Action Research

<u>ALPHA</u>

[Academic Learning to Promote Higher Achievement]

Silent Students Left Behind in Virtual Classroom

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Silent Students Left Behind in Virtual Classroom

ABSTRACT

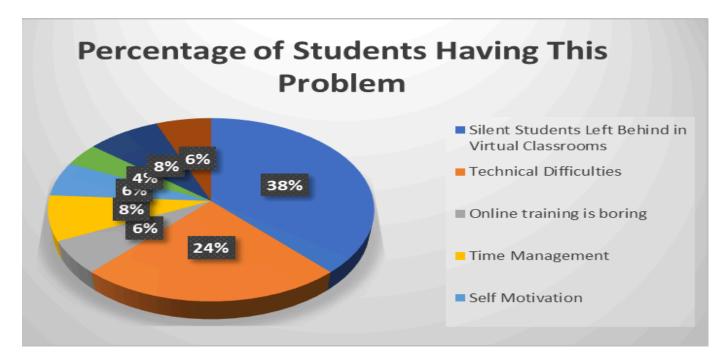
In academic organizations like schools and colleges we proudly moved from offline classroom teaching to online mode, which was a great reflection on our technical adaptability to pace with need of the hour. Teachers were trained well and the entire Education was moved to online mode. Concerns students showed, were taken as initial hiccups till assessment and analysis was done after the first review. It was observed that there is decline of interest of students in online classes and at places where assessment was done it was observed a decline in grades too The problem was too real to be neglected, "Silent Students are being Left Behind in Virtual Classrooms" in online /virtual classrooms besides problems like screen time and responses in classrooms, which was again presumed to be the delay in technical adaptability by the stakeholders .When the concerns remained status quo despite initial adjustments by teachers, the problem was well received as it started affecting morale of students, since suddenly mode of Education in school moved onto online mode where lesson dissemination was happening but connect was lessened .The brainstorming started and the topic taken for action research in the form of Quality circles .Cause and effect analysis was done using Ishikawa (fishbone) diagram which gave clarity of targets by listing possible causes for problem in different situations and locations .A psychological analysis was also done using questionnaire to students to conclude the causes . Small survey was also done with parents being stakeholders too for their inputs and involvement. The entire process helped designing list of possible solutions and narrowing them down to selecting final solutions. The process used to enlist concerns and possible solutions was done by brainstorming with teachers and informal candid interaction with students. The concern points taken from parents surveys were also taken forward during brainstorming sessions The intermittent Challenges were analysed to be targeted and strategies were planned to be implemented which were classified into tangible goals like improvement of grades and active classroom attendance and intangible goals like uplifting of morale , willingness to participate in classroom activities which lead to increase Happiness Quotient which was seen in the form of a Happiness Survey .The action research results were immediately applied to all level with age appropriate strategies and post research analysis in survey for happiness quotient for students and the variation in their grades proved to be worthy with application of new strategies .

Keywords: Online classes, silent students, concerns, happiness quotient, dropping grades in online classes, decline in interest in online classes, classroom connect.

Introduction

Every Problem finds a solution and every novelty come with Challenges. Come COVID and the entire system of Education was shaken up with uncertainties. When everything will be normal and what next? Amidst this technology came as saviour and the entire segment of school education went online thinking it as the best solution. Administratively the entire work system was planned well. Classrooms for online teaching were structured, teachers were trained for the best usage and the system took off with regular coverage of syllabus. In Global Indian International School Kuala Lumpur Malaysia, school went an extra mile with regular online interventions and feedback mechanism after giving adequate time to kick-start the system and also adequate time to all the stakeholders to acclimatize. Small issues like logging in problems, technical issues faced by teachers and students, glitches because of network speed etc. were taken as initial hiccups .To tackle all these issues adequate support system in the form of technical support cell was there to reach out to anyone if any problem was reported .All seemed to work well till first internal assessment .Teachers reported the internal results as a decline vis-à-vis the previous year which was taken as an alarming signal to dig deep into the concern. The concerns was analysed as students' declining performance in virtual classrooms despite all best efforts by the teachers and the administrative team to ensure that under no circumstances the students suffer in their academic endeavours.

After completing the a/m steps, simple jotting down of the problems during virtual classes with logical reasoning from the teachers and students, a need was observed to narrow down upon and define the problem. Following steps were followed to systematically to break the problems into micro segments and streamline so that in a whole the problem can be defined. For this purpose, one teacher and three students were selected to take inputs from rest of the students. To Ascertain the concern, the general approach of quality circles was followed where students were asked to enlist some of the problems they are facing which affect during their learning curve and then they were asked to vote on that.'



The outcome showed that highest vote was on the topic and thus it helped us in selecting the topic for action research to benefit the students

The teaching-learning process to go on uninterrupted despite the impacts of pandemic. The basic interaction was done with all the stake holders to understand the problem and the problem came out as **"Silent Students Left Behind in Virtual Classrooms ".**Following were the phases where the concern was taken up and the problem thus had been selected for the research purpose .



Selection and Purpose

Problems during virtual classes

- 1. Silent students are left behind
- 2. Students encounter technical difficulties
- 3. Online training is boring
- 4. Time management
- 5. Self motivation
- 6. Computer literacy
- 7. The Need to be Constantly Active
- 8. Procrastination

Why this was chosen?

- As the students' grades began to drop drastically.
- The students were noticed to not have gained as much knowledge compared to others.
- Hence, it was concluded as the key problem.

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Review

Classroom is a place where the learning begins. But the question comes how? Is it simply the infrastructure and a well learned teacher? Once the classes started during entire school going online, the constraints in output was felt. Action research which is viable and realistic

endeavour for all educators, has been taken as a tool to help teachers to uncover the strategies and come in innovative way to make teaching learning process more powerful during online classes platform due to COVID Limitations. The study looks at the role teachers endeavours in designing a plan for teaching learning being adaptive to situations, analysing the same and observing the GAPS in self reviews and followed by a complete action research reviewing the entire process from start till the point where it is felt that continuous process of Learning .analysis and enhancement of strategies of teachers affirms the learning of students. According to Sax and Fisher (2001), action research allows teachers the opportunities to identify changes they need to make in their teaching practices by providing teachers with the framework to build their own classroom projects . According to Sax and Fisher (2001), action research allows teachers the opportunities to identify changes they need to make in their teaching practices by providing teachers with the framework to build their own classroom projects. In many cases, when teachers design their own action research projects, they use a systematic approach to ascertain answers to instructional questions or issues. This type of implemented professional development is powerful because it is ongoing, interactive, and systemic. .the outcome is not as desired. The entire process of online classes caught attention after first DA (Detailed Assessment) online test when the scores of students fell, but the same was taken as initial hiccups in adaptation of new system of online classes. The same was confirmed in results of first mid semester exams held in the month of September, posing it as a serious concern. The attendance of students as well as the response in online classes too fluctuated. This all raised questions on quality of teaching . According to McBee (2004) , The quality of teaching can be improved if teachers use their own research experience .Teaching process by teachers and respective learning of their students, affirm the principles of good learning. It was found that by using action research, teachers began to appreciate their own ability to increase knowledge through their own projects .Another question which came forward was that the same concerns were not felt during Face to Face platform of schools but now since it is online platform more such cases are raising questions in the mind of educationists .As per the study conducted by DiXu and Shanna Smith Jaggars (2013) confirmed that impact of online learning on students' course outcomes bring negative estimates in terms of both course persistence and course grade, Keeping the above inputs from researches and outcomes in mind it was found pertinent to research, the causes of declined performance of students in academics and increased behavioural issues on online platform of classes using action research.

The study was handled in Five phases.

- Phase I-. Analysis of current system of teaching learning and comparing to the set goals finalised for online classes
- Phase II-Analysing the Gaps
- Phase III-Working on Strategies to bridge the GAPS
- Phase IV-Testing of Strategies

• Phase V-Application and analysis

Phase I –Phase -1 of the study took care of analysis if academic pattern till midterm exams of students held in September comparing the level of realization of the goals and targets set for them for the midterm exams. The sources of inputs desired for the study were taken from all the stake holders like students, teachers and parents The gaps in achievement were enlisted and the discussions were carried out with teachers for the possibilities and reasons of these gaps. Students of the sample classes were also interviewed randomly and few parents were also called to develop 360 degree understanding on the subject.

Phase II-Phase II has been taken as analysis phase where all the inputs received during the phase I were analysed and enlisted. Phase III was taken as actionable phase where all the gaps which were analysed were deliberated upon with the help of set of sample teachers and senior teachers as well to frame the strategy to come to some conclusion to improve the situation. During this process the inputs given by the students of the sample classes were analysed keeping in mind the inputs from the teachers and the parents body as well.

Phase –III: Phase III was taken on working on the designed strategies to apply once they are ascertained that they are holding worth for the system and secondly they are going to give impact on all the stake holders

Phase IV: was taken as testing Phase where the strategies framed using the analysis were tested by slow implementation and the outcomes were analysed

Phase V : is the final phase where analysis and application were taken side by side and the results faced in next examinations showed visible outcome. Phase V also includes enlisting of tangible and intangible outcomes.

Method

The design of this study is both qualitative and quantitative in nature and has been taken up as systematic study of the problem focusing on overall impact of online classes on students' performance and behavioural issues .It closely followed the characteristics of a proper action research design .To make it more authentic and to fall back upon it , the study followed the four stage method in action research as proposed by Mertler(2006)which states that action research is a process that improves education by incorporating change and it involves educators working together to improve their own teaching practices .The researches conducting this study worked collaboratively and used the results to facilitate instructional changes to meet the goals .

Sample of the study: Following the concerns and using the strategies as mentioned above the study was taken forward using a small sample. The Study was conducted on 24 CBSE teachers teaching from year 6 to Year 10th along with their regular course of classes and exams pattern. The group of teachers was selected randomly so that an even representation of entire school population is covered including multiple representation of subjects.

principles of good learning that they used with their own students applied to their own classrooms.

They found by using action research, teachers began to appreciate their own ability to increase

knowledge through their own projects. According to Sax and Fisher (2001), action research allows teachers the opportunities to identify changes they need to make in their teaching practices by

providing teachers with the framework to build their own classroom projects. In many cases, when

teachers design their own action research projects, they use a systematic approach to ascertain answers to instructional questions or issues. This type of implemented professional development is powerful because it is ongoing, interactive, and systemic.

Те

with 5 Ws and one H .i.e. What of the Problem, Where of the Problem, Why of the Problem, Who of the problem, When of the Problem and finally to look into it with How of the problem and it was brought forward as under;

To ensure both qualitative and quantitative aspect of research following is being ensured

<u>Qualitative</u>

- Research covers all the major aspects of the topic "Silent students left behind in virtual classroom "
- Research is benefitting all the stake holders
- Research brings forward the outcomes which are beneficial to the individuals and the system simultaneously

<u>Quantitative</u>

• It is designed to benefit all the stakeholders as a whole

- It covers all the major issues related to teaching learning process of online classes
- It benefits the entire school system

Problem Description			
Product/Pr	ocess/Component: Process		
WHAT	Silent students are being left behind in virtual classrooms.		
WHERE	In online / virtual classrooms.	PROBLEM DESCRIPTION	
WHY	As it affects the student's morale.	•	
WHO	The students, parents and teachers.	Many students are being left out or are purposefully not answering their	
WHEN	Since late March, 2020	teachers	
HOW	Brainstorming / QC.		
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After analysing the aspects of the following questions as to ;

what is being affected?

, where is the direct and indirect impact of the problem?

why the problem is generated and why it is causing the effect on system.

Who is actually affected with the problem?

how of the problem is effecting all concerned?

we concluded and defined the problem as

" The Silent Students left behind in Virtual Classes "



Procedure and Data Collection

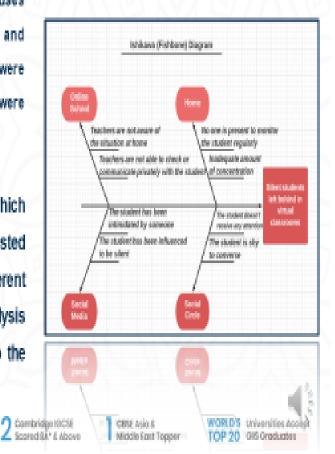
Before the study began, the tools were analysed and the flow of actions was decided .The tools used were reports of results ,anecdotal records and class teachers' weekly reports of the sample group .The second process used was the surveys which were specially created for the study .The initial survey was the basic questionnaire study which was given to the students . Based on the questionnaire and informal interviews, a cause effect relation was drawn to reach to some fruitful level. This entire process was followed by a psychological analysis which was done by informal interactions with students and parents on the subject and a detailed analysis was done by creating an Ishikawa fishbone diagram as in attachment below.



Shink .

What were the used to identify possible causes a) Explain the tools used for listing possible causes ?

- b) Explain the analysis to identify the possible causes ?
- a) The tools used in order to find the possible causes were done using 2 methods of analysis. Reports and surveys were conducted. Analysis of surveys were done. A discussion was held. Questionnaires were filled out by students.
- b) A Cause and Effect Analysis was done which involved an Ishikawa (Fishbone) Diagram that listed the possible causes for the problem in different situations or locations. A psychological analysis was also done where questions were asked to the student which helped conclude the causes.



To add it to the cause effect relation using Ishikawa fishbone diagram analysis was done for the probable causes which were enlisted as below

1. The teacher are not able to establish connect with students

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2. The teachers are not able to see reactions of students

3. The student has not tried to focus on subject in classroom

3. The student has less focus span

4The student is shy so is not able to ask his/her quarries while in online class

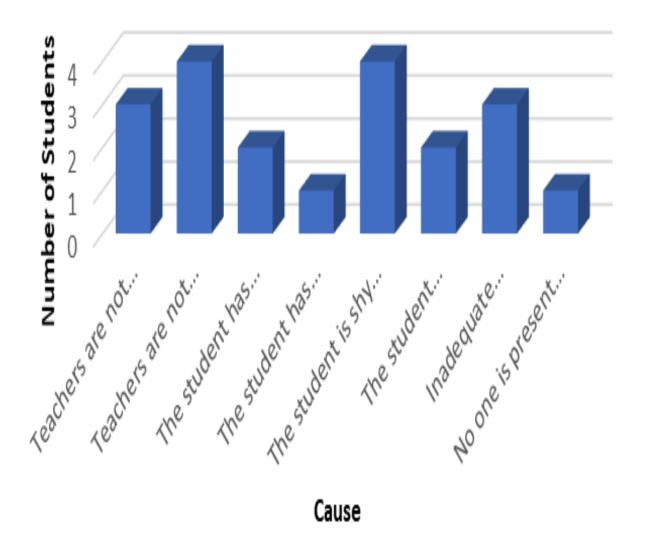
5. The student has not understood the concept

6.Inadequate and inappropriate atmosphere for study where the child is just watching the screen and listening to an unconnected voice

7. There is no one at home to supervise.

The analysis was done using random selection of 40 students across various segments. the same was plotted against the problems and the study projected the following indicators as cause effect diagram where the four selected students provided inputs from a batch of 10 students each from various segments and the input was plotted as under. The data collection was kept as semi-formal process as it needed immediate interventions and solutions without effecting the morale and motivation of students and parents, as all were working under difficult times and school was working to the best to continue uninterrupted online schooling.

The Amount of Students That Mentioned Each Cause



Note: Ratio in a/m graph stand as multiple of 10 on y axis

Root Cause Analysis

The Final root cause analysis was done in two stages. One it is done at the selected teachers level in respect of their concerning classes and individual data was obtained by means of one to one interview. Followed by this A collective root cause analysis was done using the complete data obtained with the help of teachers ,students and parents interviews .The compiled list of cause effect analysis is pasted in attachment

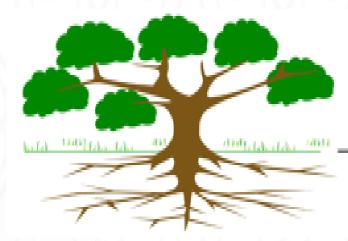
Structure of root cause analysis



2. What were the Procedures used to identify possible causes c) Explain the tools and analysis used for listing final root causes?

d) Explain how the team validated the final root causes ?

Root Cause Analysis - Example



c) The final root causes were determined by many factors which were gathered by speaking with the teachers. We also used a Root Cause Analysis which helped to identify the root causes of the problem which made it simpler to understand and find solutions for.

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Above the surface you see the Symptoms of the problem

> Dig deeper to find the Root Cause of the problem

d) The team had validated the root causes by questioning the students with the problem whether or not they were true and related to them. We then made a bar chart to see which causes were mentioned most often.

Findings and Solution

After the root cause analysis of the entire system using a three tier process of collecting inputs and information from

- Students
- Teachers
- Parents

The following findings were derived

Findings

The entire set of inputs received from the designed resources, which further was analysed and the possible causes were derived and enlisted. Once all the procedure was followed for root cause analysis, it projected many reasons which were very simple to look at but were causing the biggest possible damage. These were ignored because of the following reasons which have been brought forward after analysing the detailed inputs received after the study. These are as following ;

- Online classes system came up all of a sudden so the teachers were not ready
- There were trainings conducted for teachers but were on technical know-how of the classes and emotional and connect part was not touched and established.
- Students did not take it seriously as it was a new environment for them
- No one was watching them during classes
- Few teachers were not technically sound so classes got affected
- Classes were without video so students took liberty to be at ease
- Sometime parents being busy students were all alone
- Sometimes teachers were also taking it at ease doing multitasking being at home
- Some of the students and teachers had inappropriate devices
- In some cases, students are not in appropriate space for learning
- Screen time was more
- •___Lack of physical activities
- No bonding between student and teacher
- Parents busy either in their own problems due to COVID or busy in working from home
- Students mental health effected due to lockdown and no interaction with peers and friends /relatives without any outdoor activities .

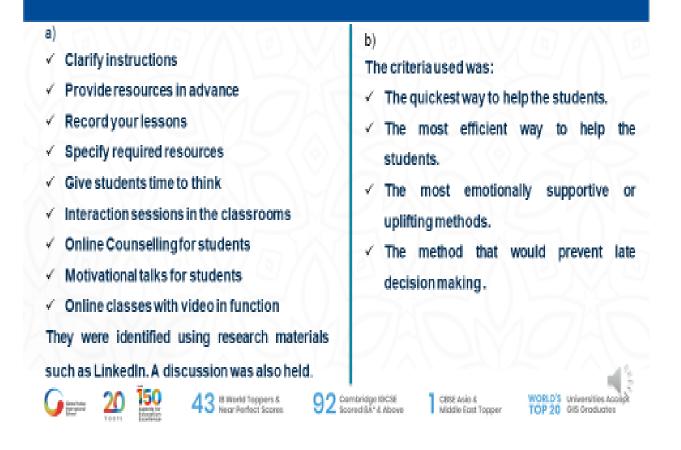
The following were also received as inputs from the students which helped the study to derive the solutions as mentioned below in the given attachment.

<u>Analysis</u>



Analysis and solutions

a) List possible solutions. Explain how they were identified ?
 b) Indicate the criteria used in selecting the final solutions



Solutions

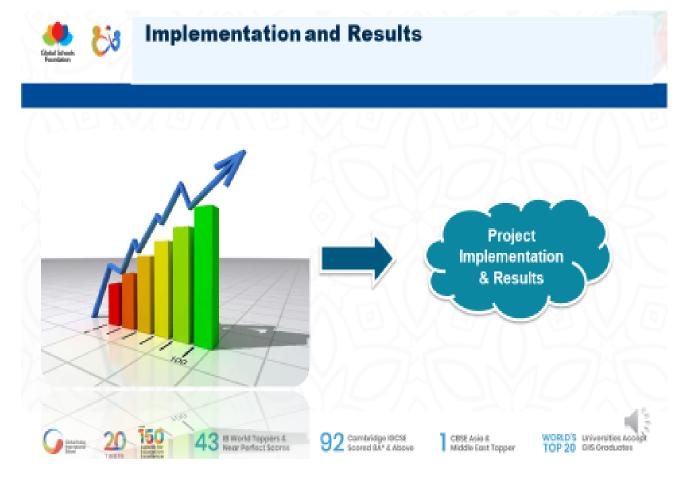
The possible solutions which are derived out of the problems derived as above are mentioned below;

- Proper briefing to be conducted for students, teachers and parents on the concept of online classes. Proper webinars to be planned separately for all the three major stakeholders for dos/don'ts and clarity on the concept of online classes
- Teachers to be trained on emotional aspects to be taken care of in online classes to connect well with students
- All the teachers coming to class for change of period to start class with little informal interaction to make students comfortable in online platform. The same also to be taken care of in middle and end of the class but in informal manner by using various methods like individual questioning or interactions etc.
- Teachers to connect to students on this aspect that even if no one is watching them they should act like self-monitored leaders. For small children there has to be recurring activities to add fun value in the class.

- Separate support cell to be prepared for teachers to help them if technology become a challenge for them at any point of time so that the classes are run in an uninterrupted manner.
- Though organizational policy says that classes to be conducted without Video, still it is recommended to be taken forward to the management for permission as putting video on is very important to connect with students.
- Teachers can check before classes if students were alone and if they are facing any problem in between the classes. Continuous connect to be established in class/sessions to be ensured by the respective teachers
- All teachers to strictly be ready for onset of classes in formal attire and would take classes in continuation without any interruption
- Concern of teachers' devices to be taken up by the school operations and students devices concerns to be discussed by the class teachers to parents for the best possible solutions keeping in mind the sensitivity of Retrenchment /layoffs /salary cuts and best advice /help can be extended to Students to be motivated to embrace leadership quality at larger mental platform to happily focus on studies Irrespective of his/her learning spaces at home. Teachers to interact with such parents for discussing the best possible option which can benefit students the most
- Teachers to take eye exercises in middle or starting of the lesson for comforting students and also students can be told to not to look at the screen when simple conversation on the subject is happening /teacher is just talking
- Teachers can initiate stretching exercises in between or at beginning /last of the class for 2-3 minutes
- Teachers to do bonding activities like wishing on birthdays, asking about yesterday activities, narrating their own incident, cracking joke etc. as bond building exercises with the students.
- Conduct activities that involve all students.
- Encourage students to talk.
- Separate webinar session to be conducted with parents for them to monitor the online classes and also on special tips on parenting specially during lockdown and in online platform of classes so that students have some way out to interact with parents and find some solution to their problems which may be very small vis-à-vis others but hold a significant effort on learning process of their wards
- Parents and teachers to be knowing moves of students in class and if need be informal counselling sessions can be organized with the children to ensure his /her mental health which may be having direct /indirect effect on his /her classroom teaching learning processes on online platform

Once the findings have led to derivation of possible solutions, the outcomes of the study were implied on the larger group of students and the effects were observed. It was seen in both clearly visible and indirect ways. There were some changes which were seen as clear outputs and can be measured, whereas there were some outputs which were just visible and apparently cannot be measured. The impact of all this is seen in implications and conclusions in the following subhead below.

Implications and Conclusions



The outcomes of this study lead to Multi-fold multi-tier level of planning which has been brought out in findings to streamline the processes for online Platform of teaching –learning. This can be summarised as under

- Pre-task Planning
- Mid task planning
- Post task analysis and Re-Planning

In nutshell the possible ways of solutions to problems, as analysed above indicate that the gaps though are very small but are creating a big divide in the process of teaching learning. Also on certain levels more than GAPS there was a minor miss which was observed which was perceived as ignorance at various levels. simultaneously when we see the major connect with the miner chord of empathy at the level of teachers the concerns become more visible to be tackled. The entire process can be summarised and acted upon as given below;

Implementation



4. Implementing solutions to achieve results a) Listing of the type of challenges faced and how were they addressed?

a) Listing of the type of challenges faced and how were they addressed?
 b) What is the implementation plan ? What were the changes made to implement solutions?

 There are many challenges faced by teachers and students. 	b) 1. Speech on how to cope up with
 For teachers: 1. Technology provided may too advanced for them. 2. Teacher's not been able to help those who didn't attend their lessons. 	 online class. 2. Motivational talks to motivate students. 3. Use of easy software applications
 For students: Students are afraid. Recordings of lessons to be provided so that If a person has some technical issues during a lesson, he/she could watch the recordings to learn what they might have missed. 	 so that a teacher wouldn't find it a hassle to conduct lessons. 4. For any activity/ lesson a student has to show his progression and understanding for a certain topic.

After implementing the processes, the outcomes received post study are in two forms

Tangible

- Improvement in grades of students
- Happiness survey report enhancing it from 60% to 89%
- Students attendance record

Intangible

- Students can feel uplifted when they get recognised by their teachers.
- Students feel great and satisfied to be a part of a particular class.
- There is willingness to participate from students, as they know they are being benefitted from it.



4. How the team implemented solutions to achieve results

c) List the tangible and intangible results achieved d) How the results were shared with cross functional team?

c) Tangible:

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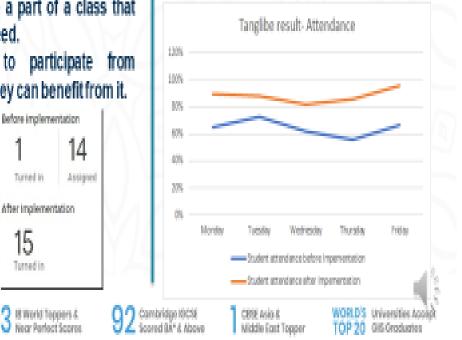
- The grades of a student will exponentially I. improve if he/she participates more often. Intangible:
- Students can feel uplifted when they get i. I recognised by their teachers.
- Students feel great to be a part of a class that Ш. – helps them in a time of need.
- iii. There is willingness to participate students, as they know they can benefit from it.

Turnel in

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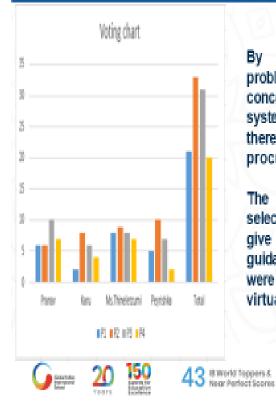
d) The results were shared with the cross functional team by the class teachers or the respective subject teachers through various methods.



Conclusion

Starting from how the problem was selected, how it was analysed and how we reached onto outcomes, there is a satisfying journey as under which needs to be concluded as a success journey from uncertainty -to finding the problem -to coming to possible solutions and applying them to achieve the best outcomes. The entire journey has been a fruitful one

The concluding Factors



brainstorming By the problems which were most concerning. voting A system was also used and there also data was procured from the teachers.

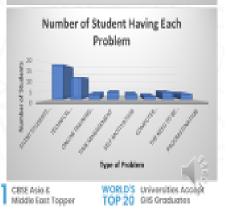
project Was. finally The selected understand. dive. assistance and guidance to those who were affected during the virtual classroom.

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Percentage of Students Having This Problem



The problem," silent students left behind in virtual classroom "emerged out as one of the few problems in regular quality circles event of the school ,as regular activity for all the students where this problem emerged out as biggest problem holding the highest votes .Once analysed and acted upon it is realised that this is the most serious problem of the Online version of the school .To conclude ,it can be brought out that the following major steps deduced from the study prove that starting from the selection of the problem to analysing the concerns and finding of possible solutions to reaching on the findings there is a direct connect of the problem with the inputs and outcomes as ,represented graphically too .Finally application of the outcomes as proved in a/m diagram justifies that all the points derived and applied on the students and classes produced both tangible as well intangible outcomes which proves that not only the problem was pertinently chosen but also the derived outcomes proved to be fruitful proving the action research on the subject as fruitful .The findings of the study are as under

- Online classes system came up all of a sudden so the teachers were not ready
- There were trainings conducted for teachers but were on technical know-how of the classes and emotional and connect part was not touched and established.
- Students did not take it seriously as it was a new environment for them
- No one was watching them during classes
- Few teachers were not technically sound so classes got affected
- Classes were without video so students took liberty to be at ease
- Sometime parents being busy students were all alone
- Sometimes teachers were also taking it at ease doing multitasking being at home
- Some of the students and teachers had inappropriate devices
- In some cases, students are not in appropriate space for learning
- Screen time was more
- •___Lack of physical activities
- No bonding between student and teacher
- Parents busy either in their own problems due to COVID or busy in working from home
- Students mental health effected due to lockdown and no interaction with peers and friends /relatives without any outdoor activities.

Actions taken

- Proper briefing to be conducted for students, teachers and parents on the concept of online classes. Proper webinars to be planned separately for all the three major stakeholders for dos/don'ts and clarity on the concept of online classes
- Teachers to be trained on emotional aspects to be taken care of in online classes to connect well with students
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- Separate support cell to be prepared for teachers to help them if technology become a challenge for them at any point of time so that the classes are run in an uninterrupted manner.
- Though organizational policy says that classes to be conducted without Video, still it is recommended to be taken forward to the management for permission as putting video on is very important to connect with students.
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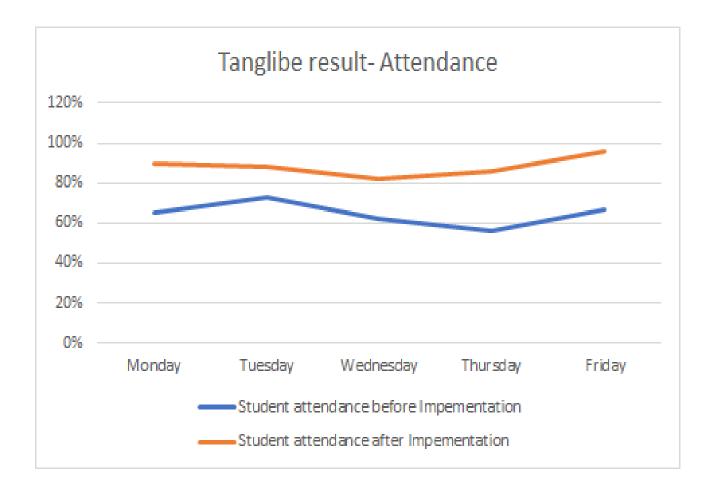
<u>Result</u>

The result of application of suggestions derived out of findings is plotted as Under which is an indicator of the success of the study.

Tangible outcomes

1. Happiness survey results enhanced from 60% to 89%.

2. ASAS (All School all students result enhanced from 77 to 83% from mid semester to post mid semester



3. Graphical representation of attendance is as under

Intangibles

- 1. Participation level enhanced in class
- 2. Students interacting with teachers on various queries and questions enhanced

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