%
47.9%
24.7%
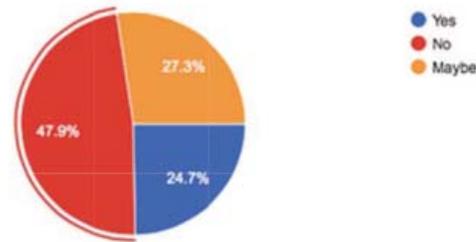
Also, from figure 8, we come to know that 166 (61.3%) students agreed to have felt lonely in the past 6 months without meeting their friends in contrast to 65(24%) students who didn't feel lonely. Remaining 40 students were not sure about it.

Figure 8

During the past months I felt lonely like I didn't have many friends.

271 responses

- Yes
- No
- May be

24%
14.8%
Yes
166 (61.3%)
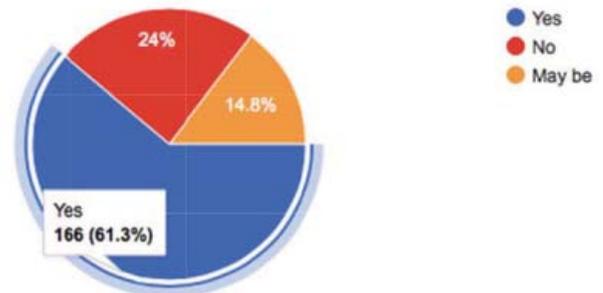
Future online teaching.

Figure 9 shows that 46/269 (17.1%) of students strongly agreed and 103/269 (38.3%) of students agreed to have similar e-teaching in future.

Neutral attitude towards e- teaching in future was shown by 58/269 (21.6%) of students. Around 17.1% (46/269) and (5.9%)16/269 strongly disagreed that e-teaching in future was useful.

Do you want similar teaching in forthcoming classes?

269 responses

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

Figure 9

Agree
103 (38.3%)
17.1%
21.6%
17.1%

18
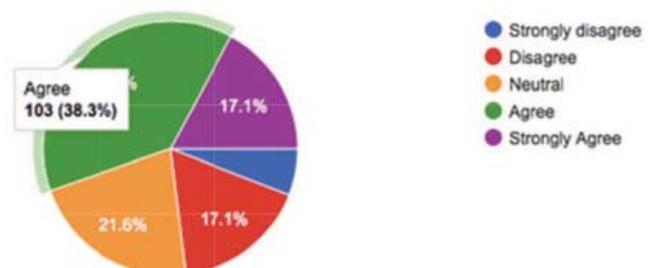
Perceived problems

Figure 10 shows 89(32%) students agreed they couldn't pay attention to online classes whereas 37 students (13.6%) strongly agree. 23.5% showed neutral responses. 19.5% disagreed with this and 10.7% strongly disagreed with this response. 13.6% strongly agree

Figure 10

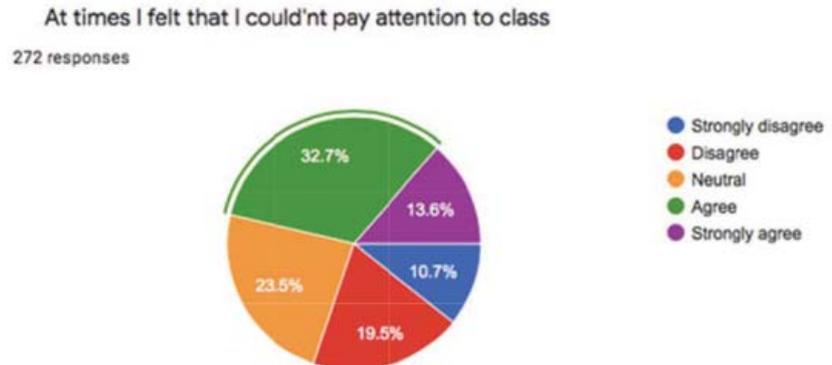At times I felt that I could'nt pay attention to class

272 responses

Figure 11 shows that the most useful teaching learning method was online lectures 81/268(30.2%). The second most popular teaching method was online quiz 61/268(22.8%). The third most preferred method was video presentations 59/268(22%). PowerPoint was preferred by 42/268(15.7%) students. The short answer questions were preferred by 19/268(7.1%) students. A few students preferred Buzz sessions 6/268(2.2%).

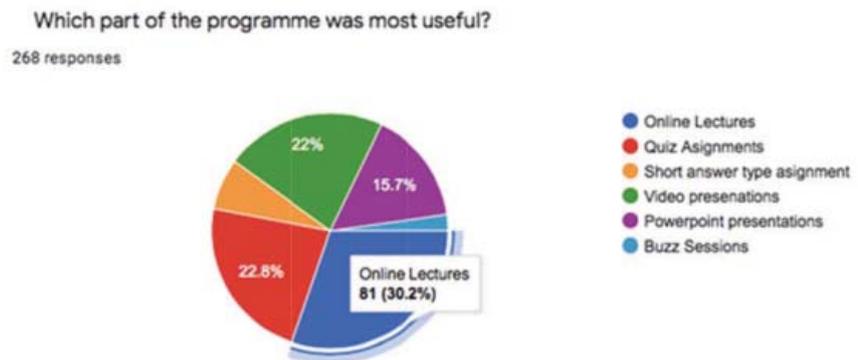Which part of the programme was most useful?

268 responses

Figure 11

Figure 12 depicts that eye strain was the commonest perceived problem amongst students 158/269 (58.7%). The second most common problems were not being able to get personal interaction with teachers (10.4%) and not able to focus (10.4%). The third problem reported was less attention span (7.8%). The fourth most common problem was inability to get help from peer groups for group studies (7.1%). The fifth common problem was not able to clarify doubts from my teacher 15/269 (5.1%).

What do you feel is the major drawback of e-campus

269 responses

Figure 12

19
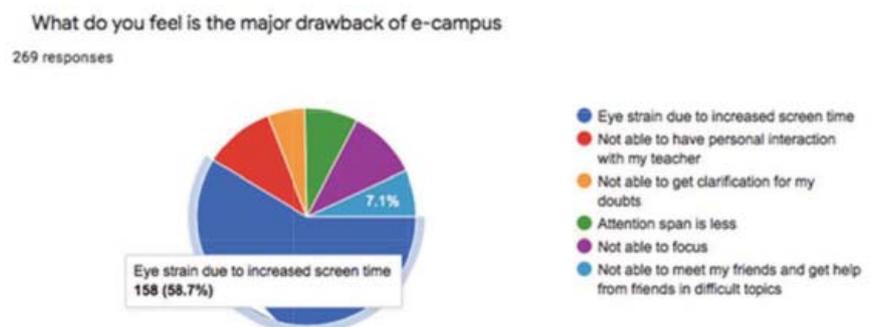
A large number of students (15.5 % strongly agreed) and (39.9% agreed) that they felt tired at times. Out of 271 students 20 .3% felt neutral.

There was no tiredness felt by15.9 % of students. 8.5% of students strongly disagreed to have felt tired (Figure 13).
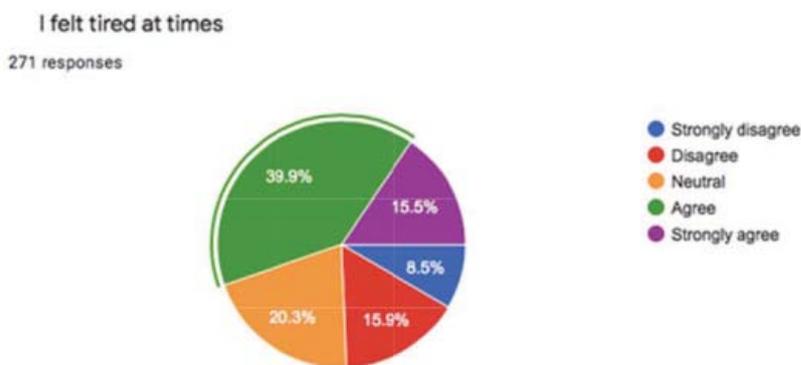
Figure 13

I felt tired at times

271 responses

Figure 13

Open answer

In the open question the students indicated the difficulties in online interaction and dumping of study materials. The student reported lack of personal attention and requested use of interactive sessions.

Discussion:

There are very few prospective studies on Online learning ever since E-Campus has been introduced. Right now, the Coronavirus pandemic is forcing global experimentation with remote teaching. There are many indicators that this crisis is going to transform many aspects of life. For many Americans right now, the scale of the Coronavirus crisis calls to mind 9/11 or the 2008 financial crisis—events that reshaped society in lasting ways, from how we travel and buy homes, to the level of security and surveillance we're accustomed to, and even to the language we use[8]. Education could be one of them if remote teaching proves to be a success. But how will we know if it is? As this crisis-driven experiment launches, we should be collecting data and paying attention to the following three questions about higher education's business model and the accessibility of quality school education [9]. Since it is a sequential EXPLORATORY design, we expect findings to unfold as study evolves. This study helps to collect data about a child's mental health during and after online teaching.[10][11] This study achieves a student representation of problems encountered. This will help to receive inputs for reforming and reappraisal of current online teaching methods. New teaching methods like net conferencing and online debates are likely to emerge. New online assessment tools also are needed.

This study may be complemented in future by quantitative studies that will analyze and compare e-teaching learning and e-assessment tools (Online Open Debates V/S Private Chat or E-study peer group versus Online teacher dictated lecture) [4]. Schools in future are likely to become a part of wider networks to allow sharing of resources and skills and industry webinars. E-tools are likely to become customized, upgraded and integrated in traditional teaching in near future.[12] Despite being popular the effects of e-learning of child mental health should be considered. Blended learning is a better option over e-learning. [12] Blended learning demonstrated consistently better effects on knowledge outcomes when compared with traditional learning in health education. A pure e-learning campus may lead to loneliness and lack of motivation as there is no element of peer pressure [6].

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Limitations of the study

This study expected trustworthiness and authenticity by students. The students may be reflexive and change their viewpoints. Furthermore, the role of MOODLES [13][14](Modular Object-Oriented Dynamic learning environment) in school children has not been studied.[15].[16][17] New digital assessment tools like Online quiz and debates in school education, have also not been analyzed in this study.[10]

Conclusion:

This is a preliminary experience on e-teaching. The children feel that the knowledge aspect is being covered well. However, they are not able to focus and there is a deficiency in curricular and extracurricular activities.

The wholesome or comprehensive training of the head for knowledge, the hand for skill and the heart for attitude that comes easily in traditional learning is however not achieved in e-campus school. The students feel lonely and stressed. Our study highlights the drawbacks of e-learning and supports that blended learning is a better option over online learning in schools in this age group.

Acknowledgement:

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