

Analysis of Illustrations in School Textbooks

Design Research Seminar

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Declaration

I hereby declare that the project work done in relation to the Design Research Seminar and submitted as a written report to the Industrial Design Centre, IIT Bombay is a record of the original work done by me under the guidance of Prof. Nina Sabnani.

Unless otherwise stated, the contents of this report in the form of text and images are entirely my own. The views expressed in the document as part of the written submission of the project are my own and do not necessarily represent the views of Industrial Design Centre, IIT Bombay.

Acknowledgment

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Approval

The Report Committee for Animation Design, Industrial Design Centre, IIT Bombay certifies that this is the approved version of the following report on:

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Guide : _____

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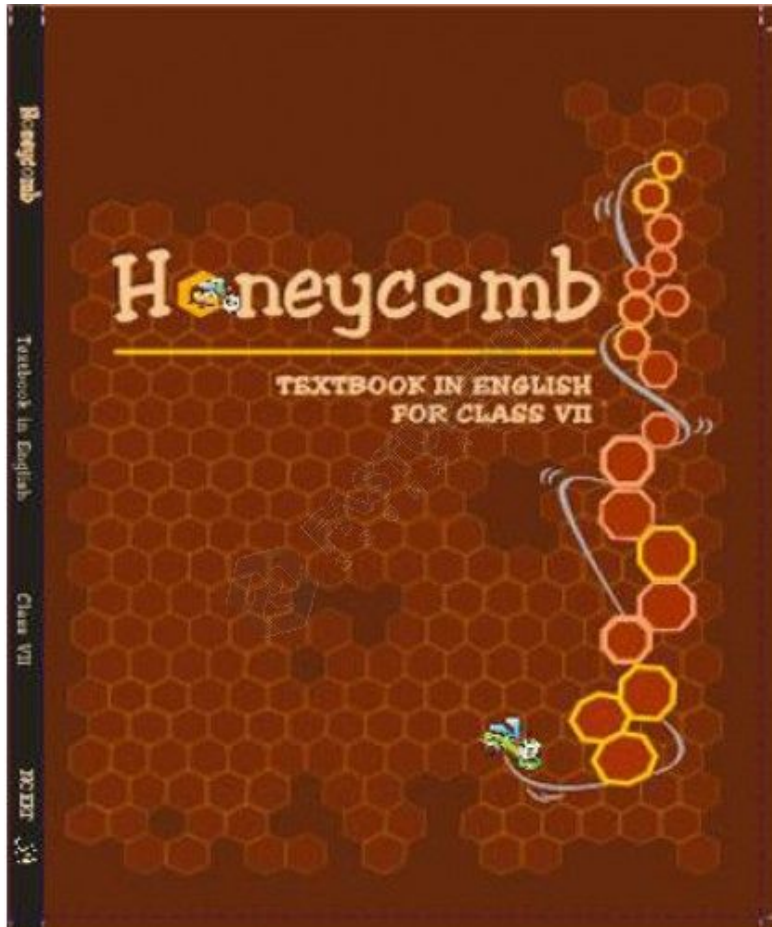
Abstract

This study aims to analyse the existing illustrations in the textbook and find about just how these images are helping the students and teachers understand the text in their course books. On the basis of questionnaires placed among some students and teachers, the difficulties and problems of illustrations in the the textbook are analyzed.

Introduction

You've probably heard the famous saying: "a picture is worth a thousand words." This phrase is especially true when talking about the importance of illustrations in books.

Though the words of the text are important, illustrations are like the glue that can help hold the attention of the reader. Illustrations are essential elements in any language course book. It provides a universal language.



Literature review

Book Title	Honeycomb
Publisher	National Council of Educational and Research Training

For the research, English course book of 7th standard was used. Three chapters were taken for study containing two illustrations from each chapter.

Methodology

Based on the two methodologies, a survey was conducted of NCERT english coursebook commonly used in CBSE schools to determine if the images in these texts were decorative or if they had a pedagogical function . Although it was not designed specifically for english text books Levin's typology (1981) was used as a guide for this study. From his work, five questions, one corresponding to each function, were devised based on his descriptions.

These questions were then applied to the images in three chapters of english textbook, If the answer to the question, based on the context of the material in which the image was found, was yes, then it was determined that served that function. The analysis was conducted by looking at the image and asking questions as listed in table 1 in numerical order. The responses were descriptive and from these it was inferred yes or no and then was

recorded in a spreadsheet. All of the five questions were asked of each image and all answers were recorded. It was possible that a single image could serve more than one function. For state board schools another approach was taken. Since the students had not read the chapter of NCERT english course book, they might observe the image with a new perspective. This would also help in the determining the self sufficiency of images explaining the whole picture. To study the responses of the state board students the questions were grouped into five categories

- Literal
- Inferential
- Creative
- Critical
- Visual

Example

Type	Questions
Literal	What is the man doing outside the shop?
Inferential	Where is the man standing Why is the man standing outside this shop

Creative	What else could the man be doing standing there Where else the man can be What else the man could be wearing
Critical	What lesson is this story telling you
Visual	What shows you that the shop is very customized Why is the man keeping his foot on the wooden thing?

Levin's Typology

Levin devised a typology that identified functions of pictures in instructional texts for learners. He established eight possible roles for visuals: five pedagogical functions and three non-pedagogical, i.e., decorative reasons, for including images. Levin's eight functions are: (1) decoration, (2) remuneration, (3) motivation, (4) reiteration, (5) representation, (6) organization, (7) interpretation, and (8) transformation.

The first three functions are non pedagogical and the last five are pedagogical. Levin describes decorative images as increasing the "attractiveness" of the text, while remunerative images are intended to increase the sales of the book. Motivational images should increase a student's interest in the text. The next two functions, reiterative and representational, are quite similar, but Levin does make a distinction between the two. Reiterative images repeat what is in the text. In English literature text materials this would be something similar to a picture dictionary. Students see a picture and a word of the same thing. Representational images make an idea more concrete. For example, in English literature text

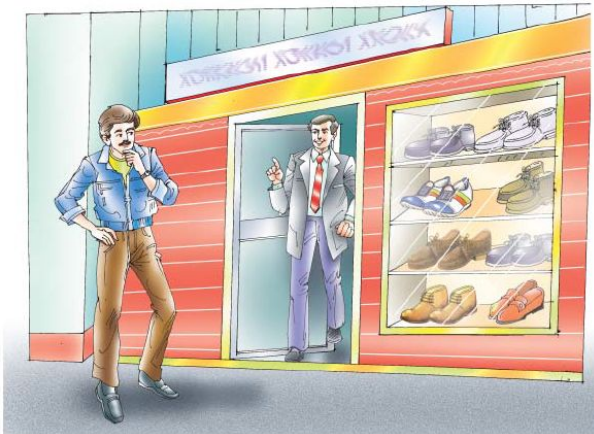
materials, a student might be asked to read a short article about an actual person. Included with the passage is a photograph of that person. Reiterative images show people, places, things, actions, etc. in a generic way.

Representational images show people, places, things, events, etc. in a specific way. According to Levin, organizational images organize the information presented to make it easier to understand. An example might be using a family tree to show the relationships between the family members so students can easily understand the difference between grandparents and parents. The interpretation function helps clarify difficult concepts or ideas. An example in English literature text materials might be using a watch or clock to illustrate the concept of telling time. Finally, the transformational function is an image that creates a mnemonic device that, according to Levin, helps the students to memorize things that are "difficult to remember" .



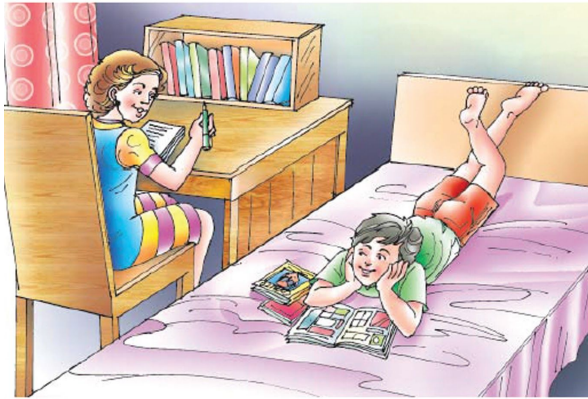
Illustrations 1 & 2

The two illustrations are from the chapter Quality. Two old brothers Gessler older and Gessler younger have been shoemakers for a very long time. Their shoes are extremely durable because the brothers are never ready to compromise with quality. Slowly they face stiff competition from big shoe makers and from the imported shoes. This story tells the lives of traditional workers and their dilemma.



Illustrations 3 & 4

The two illustrations are from chapter Expert Detectives. Brilliant and curious siblings Nishad and Maya debate whether a strange man they encounter is a crook or a lonely man in need of kind friends.



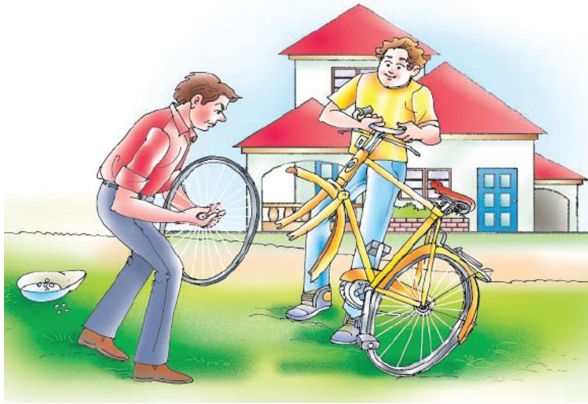







Illustration 5

The illustration is from the chapter A Bicycle in Good Repair . The author and his new-found cyclist friend decide to go for a bicycle ride. But on the appointed day, he first offers to repair the author's bicycle, and the rest of the day goes bitterly downhill.

	Reiterative	Representational	Interpretational	Transformational
	How does the room look like to you?	Is the appearance of the old man similar as described in the text? Yes or No? If not, list the differences.	How is the old man feeling and why?	What are they doing?
	Is the place old or new? If new point out the things which tell you the place is new?	Which one of these paragraphs describes a sales person?	Why is the first person standing outside?	What are they doing?
	How do you discuss with your siblings?	Do the kids appear to be in the posture as described in the above text. Yes or no? If not, list the differences.	What are the expressions on the faces of the kids and why?	What are the kids doing?
	What shows you the kids had an argument?	Which one of these paragraphs describes the girl?	What can you tell about the man from the picture?	What are the kids doing?
	When and where is this event happening?	Out of A, B and C, which paragraph best describes the event?	What is the first person thinking?	What are the people in the image doing?

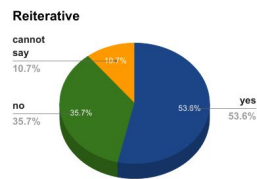
General questions

- 1) Do you take the help of images while reading a chapter?
- 2) How are they helpful?
- 3) Should colors be used in the textbooks. Why or why not?
- 4) How images in the textbook can be made more interesting?
- 5) Do you think the number of illustrations/images in this chapter were enough?
- 6) Other than the images in the chapter which part of the chapter/story requires illustration/images?

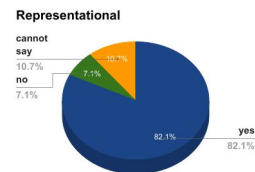


Data analysis

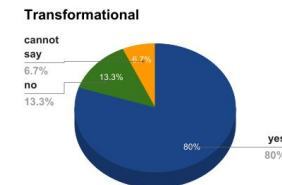
The responses of students from different schools have been recorded and presented in form of pie charts. Each graph corresponds to the Levin's function Reiterative, Representational, Transformational and Interpretive.



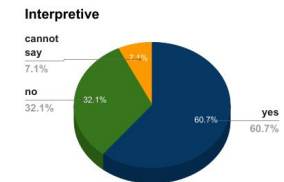
Reiterative



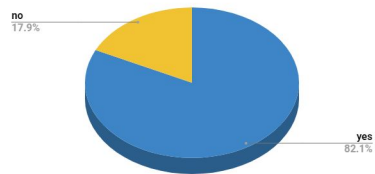
Representational



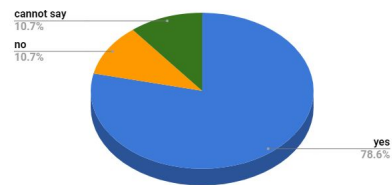
Transformational



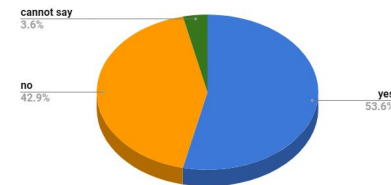
Interpretive



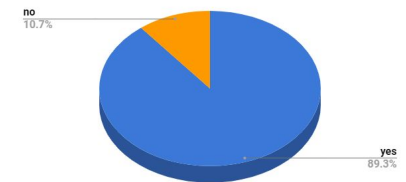
Reiterative



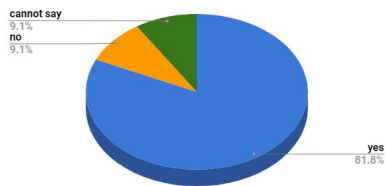
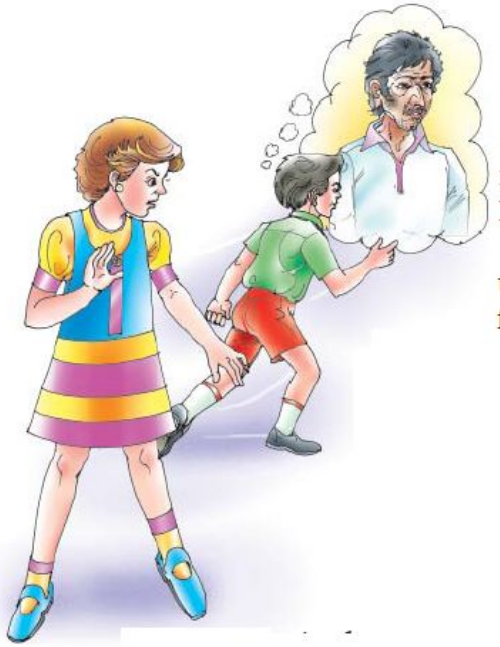
Representational



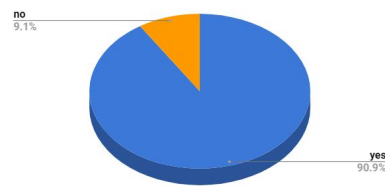
Transformational



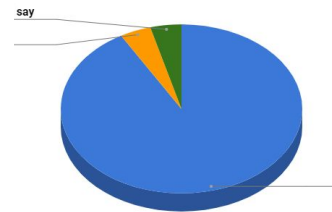
Interpretive



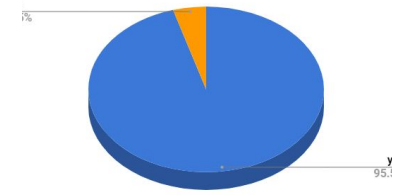
Reiterative



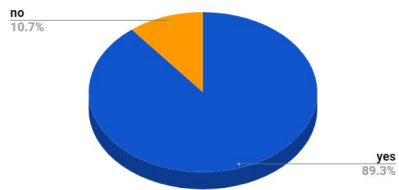
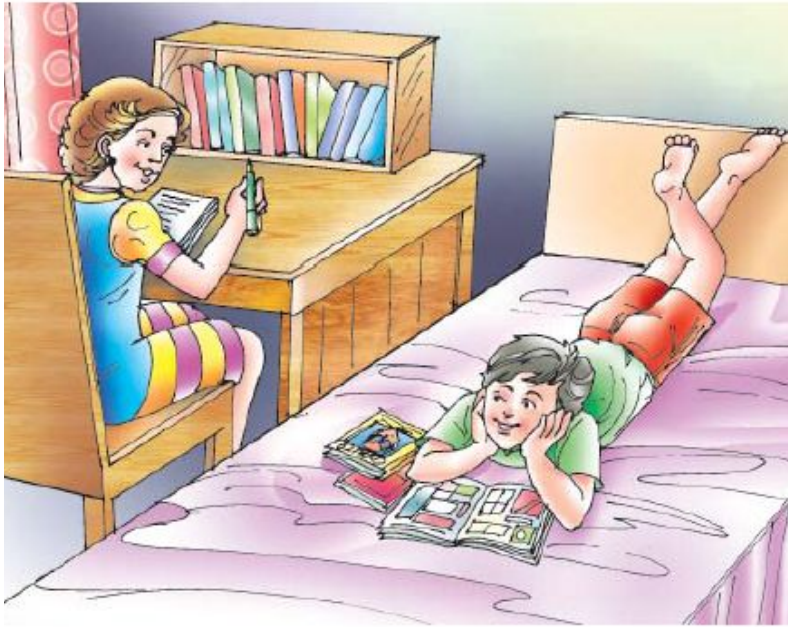
Representational



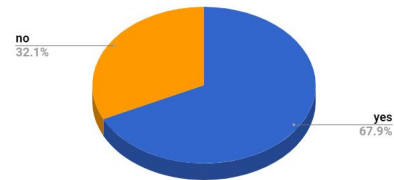
Transformational



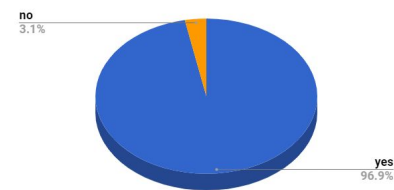
Interpretive



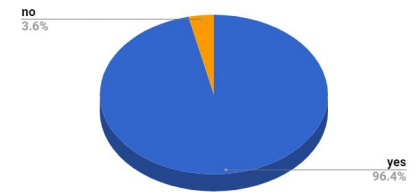
Reiterative



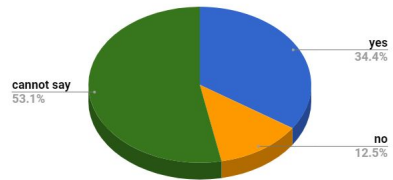
Representational



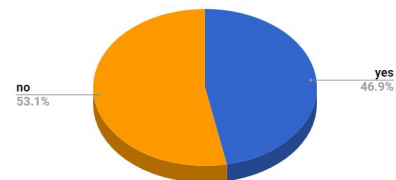
Transformational



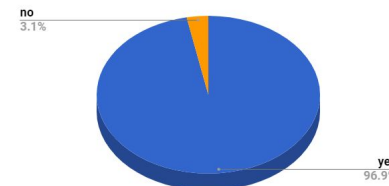
Interpretive



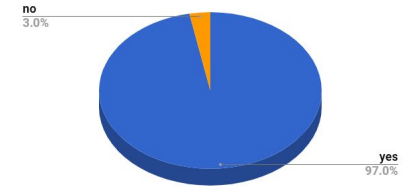
Reiterative



Representational



Transformational



Interpretive

Results

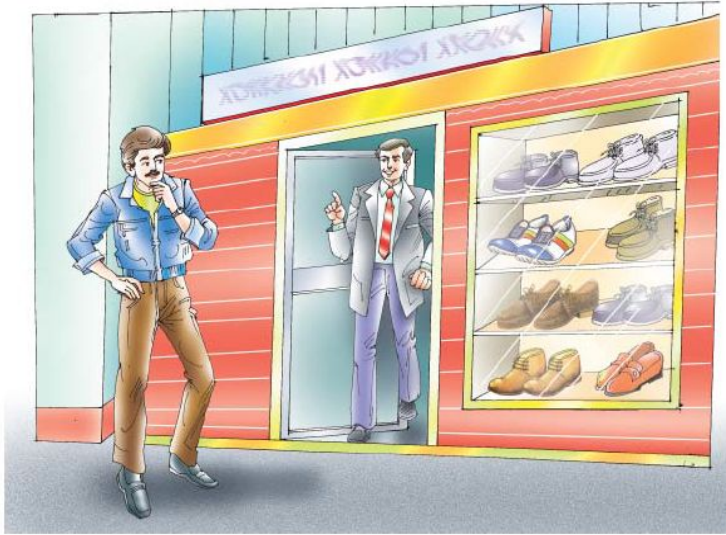
Out of the 5 functions it was found

- The most common was the Interpretive function
- The least common was the Reiterative function
- Illustrations had at least one function fulfilled ---not just for decoration.
- Some parts of the story required illustrations



Non-Interpretive

- Cannot make out the expression of the old man
- Various assumptions- sick, gloomy, happy, serious, amazed, curious



Reiterative

- It shows a new shoe shop in a generic way.
- Access or availability of contrary images
- Difference in the culture or places





Non Representational

- Too much movement, difficult to imagine pictures
- Should provide group of sequential images

Students responses

- Student responses of how illustrations help them
 - Understanding text faster
 - Memorising
 - Imagining the story
 - Word recognition
 - Developing ideas

- Making the course book more interesting
 - Bright colors, detailed illustrations, animated, self drawing

Conclusion

English textbooks contain more of interpretive images. Most of the illustrations required students to interpret the scenario in the chapter. Since the books contain stories and poems that require imagination, this helps them get engaged intensively with the text and offer interpretive perception.

Representational images were seen moderately but if they worked on this function, it may help the students remember more about the person or the place. After all this is the stage when students will build their own perspective.

The illustrations may have drawbacks of not clearly portraying the expressions but it is aided by the text and hence students manage to get the idea.

The illustrations served more than just decorative purposes. Each one fulfilled one function atleast. Useful illustrations may be treated as decorative if students do not pay much heed to illustrations. Their passive functions can be activated by teachers who need to draw students' attention to these illustrations. Some students even prefer not to look at the images reason being they find the text sufficient or they use their imagination more.

Repetitive illustrations stress on the idea but it is better to have illustrations where it is required. Each of the chapters taken for analysis contained three illustrations which were sufficient but there were areas where illustration was a must. Developers need to analyse the story more keeping the viewpoint of students and provide necessary images at vital stages of the story.

In addition to these, the responses of teachers from different schools were also taken into consideration. According to them illustrations were very much required as they explained the complex parts of the stories. Sometimes it is not enough and they may give more

examples from real world. Some students do not pay attention to illustrations as it hinders their imagination but the fact is students are supposed to make use of the skill and illustration's aid in doing so. Illustrations are also used in small exercises given by the teachers to communicate the chapter well.

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