

# Chapter 18

## User Driven Learning in Mathematics

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### ABSTRACT

*This chapter explores the author's personal journey in teaching math and traces her path from teacher controlled work toward beginning to implement student user driven learning strategies in math. It begins by spelling out the need for different math learning strategies and progresses to illustrate student user output which she has savored over the years. Finally it emphasizes the importance of letting go. She culminates the chapter with an attempt to express the inspiration that directed her journey.*

### INTRODUCTION

This chapter is a reflection of my 16 year journey in learning to teach math to school children...

My inquiry into a different system of math teaching started when I saw the way some children arrived in my classes with broken self esteem due to their failure in learning the subject.

I felt the need for a different math – The way of joy!

My journey has spanned explorations into 'what works, how and why?' I have worked on instilling skills of math, but focused more on developing a healthy attitude to math and one's

relation with it. I have worked on building in children the 'emotional strength' to face their aptitude as it is. Through this quest, I am approaching a system of math that uses multiple strategies of teaching. This chapter is an accumulation of few of the strategies.

It is working for me!

### SYSTEMS THAT FACILITATE SELF DIRECTED LEARNING

#### User Driven Learning

*Am I creating sessions that allow the students to direct their learning?*

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Table 1. Instructions to the students with the rubric

Instructions	Rubric
<p>Write a 200 to 300 word piece on information graphs covering the following areas:</p> <ol style="list-style-type: none"> <li>1. What is an information graph?</li> <li>2. Who are the people who use it?</li> <li>3. How is an information graph better than numerical data?</li> <li>4. What is the mathematical composition of a graph?</li> <li>5. Collect any 5 information graphs from any source (internet, magazines, newspaper etc). Describe what each represents</li> </ol>	<p>Rubric: 15 marks</p> <p>Points 1 to 3: Language – 5 marks (to be assessed by the English teacher)</p> <p>Point 4: Accurate information – 5 marks</p> <p>Point 5: Accuracy – 5 marks</p>

## Using IT

This task was created as individualized work. The students had to research and send me their findings within 40 minutes of class time. I wanted them to understand Information Graphs better. I asked them to use any search engine and research information on Information Graphs. This was the task sheet:

I found that with this method, the students took responsibility of learning in their hands and could direct the pace of their work. It gave them space to learn from their favourite medium – computers - and made math contextual. The only thing I had to watch out for and teach them was surfing correctly using the search engine.

The outcome - They loved it!  
90% of work emailed after 40 min.

## Choice!

Grade 6 needs an involvement of the creative emotional side a lot along with the intellect. Too much mental work and you lose them! I try to give them as much opportunity to involve their creative self as possible.

At the end of basic Geometry, I asked them to make a presentation using all words learnt. The key was – *present in the form you would love to!*

Some students used a power point, some charts, some wrote definitions and some poems. The important aspect is that ‘they had a choice’ in the matter. Through this I could not only reinforce Geometry definitions, it also became a fun

involvement for the children and I got to see some brilliantly creative work!

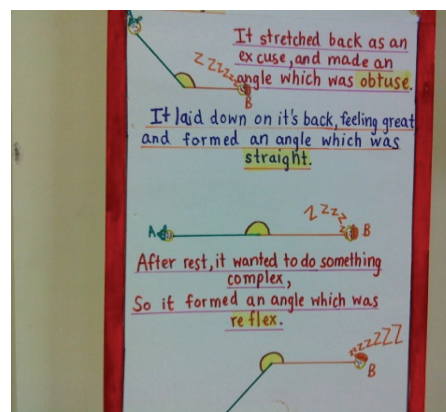
## IT and Worksheet

This was a typical ‘student directed class’ for me. All I did was to create a structure for them to work in. They worked very well to learn the concepts. I wanted to use a strategy that allowed me to do a lot of drill without the drudgery leading to boredom. So I turned it into a self study lesson. The students studied using an internet module. Each student worked on his-her computer. The whole work was done in the class.

Instructions to students:

1. Go to the site [www.aaamath.com](http://www.aaamath.com)
2. Go to the percentage ‘self learning’ module

Figure 1. A student’s work: poems on the vocabulary



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