



Book Binding Design Innovation Based On Children's Heuristics

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Abstract — Children's books are an important way for children to understand the world, expand their thinking and reserve knowledge. They are also an important channel for children to independently connect with world, so as to shape their personality and adopt the social responsibility of enlightenment education for the next generation. Under current background, children's book innovation and design are facing great challenges. In the past, children's books described in a single text or explanatory illustrations have gradually failed to meet the needs of children's thinking and cognitive enlightenment, so it is more necessary to explore heuristic creative book guidance to promote cognitive activities in children's reading [1]. In order to understand the characteristics and cognitive needs of children's thinking, break the education form of passive knowledge indoctrination, build an educational cognitive system in books that children like and can be enlightened in a more systematic and logic way. On the basis of telling intellectual content, we will constantly innovate and improve the form of book binding design, and fully promote the important role of books and materials in the cultivation of children's thinking and cognitive ability, and inspire their imagination, understanding and creativity of non-fixed thinking. The book itself is not heuristic; it is the activities that are heuristic.

Keywords - children's cognition, form extension, creative design of books, a new reading experience, interactivity

I. INTRODUCTION

Nowadays, as an important element in the construction of social, cultural, and spiritual civilization in the context of the new era, books have become an indispensable and important pillar in our spiritual life world, and readers have higher requirements and expectations for the external image and inner meaning of books [2]. As a relatively special group of audiences, children's thinking and cognition are in the initial stage of formation and development, and how to break away from the previous form of children's books that only focus on knowledge indoctrination, and design and innovate

in a targeted manner according to children's characteristics, abilities, demands, and other factors, so as to better inspire them, these problems need to be solved and improved [3]. This also means that book designers need to acquire a stronger sense of professional innovation and a wider range of knowledge, so that the overall design of the book's creative design and the reading value of the internal content can be more and more reflected, and through specific considerations and considerations, to provide children with a new reading experience and enlightenment value [4].

1. Research background

Children's books are an important means for children to understand the world, expand their thinking and accumulate knowledge. They are also an important channel for children to independently connect with everything outside, so as to shape their personality and undertake the social responsibility of enlightenment education for the next generation [5]. Against the background of the present era, the innovation and design of children's books are facing greater opportunities and challenges.

2. Research Reason

Reading books is important for education but does almost nothing to cultivate children's heuristic ability. We can utilize a child's previous reading experience to enhance their heuristic ability, where they can use non-theoretical methods to create their own stories from pictures [6].

Animals don't know the theory of anything and can survive without theories. Heuristic ability is very important for survival. (For example, wild dolphins returning a telephone dropped into the sea, a wild chimpanzee inviting a human to a pool to wash the human's hands.)

3. Research Purpose

This paper's mission as stated in my proposal: "One wants to thoroughly analyze the nature and use of children's books and then use this research to improve their design. In

practice, this will be designing and testing ideas at the same time as carrying out research into the whole area of Children's books.

The innocence and curiosity of childhood, the rebellion and enthusiasm of youth, the struggle and transparency of middle age, the comfort and suddenness of old age—human beings pass through different periods of life with their own unique and distinctive characteristics [7]. At different stages of these lives, childhood is an important period for the initial formation of the cognitive outlook, especially for people's future thinking patterns, behavior patterns, and future growth and development. The key to children's cognitive formation and development is the development of thinking, which marks the gradual deepening of children's self-awareness and the increasing enhancement of intelligence. In childhood, their thinking development tends to be more active and rapid, which also means that the thinking and cognition of this period are more malleable. It is more suitable to develop thinking and cognitive abilities in an inspiring way, expanding children's creativity and imagination.

II. RESEARCH METHODS AND METHODOLOGY

1. Literature review and comprehensive analysis

With the aid of theoretical research outcomes in the domains of art, design psychology, cognitive science and thinking science, this paper comprehensively examines the characteristics, difficulties, implementation approaches and specific application forms of the innovative design of children's books under the 'heuristic thinking cognitive concept'.

2. Case studies and inductive analysis

Through the case study of children's book binding design for thinking and cognition enlightenment at home and abroad, this paper analyzes and summarizes the enlightening laws between the innovative design of book binding and children's thinking and cognition, and gradually puts forward the specific ways and practical methods to integrate the concept of 'heuristic thinking cognition' into the binding design of children's books, and then verifies the design ideas proposed in this topic, applies them to design practice, and changes the single form of children's book binding design in the market.

Observing the use of storybooks in three different situations:

- ✓ Solitary use
- ✓ Parent/teacher and child use together
- ✓ Group use

Parent/child use as children who read alone already are already being satisfied.

Academic research of the use of storybooks by reading book and story related texts and websites has been done.

Interviews of academics, parents, writers, publishers and teachers by using a questionnaire. A new questionnaire has been written, which was submitted to several academics and journals.

There is a video of this research. The video will be analyzed in order to improve designs. By watching the behaviors and attitude of the subjects carefully. The indescribable method of 'reflective thought' will be link to observations of academic research. The filming will be done by one of the children wherever possible to make their

brothers and sisters respond more naturally. It limits the effect of experimenter bias.

Case analysis method, combined with many excellent books and works

- ✓ Experimental and observational methods, through allowing children to read the books designed by the author.
- ✓ The prototype of ideas has been evaluated. The criteria for evaluating the effectiveness of designs are:
- ✓ Do children and parents enjoy using them?
- ✓ Do children and parents change their behaviors as a result of my ideas?
- ✓ Are my ideas suitable for the mass market (cost/price ratio etc.).
- ✓ Do parents and children desire to own more books?

III. RESEARCH IMPLEMENTATION

It is widely suspected that children's books have an effect in all of these areas and more, but that effect is not thoroughly understood.

It is difficult to 'improve' the design of an object that has many conflicting, related and independent effects and purposes. For example; if one finds that books are for education and for giving a cultural identity to the reader, an 'improvement' in one area may lead to a loss in the other. One will have to sacrifice another to benefit others. Which is more important?

This is focused on storybooks rather than textbooks or encyclopedias. Since storybooks are used in a great variety of ways.

The definition of the word 'improves' in relation to children's books:

1. Makes the idea of owning books more desirable.
2. Encouraging children to read.
3. Adding value to the reading experience.
4. Making books more likely to be given as presents.
5. Impel adults to read more and read more often with children.
6. Find alternatives to books that do the same good things, but with fewer or less serious drawbacks.

Some of these statements are quite broad. This is purposely so; before finalizing and testing a design, however the achievement cannot be certain.

With these definitions in mind, further exploration will be done to children's books world.

The theoretical and practical significance of the research

Fitness for the purpose is relatively easy to measure for a chair, as its purpose is relatively easy to determine. Chairs are not only physical objects, they have economic, social, aesthetic and cultural characteristics as well as physical ones such as weight, shape, material content, production methods and colour. However, the psychological characteristics of a chair depend almost entirely on these physical characteristics (with the exception of antiques and branded chairs). The effects of a chair are probably limited by the lifetime of the chair and to the users and manufacturers of the chair (excepting environmental consequences) and they are probably predictable.

The importance of this area of research is obvious from the following words: Bibliography, Literacy, Psychology, Culture, Creativity and History.

IV. HEURISTIC THINKING AND COGNITIVE BOOK DESIGN INNOVATION TO IMPROVE CHILDREN'S THINKING AND COGNITIVE DEVELOPMENT ABILITY

Researches were done in Upton Cross primary school (in Upton Park (East London). This is an average school in an area populated mainly by Pakistanis) libraries, bookshops and the market in Richmond and Kingston in the UK. During these visits, a questionnaire was used on the teachers and parents.

The middle-class parents seemed more creative in their book use (some answers were expected). The working class just read the books.

Middle class families possess more books than working class ones.

The teacher was too busy to give my questions lots of thoughts. His insight was that the books are fragile and difficult to use.

It was interesting that there was so little diversity in the answers by the middle class parents. They all seemed to have a reverence for books and all seemed to understand them in a similar way. It may even be possible to define the 'middle-class' in terms of their attitude towards books.

House visits

Four extended days were made for visit a working-class household in the Midlands (UK) from Dec 27- 30 2023. We visited Wolverhampton town center and gifts were bought for them. The choice of what they wanted was not influenced at all.

Profile of this family: Single Mother (working as a coach driver and not present), two Grandparents, Chloe (aged three), Sam (male aged five), Mark (aged eleven) and Leanne (aged twelve). Location Wolverhampton. This family is very poor; their house was extremely cold and even over Christmas there was almost nothing to eat except home-grown vegetables and spam.

A video was made and was included. There wasn't a better choice of family which to carry out this research as I had already interviewed many middle-class people in bookshops. This family is exactly the type that could benefit from increased literacy.

Bedrooms observations: Books are not usually displayed in an obvious and attractive place.

Computers, toys and games are usually easily accessible (often on the floor), but books are kept in cupboards and on shelves.

There are a great many other things that the child could use/play with that need to be ignored or climbed over to get to the books.

Analysis: If one considers the bedroom to be an advertising media, things other than books take the best slots. The result is that the child is less likely to be incited to read than to, for example play with their toy cars. There were a lot of books in this household, but they were for under 6-year-old children. It seems that working class families discontinue book buying at an earlier age than middle class ones. This conclusion is also supported by my other research. It is the 8+ age group that need the most encouragement to read.

This could be because the child respects them and looks after them better than other things, but it is more likely that they are used less frequently and therefore in a tidy arrangement. It is also possible that is easier to stack books

neatly than toys of different shapes and sizes. The shape of books may thus inhibit their use! It may be possible to increase reading by simply developing another system for book storage that makes books more visible and attractive. The spine is all that is visible of a book when it is stacked on a traditional bookshelf. This is not their most appealing face.

Perhaps parents simply buy too many other things for their children, do that books cannot compete.

Pre-shopping observations: In this family of four children between the ages of three and twelve not one single book was given as a Christmas present this year. It was asked them about their birthdays and none of them admitted to receiving a book. They did not however lack presents generally as many of their mother's suitors and ex-boyfriends had generously provided gifts.

The time needed to satisfactorily read a book is quite large compared to that needed for other pastimes. Every few minutes their Grandparents asked to wash their hands, change their clothes, come down for dinner, talk to Mommy on the phone, choose what they want for dinner, say if they wanted anything from the shop, bring down dirty clothes, tidy the living room or take a message to Grandfather who was on the allotment. Only Leanne attempted to engage in a solitary activity. The boys stuck together like glue and spent the majority of the time playing with their favourite toys, which always promoted competition and other forms of socialize. The youngest, Chloe, moved between the boys and Leanne frequently, perhaps because she was too young to participate with any of the others very well. There is a large age difference between the two girls and this may partly account for the very different behaviour. Their behavior could be characterized more by the word cooperation than competition. The only time a book (provided by me) was used successfully was by the two girls. Leanne read for Chloe.

When attempted to artificially encourage book use by all four children by asking Leanne to read to them all, the boys sat as if they were punished.

Analysis: A parent is almost obliged to read a book before buying it for their children to ensure that it is suitable. They don't want to give their children nightmares! Many don't have time to preview a book, whereas toys can be judged almost immediately. That shopping for toys is easier and quicker than shopping for books, mostly for the reason stated above. This issue is revisited soon.

There are several issues connected with this. Perhaps the modern British family is more democratic than the Chinese family that I am familiar with. A disadvantage of this is that the children have less time alone. It may also be due to the large family size. Of course, four children will find it more difficult to find a quiet place than one.

They are more accustomed to company (sharing bedrooms etc.) than children in a smaller family and may find it difficult to separate. However, this is not inevitable since other children in big families that read profusely. The children may have become more reliant on each other due to the absence of a father. In fact, there are many male figures that play a part in these children's lives, but none of them stay very long. These effects may all combine to reduce the amount of reading. The two boys especially have a very poor reading ability. Perhaps if books were easier to use socially, they would be able to improve their reading.

After playing on an old (a very old) 'Nintendo' in the veranda, the boys couldn't focus on the story that was being read by Leanne. It was quite cold in the veranda, but they seemed totally comfortable, because they were doing something that they enjoyed. Despite being (slightly) warmer, they still couldn't enjoy the story. Perhaps book interactions could be enhanced. At the moment there is very little to do except treading for each other. And that is an empty experience, especially for the listener who may not even understand the speaking of the reader.

Shopping observations:

1. The children didn't consider buying any books.
2. There were many families buying toys after Christmas in Wolverhampton (A city in the middle of England). This may be because the children were spending their own Christmas money or because the parents were trying to save money by buying discounted toys. Very few of them looked at any books (except for very young children). This may be because books were not discounted as much as toys, but there was no evidence of people checking prices. Some parents buying very inappropriate gifts for their children. Young children were choosing 16 rated films, music CD's (like 'the Darkness') that looked like they were for adults, mobile phones (sure to be stolen) and computer games which were rated 15 or 18. Often the parent would recommend these things to the child, who would agree. This is opposite what was mentioned above about the reluctance to give their children nightmares. Both are true.
3. The boys were easy to satisfy, as they wanted the same things that their friends had. If you purchase an uncommon toy for a boy, he will be unable to use it to compete with anyone. They both chose the same thing; 'Beyblades'. Mark also wanted (and got) some Yu-gi-oh cards. Chloe fell in love with one of the first dolls that she saw. Leanne couldn't choose and ended up buying a CD and a cushion. Shopping in this way (with four children) was very difficult, as the child to first chose a gift was sure to see something later in another shop that he/she wanted more. Chloe was unhappy as she fell out of love with her first-chosen doll and later preferred another.

Analysis:

1. Books are cheaper than toys (on average). There may have been a law in operation whereby the children try to maximize the money spent on them! However they demanded nothing, and always asked politely if they could have something. They also did not choose the most expensive items. But not choosing books seemed to be a habit and it may have been started by intrinsic lack of interest, lack of knowledge about books (How can they choose if they know nothing?) or price. Maybe both parents and children would be happier to choose books if they were more expensive! A price increase would not be morally justifiable unless there was a significant and obvious improvement in design. Perhaps stress is a factor here, as modern economics is still influenced by the Spencerist paradigm of "survival of the fittest". Many middle-class families are insulated against this competition by their ability to provide rare qualifications that offer no evidence to their ability to do a job, but over-leap more able and less qualified

applicants; this ability is dependent on their literacy. Working class people, however, are subjected to very competitive rules. They must always perform and compete. That produces a lot of stress and that may cause the very behaviour that prevents them from 'improving' their condition, such as reluctance to read. The advantage of the middle class would be increased. *If I am to attempt to redesign the book to increase literacy, I want to ensure that it is an equalizer, not another "un-equalizer"*. While evidence was already provided for the link between poverty and literacy (in proposal).

2. Maybe the reluctance of some of these parents to buy books for their children was partly due to the fact that they wanted to buy gifts that they could enjoy themselves. While this is not virtuous behaviour, it may be utilized by the clever book-marketer to increase the sales of books. Books could be made desirable to adults as well.
3. Yu-gi-oh is a competitive card game in the tradition of 'top-trumps', 'Magic the Gathering' and 'Pokémon'. They have some of the elements of a storybook, as the children like to give a running commentary of the moves that they play in the game and they are linked to a TV show and a video (and a comic book). They facilitate the invention of a story; allow competition, collecting, swapping and the learning of the rules, the history, the strategy and the commercial character of the game. In so many ways they are better than books. No attempt to improve books can be successful without understanding the virtues of the competition. 'Beyblades' are spinning tops. They are modular and must be put together by the child before use. Leanne made them as she had the most patience and dexterity, but she didn't want to play with them. They have three characteristics (attack, defense and stamina). Two or more children must spin their 'Beyblades' and release them into a finite area. They 'battle' each other by colliding, the last 'Beyblade' moving wins. The ones that Mark and Sam got were battery powered and remote controlled and could be controlled (slightly) after release, but they are not all as good as these ones. They are a work of design and marketing genius. £30 for a spinning top? This sounds ridiculous, but they are simply great. The boys didn't want to put them down for many days after getting them.
4. They spoke of how jealous their friends would be. But would those friends have been jealous if Mark and Sam had received books? No, and that is part of the problem. It would be much easier to persuade them to read if their friends also read. But they don't. Peer pressure will be discussed in my next report. They are also linked to a film and a TV program. TV/film/on line linkages seem to make books obsolete and add to the toy experience. Part of the failure of books (Harry Potter aside) is that children spend a lot of time in front of the TV (although it didn't happen during this visit) and since this medium has many advantages over books (discussed in my next report) it both replaces them and through these toy linkages encourages toy use (which also replaces book use). Note: both of these products are Japanese. Mark displayed considerable connoisseurship here; we passed a market stall selling 'beyblades' for £8 (£22 cheaper than the shop). He told me that these were fakes. He

identified that the character names, boxes and design were slightly wrong. We proceeded to the shop and bought 'real' ones instead on his advice. This was impressive knowledge.

5. Interview with a teacher.

A Turkish Primary school teacher (had many years' experiences and was very skilled.) in the UK was interviewed

- ✓ How she used books with children aged about 5 years old. She said that she read to them, making sure that they were seated on a special carpet with no toys or other distractions around.
- ✓ She used the same books repeatedly as she found that children liked to hear familiar stories many times.
- ✓ She found that they were more interested in the pictures than the words, but that the most attractive thing was simply turning the pages.
- ✓ She also said that these children were able to imagine themselves in the stories and then draw pictures replacing characters in the stories with their families and friends.
- ✓ She said that children were able to repeat stories to each other and had extremely good memories.
- ✓ She said that the children usually enjoyed reading time and looked forward to it.
- ✓ She said that children of this age were actually able to concentrate for longer on book than they were on TV or video.

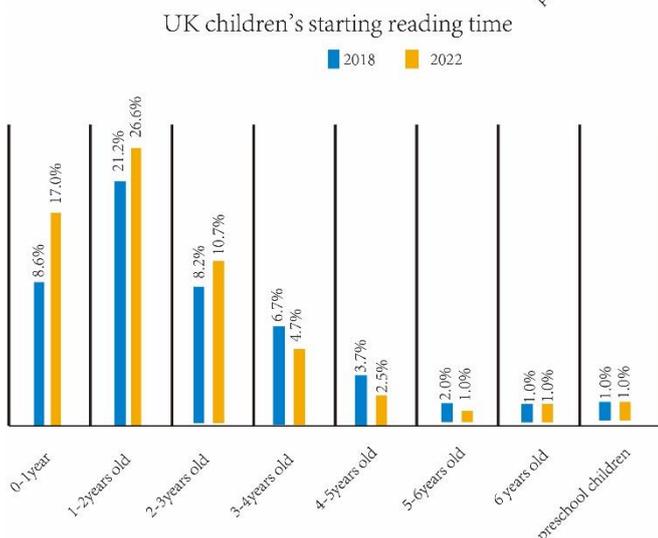
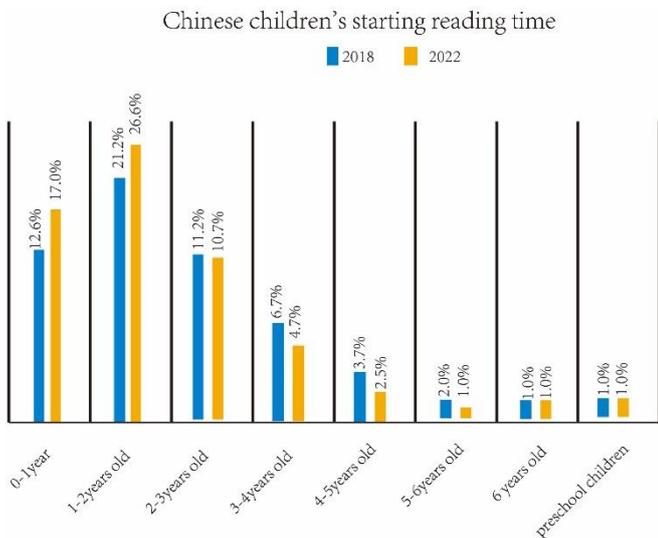


Fig. 1 and 2. The study are the start of reading for children in the UK and China

There are currently no precise search results directly for "Chinese and the UK children's starting reading time research forms".

Regarding children's reading time, in general, the time when children start reading will be affected by a variety of factors, including family environment, educational policies, cultural background, etc. The results of the study are the start of reading for children in the UK and China in Fig I and Fig II.

Different studies may come to different conclusions when it comes to studying children's reading time. For example, some studies may point out that Chinese children may begin to read more systematically at a particular age due to differences in education systems and family priorities. And the reading habits and start times of children in the United Kingdom may be influenced by their culture and education style.

However, to accurately compare when children in China and the United Kingdom started reading, and to form a systematic study, large-scale, long-term follow-up surveys and data collection are needed. This includes the observation and analysis of children from different regions, family backgrounds, and educational levels to obtain comprehensive and representative data. At the same time, it is also necessary to consider the impact of various factors on children's reading time, such as the availability of reading materials and the guidance methods of parents and teachers. In conclusion, the study of children's starting time in China and the United Kingdom is a complex and in-depth research topic.

Factors influencing the time of children starting to read in China

When Chinese children start reading is influenced by a variety of factors. Nearly 70% of children start reading before the age of 6, nearly 30% start reading before the age of 3, and the younger the child, the higher the proportion of children who start reading before the age of 6 [8]. Family factors play a key role in this. Parents' emphasis on reading and the creation of a family reading environment directly affects children's reading starting points [9]. For example, parents' reading habits and engagement can stimulate children's interest in reading, and a rich family collection can satisfy children's curiosity and thirst for knowledge. In addition, the top reason parents report their children reading is "learning needs," while the top reason children report reading is "self-improvement." The higher the annual reading volume of children, the better the language level, but the current children's annual reading volume is generally low and individual differences are large. At the same time, the home is the most important place for children to read at ordinary times. As they grow older, the reason why children rarely do extracurricular reading changes from "no reading atmosphere" to "no interest" and "no time" [10].

Factors influencing the time it takes for children to start reading in UK

In the UK, formal education begins at the age of 4, and pre-schools start teaching children basic literacy skills. Experts are calling on schools to make reading time an inherent part of a child's school day until adolescence [11]. Two important new studies show a decline in both the

number of children reading every day and the average amount of reading children do. A primary school in the UK has seen a significant improvement in children's reading skills by adding time for storytelling and book recommendations to boost children's interest in reading [12]. According to a survey by the Literacy Trust UK, only 32% of children under the age of 13 are offered reading for fun by their parents every day [13].

Differences in Chinese and English children's reading habits

When children in China read and learn Chinese, they are often asked to summarize the main points of paragraphs and summarize the central ideas. Although this helps to summarize the generalization ability, it is also easy for children to be lazy. The central ideas of articles can be found everywhere on the Internet. In the UK, teachers will arrange some small questions to force children to read through the whole book carefully and develop good reading habits. Chinese children start reading a lot independently at the age of 8, while British children start at the age of 5. In terms of reading methods, China is paying more and more attention to the bit-sized learning model, which is not limited to paper books and can access a lot of content with mobile phones [14]. In the UK, many people will appear in libraries to read, and even large companies have libraries for their employees to read [15].

The impact of the Chinese and English education systems on children's reading time

There are differences in the education system between China and the UK, which has a certain impact on children's reading time. In China, the Ministry of Education and other eight departments jointly issued the "National Youth Students Reading Action Implementation Plan" in order to improve children's reading volume and reading ability. However, there are still problems such as children's short reading time outside of class. In the UK, preschool education has begun to focus on children's reading cultivation, and formal education will also involve reading, but it still faces the challenge of children's reading decline [16].

The Influence of Chinese and English Family Environment on Children's Reading Time

In China, many families have factors that are not conducive to the development of children's reading ability. Parents do not pay attention to reading in concept, and regard children's reading activities as optional; do not pay attention to language communication and communication with children, lack language stimulation; only willing to spend money and do not want to spend time with children to read. In the UK, the influence of family environment on children's reading habits is also very important. Parents' reading habits and participation can provide children with a good family cultural atmosphere and promote the development of children's reading ability [17].

To sum up, there are many differences between China and the UK in terms of children's reading start time, reading habits, and the impact of education systems and family environments on reading time. Understanding these differences can help us learn from each other's strengths and weaknesses to better develop children's reading skills and habits.

The Impact of Artificial Intelligence on Heuristic Education for Children

With the continuous progress of artificial intelligence (AI) technology, its application in the education field has been increasingly extensive, bringing new opportunities and challenges to heuristic education for children. AI has integrated learning content into interesting forms such as games, animations, and virtual reality, which has greatly stimulated children's enthusiasm for learning [18].

Role Transformation of Teachers and Students

In the future, teachers will gradually shift from being knowledge disseminators to becoming guides and facilitators of learning. They will pay more attention to children's emotional needs, thinking development, and values cultivation, guiding children to continuously explore on the path of autonomous learning. Meanwhile, students will participate in the learning process more actively and choose learning content and methods based on their own interests and needs. Under this model, students' innovative thinking and comprehensive abilities will be more fully cultivated, enabling them to better adapt to the development requirements of future society.

V. RESEARCH RESULTS

The device that children can use to invent their own stories.

Books are, generally and inexactly speaking, a device for telling stories. This 'code wheel' is a way to generate stories. One simply chooses pictures or words and places them in the spaces in the disc. The discs are turned randomly and then the player has to create a story from a set of pictures that are in line.

A decision was made to produce a bare device to which any pictures can be added. This will enable the user to include family images and pictures from favourite stories. It would also be appropriate to publish a series of books that include cards that could be used in this device. The publishers could then run a competition to find the best story generated from their picture cards.

This device can encourage creative speaking and writing. This can improve the intelligence of the child, as they had to think quickly and connect very different concepts.

It was not successful. None of the children could actually link the three pictures on the wheel to make a story of their own. Most of the middle class parents said that their children were able to invent their own stories and some even proudly said of their 8-year old "He has just written his first story", but they were still unable to actually make up a story in my presence. Some of the parents became exasperated and gave hints to the child, but even then, they couldn't start.

This failure may be due to:

1. The conditions were testing the code-wheel.
2. The obscurity of some of the pictures that were included.
3. The lack of creativity of the children.
4. The absence of a competitive element.
5. The need to practice.
6. It was too scruffy.
7. The idea is no good.

This failure has changed my philosophy in the ways outlined in the previous sections.

The same device was used in a different way in order to overcome the problems. The answer was that the device itself was not inadequate, but it needed to develop a set of rules under which it would be successful.

There are three games it can be used in:

1. The wheel is spun, then each player has to make up a 20 second story without repeating a word, hesitating or deviating. The later players are not allowed to repeat words said by any player before. This game becomes very strategic, it were tried on both children and adults. It is also fun to play with English language students. It was created after listening to 'just a minute' on radio 4.
2. The player has to invent a story that includes/excludes a line or some words chosen by his opponents after they have seen the picture. The player succeeds if he incorporates/excludes the line/words successfully (in the opinion of the other players).
3. After the wheel is spun, the players have to make up a story together. Each player says two/three/four words, which should logically and grammatically follow on from each other. Players drop out when they are unable to add any suitable words to the story. This game can also be played in teams to improve teamwork skills.
4. Use the AI software (Image to image) to generate new pictures by the AI software and add them to the image-text library of "code wheel", allowing participants to imagine new stories through the AI pictures and the illustrations in the book.

Using the 'code wheel' in these ways improved the response to it. It was tried on three sets of pictures to suit these three groups: children, adults and language students. They all really enjoyed it. In fact, the best response was from the language students as they were in a classroom (it was used in an English language school) and in a larger group (it is better with more than four players) [19].

VI. CONCLUSION

In the design practice and application of this topic, the author selects several aspects such as the internal content, external form, games and knowledge points of the book to explore specific and targeted design methods. Especially, it is emphasized that the overall innovative design of children's books should not only contain rich, concrete, scientific and reasonable knowledge and information content, but also should be inseparable from rich creative ideas, clear and logical content levels, clear theme melodies, and intuitive and interesting design elements and enlightenment inspirations [20]. That is, specific content, atmosphere and feeling, enlightenment, meaning, etc., are all indispensable. Children's books are an important way for children to understand the world, expand their thinking and reserve knowledge [21]. They are also an important channel for children to independently connect with everything outside, so as to shape their personality and assume the social responsibility of enlightenment education for the next generation. Under the background of today's era, children's book innovation and design are facing greater opportunities and challenges.

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