

Developing MindChampions through Chess

A Study on Academic Impact of 'NIIT's MCA Chess Program ' in Indian Schools

EXECUTIVE SUMMARY

Introduction

The NIIT's MindChampions' Academy(MCA), a not-for-profit initiative was set up as a joint initiative with Grand Master Viswanathan Anand and NIIT Ltd, with the objective of promoting Chess in schools to enable development of young minds, subsequently help them to think logically and improve their analytical skills.

The MindChampions' Academy introduced chess to the thousands of school children across rural India. From schools among the Himalayas to the southern tip of the country, we have kids playing the game. Born in 2002, the Academy has fostered over 8000 Chess clubs with over 8,50,000 students as its members, in schools across the country. GM Viswanathan Anand has personally traveled to Agartala, Guwahati, Hyderabad, Mumbai, New Delhi, Jaipur, Patna, Raipur, Chennai, Hyderabad, Kolkata, Pune and other cities across India, spreading the message and motivating the school students to start playing Chess. NIIT Mind Champions' Academy conducts an Annual Event around the month of December and January , known as 'Chess Master', for these school children across India in the NIIT network.

Background

This study, was conducted by Foundation for Learning Reseach in Chess , Chennai. 24 schools across India with a sample size of 11000 students have participated in this study.

Aims of the Study

The aim of this study is to explicitly understand, if learning\playing through MCA

- Have an effect on the emotional and development of students .
- Helps them to improve learning capabilities and perform better academically.

Methods

A case study methodology was adopted for the study, in addition to a detailed analysis on the entire interfaces used in this study to understand the exploratory relationship of the stimulus to the response data obtained. A variety of methods were used to collect data, including:

- A field diary kept by the principal researcher;
- A written and photographic account of observations of chess coaching in the classroom, during playing session, and during MCA club events.
- In-depth interviews and discussion with NIIT Staff In-charge or School teacher responsible for the programme.
- A questionnaire completed by more than 8000 children participating in the Programme, across the 4 Zones, giving the perspectives of Chess infused life.
- A specific discussion with the players who reached finals, to understand about the Chess aspiration and an interview with both the Winner and the runner up of the grand finals.
- In-depth joint interviews with a class of 30 students in receipt of chess coaching in schools with maximum impact.
- In-depth interviews completed by 6 parents of children, who made it to the Finals of the Chess Master event conducted by NIIT.
- Student's Academic Marks secured in Annual 2008 to Annual 2009, during which time the MCA was operational;
- Questionnaire developed in Collaboration with Pearson, to measure life learning skills. This questionnaire was administered as Pre-test and Post-test to study impact of Chess.

Analytic Method

A grounded theory framework for data analysis was adopted for the study. A Q-matrix methodology was customised to analyse the dynamics in students, at multiple stages the IQ tests were administered. Educational Data Mining techniques were further employed for analysing the questionnaire response and to corroborate the analysis of Students Response on the explorative aspects of the study.

This constant comparative method incorporated the use of case stories and photographic imagery throughout this case study and was modelled on the practice developed by Labonte and Feather (1996) in their use of stories in health promotion practice, which has also been adapted for a similar "Impact Study in Chess", in a SEED Sponsored Research in Scotland. UK.

The Key Findings

- It was evident that the introduction of chess to the classroom environment through MCA Clubs influenced the students experiencing holistic learning in the school hours.
- Chess has been very rewarding to these students, and the learning experiences had been unique and helpful in understanding specific methodologies that they could deploy in meeting academic challenges through thoughtful preparations and flawless execution.
- At an emotional level the opportunity to express feelings in a co-operative and structured manner have been noticed. Victory and loss have helped kids to accept truth and move forward.
- Most of children had been instrumental in extending Introduction of the chess-play to their households and neighbourhoods involving parents, siblings and friends in almost every occasion.
- The MCA club has been an opportunity to redefine the general sense of experiencing relationship within the group.
- GM Vishwanathan Anand's relationship in the programme was creating much excitement among the students. Students were excited at opportunities to meet the World Champion, take photographs, get autograph signed and to further get to play with him and receive their prizes from him. Overall the experience was unique, reverberating and had given a positive outlook in overall sense.
- At a more cognitive level chess does assist the learning of "how to learn" and "organise and manage time" appropriately.
- With increased motivation and experience the learning have helped them to change the course of action dynamically.
- At the end of the MCA's sessions planned a pre-test and post-test results on intervention and control samples showed that the most statistically significant difference that chess made to classroom life was in terms of the nature of behavioural improvement.
- Further, the end of year scores was also gathered to note if the trends get extended to academic performances. Marks scored had been considerably high and were pointed out by students in subjects like Maths and Science as pointed out by the students and was confirmed by teachers.
- The chess-playing family became an additional educational resource. Children gained access to a chess set – a miniature world of events, gain more access to PC and Chess software.
- Chess playing families encouraged support for 'out of school hours' participation, in the form of providing additional coaching, going through books and taking care of them during travel.
- Children who played chess developed self-regulated learning, concentrating on problem solving and in quest for newer concepts through voluntary study and plenty of chess play practice.
- Children who scored high marks were motivated to score more marks. Children, who won more games, strived to achieve 100%, but not observed in average and low scorers.
- Chess playing Children always been bubbling with energy and have expressed to have shown more tendency to volunteer for service.
- Chess playing Children tend to use note making in better way, they have shifted to intuitively represent the problem than merely use them for carrying out the working of the solution.
- 92% of the Chess playing students feel that they are much more cautious and manipulative in decision making.

Conclusion:

One of the students aged 15 responded strongly that “I could quit playing Chess only after my Death”, and he was further indebted to NIIT to have conducted these camps that are useful to students.

Learning chess has impacted students in various ways. We present some facts and moments that once again reflect the positive side of learning chess.

Facts and Figures

The Frequency analysis from Response of Student Data, derived from the questionnaire that generated over 8500 responses

3. When do you Normally play Chess?	Frequency
Lunch time	2187
Play time	1391
Evening time	1338
School	1298
Chess (Relative Context)	1286
Leisure Period	1113
Holidays	717
Free	711

Table 1: Represents the High frequency words in Context for the questionnaire response for when the students play chess in general?

2. Did Chess help you to score higher Marks in any Subjects?	Frequency
Maths	3454
All Subjects	1703
Science	1619
Chess	1498
Mark (Keyword from Question)	923
Mind	702
Higher (Keyword from Question)	632
English	597
Our (proximity based Hi-frequency word)	530

Table 2: Represents the High frequency words in Context (academic score improvements) of the questionnaire response for Subjects where students have claimed to be benefited in?

8. How long are you playing Chess?	7. At what age is it ideal to start learning Chess?	6. What is your age?	Frequency
< 1 year	6-8 years	Age <10 years 10 < Age <12	3021
<2 years	8-10 years	Age <10 years 10 < Age <12	2203
<5 years	5-8 years	10 < Age <12 12 < Age <14	1034
<10 years	6-8 years	14 < Age <16	2092
>10 years	6-8 years	Teachers (< 30)	4

Table 3: The frequency measurements for when to learn Chess (Relating Personal Experience)

Further, the end of year scores was also gathered to note if the trends get extended to academic performances. Marks scored had been considerably higher and were pointed out by students in subjects like Maths and Science was confirmed by teachers.

Note: The difference is years of experience more or less point to the same range of 6-8 years. The Normal distribution show maximum chess is facilitated during 8 to 12 years.

The results of the keywords in the context of analysing if, Chess Impacts Behaviour against the context of learning, does Chess improve the performance as a Student. It is important to note that the change is the context between looking into behavioural expectation for themselves (individual) to the perspective of the student community (a group or community feeling).

Impact in Behavior as the context		Impact for a Student, as a context	
Mind	1598	Chess (Keyword from Question)	1582
Thinking	1489	Our (Ideal Keyword)	1546
Sincere	1452	Game	1523
Honest	1409	Planning	1522
Punctual	1372	Good	1521
Power	1366	Concentration	1519
behavior(Keyword from Question)	1343	Student (Keyword from Question)	1515
Our (Collective)	1087	Help	1335
Developed	901	Mind	896
Sharp	900	Practice	716
Hard working	779	Life	588
Anushashan (Discipline)	758	Thinking	588
Jeevan (Life)	747	Mahatva* (value, importance)	582
Polite	650	Right thoughts	432
Cool at tensed situation	312	Tense	414

Table 4: Comparison of High Frequency of Words against their context

Picture Summary – Capturing Impact of Chess

“In Chess, it is nice to have teachers by our sides.”



“It is important to focus on game, where ever you are”



“ Early foot Steps into Grand Chess Master 2009”



“Corridors to pave the way for play, especially for chess”



“Man and Machine Interaction”



“Road to Chess Master 2009!”



“ Start your Games!But lets observe the niceties first!”



“Stares galore as the duel between Cream and Green rages on”



“The war concludes...”



“...and the conquered congratulates the conquerer !”



“It’s the time to chat a bit now...”



Losses are hard! But learning from losses is a step for success”



“A new battle begins”



““Strategizing your next move is vital”



““Concentration matters”



“All at sea”



“Icy cool under pressure as time runs out”.



“Documentation is the key!”



It is not world outside just watching! It is thinking!.



“Anxious moments everywhere”



“Its time for simultaneous chess, after a year of wait”



“It’s the other end of study! The social capital for Chess”



“Sharing the feeling, is more rewarding”



“GM Vishy Anand capturing the audience!”



“Many minds, but one mission! Towards Chess Master 2009”



“The moments to cherish really as group! With an Icon”



“Aspirations follows Inspirations! This is an indication of success”.



“Great Reward for all the Hardwork”



“ The Crowd Celebrates again! This year”



ACKNOWLEDGEMENTS

We thank Mr. Malola Prasad and his team representing Foundation for Learning Research in Chess, for helping us to analyse and document the research findings.

We also thank the Education department, principals, teachers, students and parents of the following schools who have participated in the study in the academic year 2009 – 2010

Sr No	School Name	Address
1	M.p.l.high school	Recherla peta, AP
2	Z p h s	Tadepalli gudem, AP
3	M.p.l.high school	Patamata lanka, AP
4	Yvm mchs	Pappula street (nellore),AP
5	Zphs	Ensanpally, AP
6	Danda saharla hs school	PO:Rowta Chariali,Udalguri, Assam
7	Dhemaji girls hs school	PO: Gohain Gaon, PS: Dhemaji,Assam
8	Govt boys hs & mp school	Jorhat Town,Assam
9	Teok rajabari hs school	P. O. Teok Rajabari,Assam
10	Teok girls hs school	P.O Teok,Assam
11	Charaibahi hs school	P.O. Charaibahi ,Assam
12	Govt. Girl's hs school	Jorhat Town, Assam
13	Kalabari hs school	P.O Kalabari, Assam
14	Behali hs school	P.O.Gongmouthan, Assam
15	Netaji bidyamandir high school	P.O. Dhekiajuli, Assam
16	Govt. Tilak Girls Higher Secondary School, Durg	Po/District-Durg, Chhatisgarh
17	Govt. Girls Higher Secondary School, Vaishalinagar	Vaishalinagar, District-Durg, Chhatisgarh
18	Govt. Girls Higher Secondary School, Kawardha	Near Bus Stand. Dist - Kawardha, Chhatisgarh
19	Govt. Girls Higher Secondary School, Sarkanda	Sarkanda, District-Bilaspur, Chhatisgarh
20	P.G. Umathe Govt. Girls Higher Secondary School, Shanti Nagar	Shanti Nagar, District-Raipur, Chhatisgarh
21	East Durjoynagar	Durjoynagar, Tripura
22	Sukhomor H S School	Tripura
23	Sandhu Vaswani School	Shantiniketan, New Delhi
24	Holy Child School	Amritsar, Punjab

