CHILD LABOR TO

CHILD ABLER

A creativity solution to change the Child Labor Paradigm

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Abstract

I believe a designer's job is not only developing new products. I trust the creative ability takes one far beyond that, hence knowing that 700,000 children officially announced to be labored just in Iran, I see myself obliged to design a better world in which children do not labor.

Based on Steve Jobs' definition, as a creative designer and engineer, I am expected to very well see the connection between the critical point of events, design a new anagram out of them, and engineer its occurrence.

The first point to start is **creativity** itself. Creativity comes from creation. It could be one of the strong tools for children to create their own life, to not be a victim of the condition they were born into.

The second point is **education**. Kailash Satyarthi, the Peace Nobel prize winner, believes that ending child labor happens through the path of education, yet these children are first to drop out schools, let alone many who do not attend in the first place. The question that eventually led me to the next point is that; if this statement is true, then why education system has failed so far to solve the child labor crisis. I came across to a very famous speech by Sir Ken Robinson who believes that the public education is going in such a false path that eventually kills children's creativity. And this state was the link that took me back to the first point of creativity and wondering how it can be used as a tool.

I encountered Bandura's phobia curing process. Patients who pass the process and face their biggest fears, eventually reach a phase called "**self-efficacy**" in which, one believes one can change the world. Following the path, I found out David Kelly similarly chooses the same path to retrieve creativity, as he believes that lack of creativity is, in fact, the phobia of being judged or being wrong.

 Connecting the points, it was getting clearer that the solution could be a creative education process through which children are empowered with their own creativity and a sense of self-efficacy. The solution has three steps; finding the powerful element of each child, empower it through creativity practices, and finally put it in action.

To place these three steps into an experiment, a workshop is held having children of labor as participants.

Astratto

Io credo il lavoro di un disgner non è solo produrre nuovi prodotti . secondo me abilità in creattività puo portare il disgner oltre , perciò sapendo la realtà di 700000 bambini che lavorano ufficialmente in Iran, mi fa sentire ubgligata di creare un mondo più bello dove i bambini non sono più lavoratori.

La mia creativitta come un disgner e un ingegnere è basato sulla mia conoscenza sulle definizioni di steve jobs ; percio il mio lavoro mi permete di vedere le connesioni tra gli eventi e creare i nuovi anagrami per prendere in mano il ritmo del quello che succedera .

Primo evento è proprio, la creatività . la creativita viene dal creazione che puoi essere come una arma in mano di bambini per creare il loro mondo , per non essere i vitimi del loro condizioni e il posto che sono stati nati . Secondo evento è educazione . kailash satyarthi , premiato nobel per la pace ,si crede che lunico metodo per finire lavoro minorile è leducazione, con tutti questi ipotesi questi bambini sono i primi che lasciano la scuola . la domanda che mi avvcinato al prossiomo evento è; se questi ipotesi sono guisti , ma perche leducazione non è riuscito ancora a risolvere questo problema ?!! nelle mie ricerche ho trovato un discorso di Sir ken Robinson crede che educazione pubblica sta andando ad una strada sbagliata che alla fine riesce a terminare la creativita dei bambini , e questa frase mi ha ricolegato al primo evento e questa domanda che come si puo usare la creativita come una arma ?

Nelle sequenze delle mie ricerche mi sono trovato davanti alle ipotesi di Albert Bandora per curare la fobia , la gente che si curavano con questo metodo, arrivavano ad Autoefficacia(il livello mentale che paziente comincia a cambiare il mondo dintorno a se) . poi ho trovato le ipotesi di david kelly che lui con lo stesso metodo curava la creativita morto dentro le persone . lui crede mancaza di creativita in realta e', la fobia di essere giudicato .

Conetendo gli eventi mi apparito che la soluzione puo essere un processo educativo ,creativo ; che durante evento i bambini si autorizzino sesstesi con la loro creativita e Autoefficacia .questo soluzione ha 3 livelli : trovare l'elemento della potenza nei bambini, autorizzarsi con le pratiche sulla creativita, e mettere in azione .

per metere alla prova questi 3 livelli , ho organziato un work shop con i bambini (lavoro minorile).

Acknowledgments

I would like to express deepest gratitude to my supervisor Prof. Silvia Deborah Ferraris for her full support, expert guidance and encouraging attitude toward the subject to follow my passions, despite the challenging topic. Without her incredible patience and timely wisdom, I would not be able to bring a dream into an experiment.

In addition, I would like to thank The Imam Ali Society for trusting me and taking away the obstacles to reach a goal. In addition, I express my appreciation to Miss Shahnaz Jafarri for her unsparing guidance, both mentally and academically.

Finally, I would like to thank my family and dear Khatereh Mohammadi for their incredible inspiration, and those believers in Imam Ali society who relentlessly work to make a brighter future for children of labor.

00.1 TABLE OF CONTENT

01 IN THEORY

1.1 Breaking the paradigm

Changing from a fully intellectual field of study (theoretical physics) into a creative and organic one, has changed a lot in me as well as my perspective of deep social crises like poverty or wrong education system which has always been a concern to me.

How is it possible to change the paradigms which has proven to be wrong so far, yet there is no sign of emprise? Breaking the paradigm is the title of a very famous speak by *Sir Ken Robinson*. Sir Ken Robinson is an educationalist who criticizes the formal education system. He states "the current (education) system was designed and structured for a different age. It was conceived in the intellectual culture of the enlightenment and the economic circumstance of the industrial revolution for limited number of people and based on the intellectual model of the mind for academic ability, while there are two types of people, academic and nonacademic. The current system is only Academic and Intellectual which has created a chaos causing children to drop out school[1]."

There have been many revolutionary theories that were put into action to evolve the education system. Montessori schools, **alternative education system**, **Self-Organized Learning Environments**, child friendly schools, and multiple intelligence base methods are some successful examples of these actions, though these methods never get to the public education system and are considered as a private school or simply a teaching method that public schools may or may not choose to use, but still in same standard structure of the education system. Montessori schools are schools based on **Montessori methods**, which is an inclusive educational method that was formed by Dr. Maria Montessori in which it delves into the

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[1] RSA events speaks, Ken Robinson. RSA Lectures Office, 16 June 2008 16 June 2008

perception of children's preferred learning modalities as they develop. "The Montessori classroom is a "prepared environment" planned in advance to support independent, student initiated work." In the classroom, children are free to select manipulatives of their preference and through curiosity and innate interest engage in learning activities of their own individual choice. study published at the Science Magazine in 2006 pointed that "…when strictly implemented, Montessori education fosters social and academic skills that are equal or superior to those fostered by a pool of other types of schools [2]," yet it never got to the public education system. And it does not provide classes for high school.

Self-Organized Learning Environments is a term suggested by *Sagata Mitra* in 2013 and it refers to schools, where children can learn and explore from each other using resources and mentors from the cloud. This method has been used put into

experience in two schools and the results are supporting.

In 2008 West Primary school in US started using a new method to teach mathematics to student, based on multiple intelligence theory. Students are placed in different groups based on their method of learning. In this way results will be based on each child's proper learning process.

Supporting these methods, still Ken Robinson suggests, that solution is not an evolution but a revolution. He believes using these revolutionary theories just to evolve a broken system is not an answer, we need to see differently and act differently. In one of his of TED talks on 2013, he mentions a program called **Alternative education system** that is designed to get drop out children back to education. "they are personalized, strong support for the teachers, close connection with the communities and a broaden diverse curriculum and often offers

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[2] "Montessori Science Magazine Article, "www.montessori-science.org. Retrieved 2016-01-11.

programs that involves students outside school as well as inside", Robinson says. He very much agrees with the system, yet he is surprised why this kind of education is called "alternative". "if we all did that, there will be no need for the alternative".

As Robinson illustrates, the current economic and intellectual system has drawn a path of education for a different era when working hard and having a degree could guarantee a job. Therefore, it was for a limited fields and for limited number of people not public. This path no longer guaranties a career and it does not cover all the fields. But still it forces children to concentrate on the subjects, that does not generally draw their interest and does not compulsory lead them to success. This attention is demanded, notwithstanding of all distractions of new technologies, advertisings and information coming from platforms such as video games and social media. The plan has proved to work perfectly, but for only ten percent of the students. Mainly the rest have to either endure with the fields far from their passions,

or to drop out schools. From this group, those who survive this system by ignoring their true "**element**", will inevitably lose their creativity. What Robinson suggests is a system based on **individual talents.** He runs campaigns for a creative path in which child's passions and talents meet the right lead.

Education is modeled on the interests of industrialization by placing all types of students in one system, based on one intellectual standard testing process, while it should go on the exactly different direction. This is what Breaking the paradigm means by Ken Robinson. He explains the current education failure by showing how children are educated out of their creative capacities. He underlines series of tests on kids in kindergarten. Tests are redone every 5 years on same children. It shows two things. First is that we all have this capacity. Second is that it is mostly deteriorated. These children have gradually forgotten the power of their **divergent thinking**. Divergent thinking is an essential capacity for creativity. It is the ability to see or imagine lots of different answers for a

single question. Therefore, it is an essential mental requirement for not only children, but also adults, to be able to create different career possibilities. In contrary, Montessori classes are perfect example that mainly encouraging divergent thinking instead of convergent thinking. In this method there are no grades, no tests and no homework. It is based on innovation instead of standardization, yet in main public education system such thing does not happen and divergent thinking ability is killed in children through education caused by various **Negligence**.

One is forcing them into standardized testing with only one correct answer and to criticize them harshly of being wrong. "I don't mean to say that being wrong is the same thing as being creative. What we do know is, if you're not prepared to be wrong, you'll never come up with anything original. And we are no running national education systems where mistakes are the worst thing you can make.

There is another reason why children lose their creativity gradually. It is the fear of judgment. It happens to many children in school being shot down by a teacher or other student even parents while doing something creative. They, at one-point start to opt out thinking themselves as a creative person. "I see that opting out that happens in childhood, and it moves in and becomes more ingrained, even by the time you get to adult life" says *David Kelly* the founder and chairman of IDEO. He, inspired by *Albert Bandura's* theoretical construct of **self-efficy**, created series of activities and workshops in which adults could regain their lost creativity. Self-efficacy is a term of confidence. It is the strength of one's belief in one's own ability to complete tasks and reach goals. Bandura uses a methodology for curing phobia in an amazingly short amount of time of about four hours. He states that these people go through a process called **guided-mastery**- taken one step at a time through experiencing a series of small successes-. People who went through this process and have overcame the phobia ended up having less anxiety about other things in their lives. They tried harder, they preserved longer, and they were more resilient in the

face of failure. Bandura calls that confidence self-efficacy- "The sense that you can change the world and that you can attain what you set out to do". Using the same methodology David Kelly takes people through series of steps like **small successes** to "turn fear into familiarity" and regain their creativity.

What is answered based on these extraordinary people is how is it possible to break the paradigm. How is it possible to have a system based on individualities? How could we protect the children from losing their creativity? How can we encourage them to lean on their divergent thinking power?

1.2   child labor vs. child abler

Child labor has been one of the biggest concerns in last decades. For me, as well as many others, it is a

dark **bogey**[3], unchangeable and inevitable in current economic and social crisis.

700,000 Children is the official 2010 announced number of children who are known to be labored in Iran, though the real number can reach to 4000,000 [4].From child of labor to a healthy hopeful child with a healthy life and right education seems to be an impossible path. In words, on the other hand, the difference is only a creative change of letters;

L A B O R —— A B L E R[5]

Abler, mean someone who is more skillful. In original language of this idea (Farsi), the word "kar (laborer)" was changed to "karbalad(skilfull)"[6]

How could a creative action be as easily possible as letters change? The challenge is to break the child labor bogey. Child Labor is the begotten of the social and economic crisis. Grounded on UNICEF child's

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[3] Bogey /'bəʊgi/ is a person or thing that causes fear or alarm, "the bogey of recession", Oxford dictionary
[4] Amar.org , Official statistics of Iran

[5] comparative adjective of Able (Having the power, skill, means, or opportunity to do something)
[6]کار to کاربلد

right and responsibilities, children deserve to be educated and led to a better life situation;

Article 19: Governments should ensure that children are properly cared for, and protect them from violence, abuse and neglect by their parents, or anyone else who looks after them.

Article 27: Children have a right to a standard of living that is good enough to meet their physical and mental needs. The Government should help families who cannot afford to provide this

Article 32: The Government should protect children from work that is dangerous, or might harm their health or their education.

Article 36: Children should be protected from any activities that could harm their development.

Despite all these rights, still many kids are labored in informal sectors and even formal in some countries.

These children are the first to drop out school, even not attending in the first place. They should not be a victim of the situation in which they were born. There exists many approaches and associations trying wholeheartedly to defeat child labor yet it goes on and on. "I am positive that I would see the end of child labor around the world in my lifetime, as the poorest of the poor have realized that education is a tool that can empower them[7]," says the 2014 Nobel Peace Prize recipient, *Kailash Satyarthi*. The child rights activist received the award of "2015 Humanitarian of the Year" ceremony for his endeavors against child labor.

Carol Bellamy, presently the Chair of the Board of the Global Community Engagement and Resilience Fund and Director of the Peace Corps, Executive Director of the United Nations Children's Fund, and President and CEO of World Learning, explains her concerns about a new child labor after eliminating the industrial child labor. "We must ensure that while eliminating child

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[7] Speech at the Harvard University campus in Cambridge, Massachusetts, October, 2015.

labor in the export industry, we are also eliminating their labor from the informal sector, which is more invisible to public scrutiny - and thus leaves the children more open to abuse and exploitation."

It is possible that the same criticism as Robinson's is applicable on the subject; "we should break the paradigm". Creativity comes from creation and could be the main tool to create the life path that each child desires and designs for each self to avoid living a life that poverty has written for them.

From all associations and activities against the child labor, what *Iqbal Masih* did is to be known the most impressive one. Iqbal, a former bonded child laborer from Pakistan escaped the carpet factory at the age of 10, helped free over 3000 kids from slavery, before being murdered at the age of 13 in 1995. "children should have pens in their hands not tools" is the sentence with which he changed the world.

One of the reasons why the bogey still exists in many countries is that social activities barely attract enough

attention to brake the child labor myth. how is it possible to break the child labor paradigm? A possible answer lies inside each child. The solution could be trusting the will and the power they have to change their own **trace**. What we could do probably doesn't need to cost a lot or waist so much energy. It could be as simple as changing the wrong perceptions that we mistakenly led them to believe. If they can find their **individual powers** and **self-efficacy**, next step will be the big change that is made by themselves to change the LABOR to ABLER.

Self-efficacy could be the answer to the bogey. In a bigger perspective, it can be a solution not only to attract students to attend or stay in school, but also to encourage them involve more and gain the most out of it. *Kiran Sethi*, founder of Riverside school in Ahmedabad believes" When children are empowered, not only they do good, they do well, in fact very well". Kiran has developed an innovative educational environment where it is focused on c" nurturing a spirit of curiosity and opportunities for

exploration in a safe space within the spirit of community.

riverside offers a curriculum and experiences of engagement with the city that enables children to better understand their skills, potential, and responsibilities as citizens. kiran is also developing social intervention initiatives in the city, community quality-of-life and after-school programs to provide a wide array of activities (cultural, instructional, and recreational) to synchronize with the regular school curriculum.

1.3 Workshop

As it was mentioned before, in place of a creative design-engineer, I am expected to **see the connection**, **design the anagram** and **engineer the occurrence**. *Steve Jobs once said:* "Creativity is just connecting things. When you ask creative people how they did something, they feel a little guilty because they didn't really *do* it, they just *saw* something. It seemed obvious to them after a while. That's because they were able to connect experiences they've had and synthesize new things."

The anagram of the last two topics is the CHILD ABLER movement. A system easy to perform with less costs and restrictions yet with more efficiency.

A workshop is suggested to place the anagram into experience. It is to **suggest** a solution based on creativity or more precisely the Divergent Thinking power. Divergent thinking is an example of the powers that children have and what we have lost through education. It is an example of why trusting children is the answer to breaking the paradigm.

This workshop contains few practices on concepts that was spoken about in first two topics. Sessions are recorded with camera for comparing the effects and give assessments worth considering. Because of the time limits the practices are structured in a way to render quick feedbacks. Children attending the

workshop are from 8 to 13 years old under protection of IMAMALI child labor protection society. This society holds this workshop, provides with the space and insurance of children along with a specialized assistant expert in working with children (Mrs. Mona Mehraban). A musical expert and a child psychologist are present in some of the sessions to achieve more accurate result. The cost of materials, feeding, camera and accessories of recording was funded by MOOGITAL Co.- official sponsor of CHILD ABLER.[8]

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[8] MOOGITAL.IR (Digital Marketing CO.)

02 IN ACTION

04.1 FINDING THE ELEMENT

Level one: Aptitude game
Level two: Vision board

2.1   Practice one- Finding the **element**

2.1.1 Finding Aptitudes

It is important to know how critical it is to have an educational system based on individual aspects. To realize better, it's good to point out the disservices of the current education system precisely. This pattern is proved to be a failure. One of the proofs is the number of school dropouts and unemployed graduated students. For example, on average every year, over 1.2 million students drop out of high school in the United States alone, Although, as it is shown in the table below, This rate has fallen 3% from 1990 to 2015 (12.1% to 7.4%) [9]. That's still a student every 26 seconds – or 7,000 a day [10]. On the other hand, even if these children get to graduation, there is no guarantee of a career.
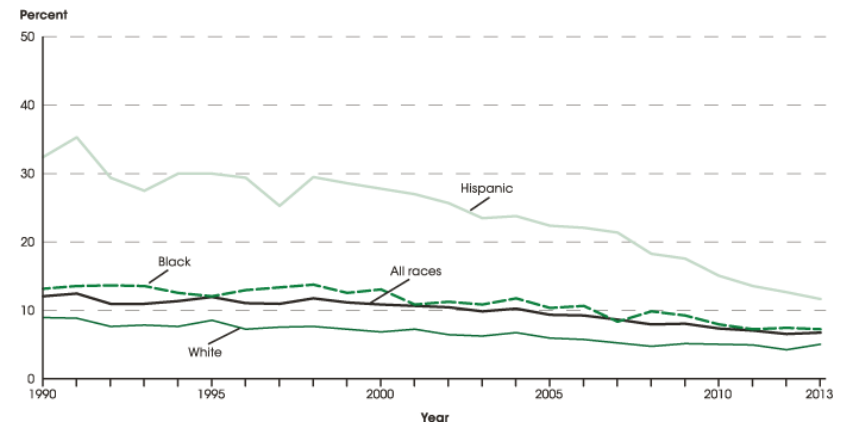

Diagram 1: *Status dropout rates of 16- through 24-year-olds, by race/ethnicity: 1990 through 2013*

As it was mentioned in first chapter, one of the main problems of the current public education system is the fact that it is very much **limitary**. It focuses mainly on the subjects that requires only an intellectual model of view of intelligence; that real intelligence consists in this capacity for a certain type of **deductive reasoning** and a knowledge of the classics originally, what we

[9] U.S. Department of Education, National Center for Education Statistics. (2015). *The Condition of Education 2015* (NCES 2015-144),

[10] Miller, Tony. "Partnering for Education Reform." U.S. Department of Education. Accessed February 18, 2015.

come to think of as academic ability"[11]. Deductive reasoning in a simple explanation is a method to come up with a small conclusion out of a big fact or facts. **Inductive reasoning** on the other hand is to come up with a big conclusion based on series of common examples. It is mainly to find a connection between events. It is said to be "creativity in action."

As a result, this restrictive system responds perfectly but only to a limited number of students while downgrades the rest. It draws the success pattern that works for minority of students only, and pushes and compares the majority with it. The outcome is a false division of students into two groups of smart and non-smart, causing many brilliant people think that they are not, because they are being judged against a particular view of the mind. There should be a method to identify the difference and let each grow and be compared with the method suites them best.

As it was mentioned in first chapter, another failing point of this system is in **standardized testing** which focuses on one and only one correct answer for the problems. In such system, children are being directed in a predetermined order to get the correct answer. They are being tested to find one single correct solution which is written in the book and the rest of the answers are wrong. This standardized testing has grown and the fear of being wrong has increased more with multiple choice tests in which the path to the answer no longer has any value but the strict answer. Main ability that is encouraged in this system is **convergent thinking**. No student is courageous enough to take a risk to think different or solve a problem in a different way specially when there is a time limit for tests. Ken Robinson in his book, *the element* and later on his famous talk on TED explains that schools not only credit just the single correct answer, but reprove all the wrong ones. This is not a good way, as he states, it gradually annihilates the will

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[11] RSA events speaks, Ken Robinson. RSA Lectures Office, 16 June 2008 16 June 2008

of children to create new paths and try out alternative solutions. "if you're not prepared to be wrong, you'll never come up with anything original". This attitude will eventually deteriorate an important ability of the mind called **Divergent thinking**. Convergent thinking is a process of thinking, in which brain brings data and facts and solves a problem based on applying logic to it. In this solution answers are mainly one and only one. Mysteries and riddles mainly use this technique for the answers. "When you have eliminated the impossible, whatever remains, however improbable, must be the truth[12]", is a famous example of using convergent thinking for problem solving. Divergent thinking on the other hand, is thinking outward instead of inward to develop unique and original paths to find a solution. As Ken Robinson explains "It's the ability to see lots of possible answers to a question, lots of possible ways of interpreting a question to think what Edward de Bono would probably call laterally -

to think not just in linear or convergent ways. To seek multiple answers, not one." Divergent thinking and **convergent thinking** are both important tools of problem solving ability. They should be treated with the same importance and be practiced in the right direction.

Third important defect of the education system based on standardization, is the competitive testing. Robinson Criticizes this testing system with an irony; if you copy (from someone else) it is called cheating while outside school it is collaboration. He discusses," you have to recognize that most great learning happens in groups, that collaboration is the stuff of growth. If we atomize people and separate them and judge them separately we form a kind of disjunction between them and their natural learning environment." Some children work better in group and

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[12]Sir Arthur Conan Doyle, *The Sign of the Four (1890)*

some better alone. It is only fair to judge them in the situation in which they inherently respond better.

2.1.2   Finding the passion

let's focus more on individual aptitudes other than just the ones required for learning and examination process. It is important to know how beneficial it is to find the passions. Passions have a key role in any one's life. It is where all the insights and originality come from. Being forced to ignore them in order to get to a direction that is not compulsory draw their attention, is to deteriorate their intuitions. Robinson points out a much more sever situation. He believes result of an education system which acts exclusively academic and intellectual, is the rise of an environment where some people find it beneficial and others do not,

instead they suffer ADHD! "This is the modern epidemic and it's as misplaced and as it's fictitious[13]." **Attention deficit hyperactivity disorder** (ADHD) is a neuro developmental and mental disorder in which there exists problems paying attention, excessive activity, or difficulty controlling behavior which is not appropriate for a person's age[14]. Robinson adds; "Don't mistake me, I don't mean to say there is no such thing as Attention Deficit Disorder. I'm not qualified to say if there is such a thing. I know that a great majority of psychologists and pediatricians think there is such a thing, but it's still a matter of debate. What I do know for a fact is it's not an epidemic." He later on his speak, states that the era in which we live is intensely stimulating period in the history of the earth. Children are being distracted by any platform, computers, television, advertisings, smartphones and so on. In contrast what school offers and we force them to pay attention to, for them is boring stuff, yet we medicate them for being distracted from them. He specifies that

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[13] RSA events speaks, *Changing Education Paradigms*, Ken Robinson. RSA Lectures Office, 16 June 2008 16 June 2008

[14] *Attention deficit hyperactivity disorder*. National Institute of Mental Health. *Retrieved 5 March 2016.*

how medications against such problem is killing all the senses in children and gets them out of their **aesthetic experiences**. "aesthetic experience is one in which your senses are operating at their peak, when you're present in the current moment, when you're resonating with the excitement of this thing that you're experiencing, when you're fully alive."

Importance of finding the passions is not concerned only with the education process but also the career is very much tangled with it. In reality what schools claim to give at the end of graduation, even with high scores, is not an invitation card to the same subject's working field. Nowadays it seems that during job interviews, a passionate candidate is more likely to get the job. Number of employees with an irrelevant field of study is considerable compared to ones with relevant diploma. *Vivek Wadhwa* is a professor at the Pratt School of Engineering at Duke University. He surveyed more than six hundred and fifty U.S.-born

CEOs and heads of product engineering at more than five hundred technology companies. Just over ninety percent of them had college degrees. Of those, only four out of ten had degrees in engineering or math. The other sixty percent had degrees in business, the arts or the humanities[15]. Robinson as well emphasizes the role of passion in finding a job. "It is vitally important, especially when money is tight, for organizations to have people doing what is truly meaningful to them. An organization with a staff fully engaged is far more likely to succeed than one with a large portion of its workforce detached, cynical and uninspired". He suggests to find the **Element**.

2.1.3   Finding the Element

 "*The Element* is where natural **aptitude** meets personal **passion**[16]". Aptitude is an instinctive talent, unique in some points and common in some other, yet never general in whole. It is different than

[15] "*Finding Your Element: How to Discover Your Talents and Passions and Transform Your Life.*" Ken Robinson. Viking, 2013-05-21

[16] "*The Element*", Sir ken Robinson, published 2009

adventitious **abilities** – though it is as well a very important aspect in finding the right path.

Sir Ken Robinson in his book **finding your element** says "human resources are like natural resources; they are often buried beneath the surface and you have to make an effort to find them. On the whole, we do a poor job of that in our schools, businesses and communities."

A big surprise is that how after all these statistics, proofs and theories, still schools work based on the same intellectual model of the mind and the only test that is publicly taken is the IQ type of intelligence test. Even the Career questionnaires are based on the same system so far and give more credit to the academic categories. *Robert Sternberg*, an American psychologist, psychometrician and Professor of Human Development at Cornell University criticizes the testing industry by saying that these tests have been used for a hundred years now and they are not

trusted any more as the chemistry or physics science of a hundred years ago are not[17]. There are many educationalists and scientists who has tried to identify and measure wider range of intelligence, among which some has drawn noticeable attention. To name some, could mention *David Wechsler*, *Charles Edward Spearman*, *Howard Gardner* and *Jack Mayer.*

Spearman was an English Psychologist who has the famous **Theory of G** for intelligence. G means a particular quantity derived from statistical operations. Theory of G says that intelligence consists of different aspects like **Perception speed**, **Associative memory**, **Reasoning speed, numerical intelligence** [18] and so on. Howard Gardner later suggests one of the most complete range of intelligences in his theory." The **Theory of Multiple Intelligences(MI)** is a theory of intelligence that differentiates it into specific (primarily sensory) 'modalities', rather than seeing intelligence

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[17] BBC Horizon program, "*Battle of the minds*",2007

[18] "*Multiple intelligence in the classroom* ", Thomas Armstrong, 2009

as dominated by a single general ability"[19]. Gardner initially identified seven intelligences. However, in the mid-1990's, Gardner concluded that an eighth intelligence, naturalistic intelligence, met the criteria for identification as an intelligence as well. Naturalistic intelligence allows individuals to identify and distinguish among products of the natural world such as animals, plants, types of rocks, and weather patterns [20](Gardner, 1999). Meteorologists, botanists, and zoologists are all professions in which one would likely find individuals who demonstrate high levels of naturalistic intelligence.   In a world where this particular skill is less important for survival than it was in earlier times, naturalistic capacities are brought to bear in making consequential distinctions with respect to manmade objects displayed in a consumer society[21].

Howard Gardner believes that Current IQ tests does not count the initial intelligence of each person. It only considers the knowledge of human in limited subjects and in limited age. For example, it does not consider experience or versatility. Based on his beliefs, multiple intelligence theory is seven different ways of showing mental abilities[22]. Armstrong, in same book and based on Gardner's states, mentions that doing single tests and tagging students based on its results is not compulsory correct. He recommends that best way to realize one's intelligence is through exact observation of how one take the symbolic system of each intelligence into action. For best evaluation, all steps should be fully documented.

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[19] "*Frames of Mind: The Theory of Multiple Intelligences*", Howard Gardner*, 1983*
[20] "*The Cambridge handbook of Intelligence*", Editors; Robert j. Sternberg, Scott Barry Kaufman, May 2011

[21] Adams, M., & Feldman, D. H. (1993). Project Spectrum: A theory-based approach to early education. In R. Pasnak & M. L.

Howe (Eds.), Emerging themes in cognitive development. New York: Springer-Verlag

[22] "*Multiple intelligence in the classroom* ", Thomas Armstrong, 2009

Intelligences	Description
Linguistic	an ability to analyze information and create products involving oral and written language such as speeches, books, and memos.
Logical-Mathematical	An ability to develop equations and proofs, make calculations, and solve abstract problems.
Spatial	An ability to recognize and manipulate large-scale and fine-grained spatial images.
Musical	An ability to produce, remember, and make meaning of different patterns of sound.
Naturalist	An ability to identify and distinguish among different types of plants, animals, and weather formations that are found in the natural world.
Bodily-Kinesthetic	An ability to use one's own body to create products or solve problems.
Interpersonal	An ability to recognize and understand other people's moods, desires, motivations, and intentions
Intrapersonal	An ability to recognize and understand his or her own moods, desires, motivations, and intentions

Diagram 2: nine types of intelligences based on Haward Gardner's theory of multiple intelligences[23].

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[23] *"The Cambridge handbook of Intelligence",* Editors; Robert j. Sternberg, Scott Barry Kaufman, May 2011

What this thesis tries to rely on, similar to what is mentioned in the book "find your element" are two concepts; firstly, none of these tests should label with what one should be in life, secondly they are not compulsory giving an exact model of one's mind. What Child Abler suggests and emphasizes on is that **the results should be considered a tool only for a better understanding of one's aptitudes and should be in service of what one is passionate about**. As Robinson amazingly figures in his book [24], life is not linear as what we write in one's résumé where goal is to set linearly events to show how it was planned for a long time to be in this point. In reality life is" a constant process of improvisation between interests and personality on one hand, and circumstances and opportunities on the other hand." In other words' life is **organic**, not linear. It is impossible to label children with something and let them carry that for the rest of their educational and career life.

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[24] *"Finding Your Element: How to Discover Your Talents and Passions and Transform Your Life."* Ken Robinson. Viking, 2013-05-21

This thesis suggests a process, through which first, aptitudes and passions are separately challenged- not just tested. They will be fully informed about the goal of the practices; they will discuss about them individually until they decide which aptitudes they think they have. Second, it is a guide for children to understand how they can realize and use their aptitudes as tools toward their desires. The aptitudes and passions that was selected by each child will be placed in action trough following practices, so they will realize how to lean on them as an important foundation of what they are and what they are capable of.

2.1.4   Games

Game 1: Aptitude paly room

Theory:

This game contains very hard tests of intelligences based on most talked theories in last two decades.

To turn the test into a non-competitive atmosphere without pressure and underestimation, children are all placed in one group to play a game with the goal of gaining treasure which is equal for all. They have a rule to finish each step all together and none should be left unfinished during the time limit, or the game cannot go on. In this situation any player who have finished first will help others to finish. In this way it will be easy to monitor the most intelligence in one subject and have a ranking based on it. In the end each child will know the goal of each level and will be scored based on his/her opinion. Meanwhile, by watching closely the process some other types of intelligences will be easily recognized. Based on Bandura's theory which was explained in last chapter, children will be taken through a series of small successes called guided-mastery. Level difficulty, has been set in an order that will create small successes to rise their confident and create some kind of Self-efficacy. As Howard Gardner suggests, to be precisely sure of the results, all games are fully recorded. During the games and after it is fully observed with a psychologist, *Miss.*

Shahnaz Jafari, child psychologist, educational ,career advisor and one of the main members of the group that applied **Strong Interest Inventory® Career Tests** in private schools of Tehran. Strong test is a recitative method of evaluating carrier interests based on interview and observation. For the last practice of the game, the group benefits guide of a professional in digital marketing, presented by Moogital Company.

In action:

Goal: Helping children realize their own aptitudes and explain to them how they can use it as a tool.

Principle: Mainly based on Wechsler intelligence, Howard Gardner multiple -intelligences and few more tests on special subjects as synesthesia, lateral thinking, practical and emotional intelligence. Materials used in this level could be of everyday objects around. Each level has some point. Children could use these points to buy hints.

Essentials: Open or closed space, group game, no competition. There can be a treasure in the end to push them pass even the hardest ones. Levels should be connected together as much as possible to be sure each level will be fully finished to other and will not be skipped.

Time: There is no time limit to finish the whole game, time limits for some levels and open time for others.

Method of explaining to child: It is explained that it is only a game with several levels. Through each level we find something important about us. And at the end of the game, each level should be fully explained of what it is about and how they can use it. It is good to ask them if they find it simple or easy, interesting or boring.

Game details:

Players:

◄ Ali Nazari : 11 years old. Doesn't go to school. He collects trash and sells them. He cannot speak very well.

◄ Mehdi Tavasoli: 10 years old, home studied under protection of Emamali Society and very soon he passed all courses to 4th grade. He works in brick furnace.
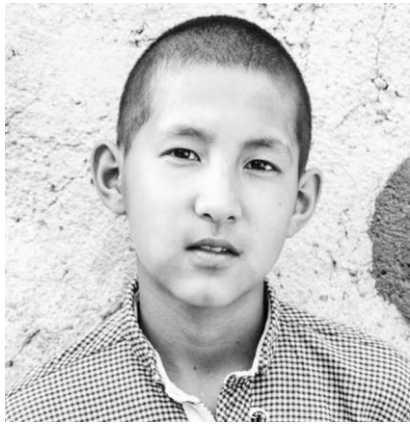
◄ Faeze Gholamhosseini: 8 years old. Doesn't work. just started school under protection of Emamali society.[25]

◄ Elham Noorzayi: 8 years old: just started school under protection of Emamali society. She works at home (unknown work)

[25] Emamali Society has a special program through which professional volunteers will explore the Slumdog locations to find children who are deprived of education, and provides some special scholarship to send these kids to school and give them educational support until they be in the grade according to their age. To avoid frustration, these children will not start school until they are qualified to enter the right grade.

◄ Mohhamad Sharifi: 12 years old, started school under protection of Emamali society a year ago. He was evaluated higher than his age to the 7th grade. works in a greenhouse.

◄ Reihane Sharifi: 11 years old. She was home studied just to read and write. Doesn't go to school. She works 7 hours a day as a tailor.

◄ Hossein Mahmoudi: 10 years old. He doesn't go to school, he used to work in a fabric school. He now is home studied under protection of Emamali society to start school.

Level one: *Game of synesthesia:* **Synesthesia** is a condition in which one sense (for example, hearing) is simultaneously perceived as if by one or more additional senses such as sight. Another form of synesthesia joins objects such as letters, shapes, numbers or people's names with a sensory perception such as smell, color or flavor. The word synesthesia comes from two Greek words, syn (together) and aisthesis (perception). Therefore, synesthesia literally means "joined perception[26]". Each child is given a

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[26] Cytowic, R., Syneshtesia: phenomenology and Neuropsychology, A Review of Current Knowledge. Psyche: An interdisciplinary journal of research on consciousness.

paper filled with letter "S". some of them are mirrored. The goal is to find the mirrored signs as fast as possible and draw a circle around it. They have 20 seconds to finish it, after they should help each other. The one who finishes first is the most probable to be synesthetic. Each paper has a number on its side from 1 to 7 along with an individual pattern either in shape of a number, or the letter X. Players need to place the papers in order, to be able to get a four-digit number out of patterns in row. The X letters are not considered.

Evaluation: based on two aspects of time and the way of looking at the paper to salve the probability of having anesthesia is evaluated. Those who try to check paper column by column are less probable to have it, rather that those who choose the wrong letters by looking at it from a little distance. A synesthetic mind sees the difference in color or characters or tastes and it will be clear as they see number 5 among a page full of zeros.
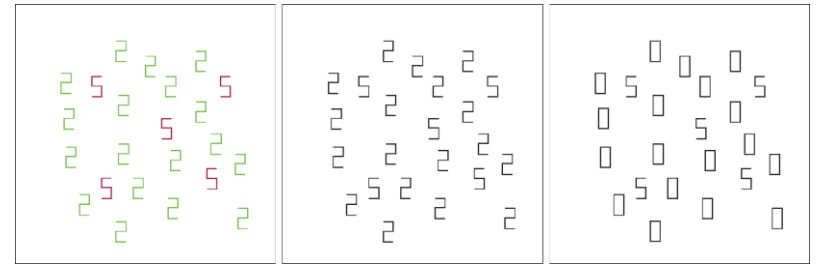
Figure 3 right and left shows how a synesthetic person might see the cards

Game box: Introduction card, 7 markers, 7 puzzles

Time: 20 seconds

Introduction:

> "Each of you holds a mystery. Find all the signs looking like 5 with your pencil. Arrange the solved mysteries in order, to find the key to next level.
> 10 seconds: 2 points for whole group
> 20 seconds: 1 point for whole group
> after 20 Seconds: -1 point for whole group"

Level 1

Each of you holds a mystery. Find all the signs looking like 5 with your pencil. place the solves mysteries in order to find the key to next level.

10 seconds: 2 points for all group
20 seconds: 1 point for all group
after 20 Seconds: -1 point for all group

Figure 4: Card for Level one- Synesthesia Test

Figure 5: puzzles of synesthesia. Each contains a pattern in shape of a number or X. placing them in order will give a 4-digit passcode.

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27 *"Multiple intelligence in the classroom ",* Thomas Armstrong, 2009

Results: Only one of the players finished the level under 10 seconds.

Ali: under 130 Sec.

Faeze: 14 Sec

Mohamad: 15 Sec

Reihane: 16 Sec

Hossein: over 20 Sec one mistake

Mehdi: over 20 Sec

Elham: over 20 Sec 2 mistakes

Level two: *Game of music.* This game is based on **musical intelligence** of Howard Gardner's multiple intelligence theory. This intelligence is the ability of creating or understanding music. Thomas Armstrong explains in details this intelligence[27];
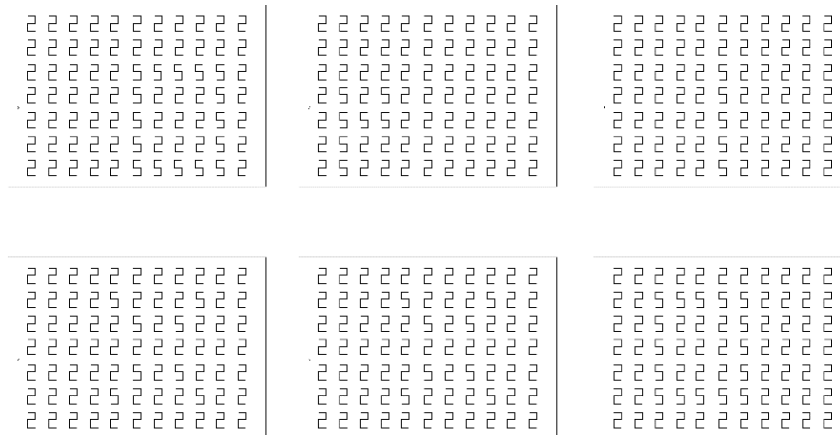
Signs: People with this type of intelligence think with musical patterns, sounds and rhythms. They react quickly to praise or criticism after hearing a piece of music. These people are often very sensitive to environmental sounds like the sound of bells, birds or tab water.

Abilities: singing, whistling, playing instruments, realizing musical patterns, composing, remembering melodies, realizing construction and rhythms of music.

Professions: musicians, singer, producer

This Game is designed base on a test of **perfect pitch**. Perfect pitch or **Absolute pitch** (AP), widely referred to as perfect pitch, is a rare auditory phenomenon characterized by the ability of a person to identify or re-create a given musical note without the benefit of a reference tone[28]. Children will listen to series of notes pre-recorded with the same instrument. Each piece is played three times. Then children are asked to recreate the same notes on the given Orff instrument.

Evaluation: Each player who could repeat it more than 10 times will be most probable to have absolute pitch. Less than that, based on how many correct pitches was played, it will be easy to estimate their talent.

Game box: Orff, player (cellphone in this case)

Time: No time limit

Introduction:

> "Enter founded passcode from the last game in cellphone and find the player app. One by one try to recreate the sound on the instrument. If you couldn't, hand the instrument to the next player. If one could not find the note others may help.
>
> 10 replays: 2 point for whole group

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[28] *Deutsch, D. (2013). "Absolute pitch In D. Deutsch (Ed.)". The psychology of music, 3rd Edition: 141–182.*

5 replays: 1 point for whole group

Less that 3: -1 for whole group"

Results: None of the players are perfect pitch, two of the contestants has replayed more than 5 time, yet with some mistakes.

Mohamad: 6 times

Reihane: 6 times with mistake

Ali: 5 times with mistake

Faeze: 4 times with mistake

Hossein: 4 times with mistake

Mehdi: 2 times

Elham: no time

Level three: *Game of Bodily-Kinesthetic:* This game is based on **Bodily-Kinesthetic** intelligence of Howard Gardner's theory of multiple intelligences. Bodily-Kinesthetic intelligence is the ability of perfectly controlling the body moving and use of objects. Thomas Armstrong explains in details this intelligence[29];

Signs: People with this type of intelligence express themselves in motions, they have a good perception of balancing and synchronizing hand and eyes. They remember events by relating them to the environment around. They paint a lot in their books or on their tables.

Abilities: dancing, physical harmony, sports, body language, hand crafts, acting, imitation, using hands for creating stuff, showing emotions with body.

Professions: Athletics, physical trainer, dancer, actor/actress, fireman, craftsman

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[29] *"Multiple intelligence in the classroom "*, Thomas Armstrong, 2009

During this game main players should play mute. Each child is given a card which is part of a story. This story explains the goal of the next game.

Game box: Introduction cart, sentence pieces, sand clock of 3 minutes.

Time: 3 minutes for each player

Introduction:

"Each player should take a card. These are the pieces of the story for next level. The one who explains the card should be completely silent and play the piece in body language or theater.
Each piece completed under 3 minutes: 1 point for whole group
Each piece completed after 3 minutes: -1 point for whole group
if you can't finish the story you will not be able to play next level. "

Pieces: "next", "level"," rhyme", "10 times", "word", "BUILDING", "2 minutes"

Results: Hossein, Faeze, Elham and Ali showed a quite good talent

Hossein: under 3 minutes, excellent in playing

Faeze: In one minute, she was also best in guessing the pieces.

Mohamad: in two minutes, he was very good in playing

Elham: good in playing

Reihane: under 3 minutes, she was good in playing

Ali: after 3 minutes

Mehdi: didn't want to play

Level 4: *game of poem.* This game is based on **Linguistic intelligence** of Howard Gardner's multiple intelligence. Linguistic Intelligence is the ability of using

word and language. Thomas Armstrong explains in details this intelligence[30];

Signs: People with this type of intelligence have an evolved type of hearing abilities. They think with words instead of images. They generally are Featured speakers.

Abilities: Listening, talking, storytelling, teaching, explaining, making jokes, good comprehension of words, convincing others, remembering information, analyzing language usage, remembering information.

Professions: poet, writer lawyer, politician, teacher, writer and journalist.

In this level, players should find 10 words that rhymes with a given word. This word is quite hard to rhyme in Farsi. It is good to see they are challenged to create rimes. The one who gives better words is one more probable to have high Linguistic Intelligence.

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[30] "*Multiple intelligence in the classroom* ", Thomas Armstrong, 2009

Game box: Introduction cart

Time: 3 minutes

Introduction:

> "You have the instructions from last game. Use the sand clock to count 3 minutes. "

Results: Faeze and Mohamad has shown an amazingly good ability of remembering words and creating sentences. Mehdi as well is one with a high ability of remembering relative sentences, though he is more comfortable in writing it, rather than saying it.

Hossein: under 3 minutes, excellent in playing

Faeze: In one minute, she was also best in guessing the pieces.

Mohamad: in two minutes, he was very good in playing

Elham: good in playing

Reihane: under 3 minutes, she was good in playing

Ali: after 3 minutes

Mehdi: didn't want to play

Level five: *Block design game.* This game is taken from Wechsler's **Spatial visualization ability test**. visual-spatial ability is a subset of many IQ tests. the ability to mentally manipulate 2-dimensional, 3-dimensional and 4-dimensional figures. The items in a block design test can be scored both by accuracy in matching the pattern and by speed in completing each item. Spatial intelligence is as well one of the intelligences suggested by Gardner's MI Intelligence. Thomas Armstrong explains in details this intelligence[31];

Signs: people with this type of intelligence tend to think visually, and to achieve data they need to create a mental visualization. They love to look at videos, maps, photos and so on.

Abilities: making puzzle, reading, writing, realizing graphs, good navigation, painting, creating visual metaphors, sculpture, manipulating images, construction, interpreting images.

Professions: sailing, sculpture, visual arts, invention, discovering, architecture, interior design, engineering, mechanics.

Game box: Introduction cart, two set of 16 blocks, Two block patterns

Time: 7 minutes

Introduction: Split into two groups, each group have 7 minutes to finish the pattern.

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[31] *"Multiple intelligence in the classroom* ",* Thomas Armstrong, 2009

Each group that finishes the pattern under 5 minutes will earn 2 points for everyone.
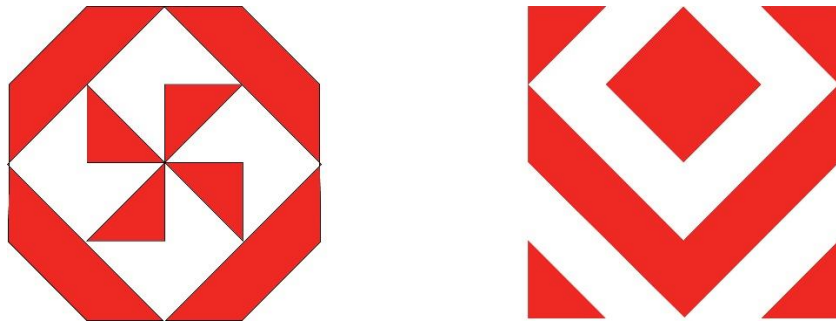Each group that finish the pattern under 5 minutes will earn 1 points for everyone.

Figure 6: patterns for block design game. These patterns consider hard to make based on its complexity and unframed illustration.

Results: Ali, Mohamad, Hossein and Reihane showed quite fast realizing of the pattern. To place them as respectively high performance:

Reihane and Ali

Hossein and Mohamad

Faeze

Elham and Mehdi

Level six: *game of number under car[32].* This game is based on a test of **Lateral thinking.** Lateral thinking is a method of problem solving suggested by Edward de Bono which takes both logic and creative thinking (divergent and convergent thinking) to solve a problem. This game is a riddle. It is said to be a question that grownups can't solve. In this game a piece of paper is placed in front of players. There is car parked in a parking lot with a number hidden under it. Other free parking spaces have a number and the challenge is to find the hidden number under the car.

Figure 7: English version lateral thinking problem by Nikita Sivukhin

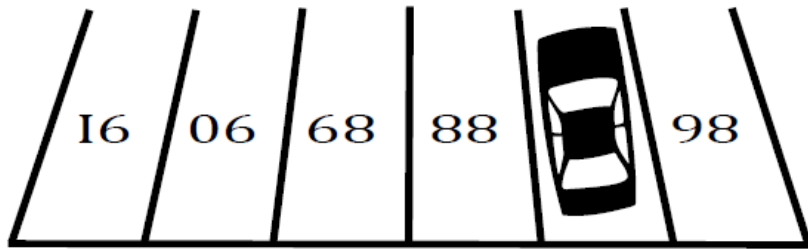Figure 8: Reformed to Farsi - lateral thinking problem by Nikita Sivukhin

The tool to solve this problem is Lateral Thinking. It means to look at the problem from different angle to find the logic behind it. The solution is to simply turn the page upside down, to see the numbers. The point is that you will see the numbers of parking from the side you will enter, so by looking at numbers upside-down you will figure out that the missing number is 87.

A note to be considered is that this game was changed a little due to the different digits used in Farsi language. In order to have a set of numbers that are in a row and still creates a digit upside-down, numbers where changed from 86, x, 88, 89, 90, 91 to 77, 78, x, 79; ٧٧, ٧٨, X, ٨٠, ٨١ (in Farsi).

Game box: Introduction cart, riddle

Time: 1 minutes (the original time is 10 seconds)

Introduction:

 "*Find* the number under the car
 Under 10 seconds: 2 point for whole group
 From 10 seconds to 1 minute: 1 point for whole group
 After 1 minute: -1 point for whole group"

Results: Ali was the first to realize to turn the page upside-down under 10 seconds, second Mehdi.

Level 7: *painting game*. This game is the second part of Synesthesia test as well as creativity at the same time. In this game players have 20 minutes to draw something based on the music they listen to. The music is in the player which has a passcode. The code is the number they found from last level.

Game box: Introduction cart, painting tools, music player

Time: 20 minutes

Introduction:

> "Enter the code from last level in the player and listen to what it is played. Concentrate and try to paint whatever comes to your mind from that music."

Results: Mohamad was the only one seeing some patterns and colors. Faeze was seeing patterns like curves and drops. These two are probable to be synesthetic, yet further tests are needed to prove. Reihane and Hossein on the other hand were good in creating an environment based on the music. These four have a good score in creativity, though this type of creativity based on painting could not be scored. The evaluation goes to the originality of stuff that was painted, amount of details and variety of different patterns or objects.

Level 8: *Mystery game.* This game is based on **Logic-Mathematical intelligence**. Logic-Mathematical is as well the intelligences suggested by Gardner's MI Intelligence. It is the ability of using reasoning, logic and numbers. Thomas Armstrong explains in details this intelligence[33];

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[33] *"Multiple intelligence in the classroom* ", Thomas Armstrong, 2009

Signs: people with this type of intelligence, think conceptually by creating Logical and numerical patterns to find a link between occurrences. They are extremely curious about the world and ask many questions.

Abilities: problem solving, Division and arranging data, using abstract concepts to realize their relationships, presenting a long chain of reasons for success, solving complex mathematical problems, working with geometric shapes.

Professions: Scientists, engineers, computer programmers, researchers, accountants, mathematicians

During this game, children are asked to solve a riddle to understand the instruction of this level. The goal is to find the object that was mentioned in the riddle, find a solution to open it, solve the cross letter puzzle inside to find the place that the key to the next level is hidden. The guide to find the object is sound, as they get closer to it, the sound will be louder. M&M dispenser will give M&Ms with a push in the hand. Children need to realize this. 7 pieces of M&M is marked, each with a letter. Lining them up in a correct order will expose the place where key is hidden.

Game box: Introduction cart, a hidden toy to create a riddle with (an M&M dispenser in this case), an object to create sound.

Time: no time limit

Introduction:

> Solve this riddle to find the key to next level.
> *"Five Gems tells you a secret"*
> *"Secret in Orange man's head"*
> *"He tells the secret with hand shake"*
> *"He likes a sound in his shed(hut)"*

Results: All of them has shown a lot of interest to this game, Reihane was best in solving both word riddles, Hossein second, Faeze and Mohamad shared third place. Ali was trying to find the keys in any other ways, rather than following instructions.

Level 9: *Cork in the Bottle Game*. This game is based on the **Practical Intelligence**. It is suggested in the BBC's "*Battle of the brains*" [34] program and based on *Robert Steinberg*'s Theory. He believes that creative and practical problem solving are both types of intelligence. Practical intelligence is the ability of using objects to solve a problem. Gardner has placed this type of intelligence under the Bodily-Kinesthetic group, although Steinberg believes it is a different type of intelligence.

originally this game is presented with a bottle, cork, a vacuum tool, tissue, oil, sugar and a hanger. The challenge is to use one of the other objects to take out the cork without breaking the bottle.

For this level, the game is modified in objects. Tools were replaced with everyday objects in school. Cork, is replaced with two pencil erasers with a key

implanted inside it. Some other unnecessary objects were also replaced for safety.

Game box. Locked box (in this case a suitcase and a lock), bottles, pencil erasers, pencil, bottle of water and tissue.

Time: 20 minutes

Introduction:

"Use the key that you found from last level. Open the suitcase and try to take out the pencil erasers out of bottles, using objects inside suitcase. Erasers hold keys, one of them is the key for your treasure."

Results: Mohamad was the only one who suggested trying tissue to take erasers out, Ali and Hossein had great ideas and got so close to solve it. This game, as well as other games with group work is as well a test of

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[34]BBC Horizon, 2007

Interpersonal intelligence of Howard Gardner's MI theory. Interpersonal intelligence. Is an ability to connect to other people and realize their feelings. Thomas Armstrong explains in details this intelligence[35];

Signs: people with this type of intelligence try to see and understand things from other's point of view to realize how they feel or act. They generally have an amazing ability to understand emotions, goals and motivations. They are great organizers, although sometimes might interrupt, they generally try to invite the group to peace and collaboration. They use both verbal abilities (speaking) and nonverbal abilities (eye contact, body language) to connect with people.

Abilities: Dual point of view (self and others), good listening, sympathizing, understanding emotions and behaviors of others, good cooperating, building trust, creating positive relations.

Professions: psychologist, seller, politician, businessman.

Results: Faeze and Hossein are ones with a very high ability of co-working, analyzing other's behavior and trying to point out their mistakes and invite them to peace. Mohamad as well is one who know how to get out of fight and get what he wants without getting into discussion.

Level 10: *Treasure and interview.* This level has a box filled with candies, story books and pencils, along with the pack for each student containing necessary stuff for their next game. After this level, kids will be interviewed to talk about their results and aptitudes. Main part of this interview is based on **Intrapersonal intelligence** of MI Theory. Intra personal intelligence is an ability that one can recognize and understand his or her own moods, desires, motivations, and

[35] "*Multiple intelligence in the classroom* ", Thomas Armstrong, 2009

intentions. Thomas Armstrong explains in details this intelligence[36];

Signs: People with this type of intelligence try to recognize their inner feelings, dreams, relationships and their power or weak point.

Abilities: realizing their own mistakes or powers, self-criticizing, self-awareness of inner feelings and desires, Evaluation of their own intellectual patterns, realizing their own part in relation with others.

Professions: Researcher, theorist, philosopher.

During these interview children are asked to talk about the game that they were good in, enjoyed or disliked. They should evaluate themselves after and they will be informed about each level and the purpose of it.

Results: Faeze, Hossein and Mohammad where in the top level of understanding very close to our evaluation of their own abilities and aptitudes.

Game 2: Vision board:

Theory:

Based on the main principle of the thesis, the goal is to create something in child, not to Examine them, tag them base on the results and blindly place them into categories. It is important to create an ability in child as he or she is the one who will eventually choose what is the correct path to step in.

Vision board is an amazing method suggested by Ken Robinson. "It is a collage of Images that reflect your aspiration, hopes and dreams. Vision boards are a great way of sorting through, what you hope to create in your life and putting it out there." Vision board process is a simple personal collage of cut out pictures. These photos could be taken from anywhere, magazines, printed photos, even some words or phrases from newspaper, colors and paintings. These Images are the collection of Images

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[36] "*Multiple intelligence in the classroom* ", Thomas Armstrong, 2009

that give a good feeling to a person creating it. It could be later filtered to the ones that inspires the most. Or after the collage is made, the important ones could be highlighted with a marker. The idea behind the vision boards is to create a mental situation in which one could see visually and associatively rather than linear sequences. As Robinson points out, "By disrupting your normal patterns of thought you may see yourself in new ways". Vision boards gives the ability to excavate the inner feelings of joy, hope, fear and so on. This doesn't happen when you speak about it or you try to write about it (if you don't know the techniques of free writing) or even to visualize it. What happens to children who does it, is that it doesn't only activate their memories, it works with their imagination to picture being in the situation in which they have never been before and use their insight to judge their passion about that situation.

Vision boards are not used only to give information about what one wishes to be in future. It involves all the fears and excitements and where they wish to be in any part of their life and not only the jobs. More importantly, what is done is not a test. It is a learning process, through which children face their insights. More of what comes outside on the board is happening inside them. It slowly constructs a vision board in their mind of the possibilities and passions. Therefore, it is a good practice to be done from time to time but not as a group and not in situation where they are being watched by others. What should be on the board is what they want to see or do for themselves and not what they are expected to do ore more importantly what it was told them to.

In action:

Goal: The aim is to excavate the child's brain in a visual way other than linear, in order to understand their passions.

Principle: Based on Vision Board exercise of Ken Robinson's book; Find your Element.

Essentials: Quiet environment, Individual game, open to creativity for the board

Tools: Pack of Vision Board for each child containing; Photo book, Scissor, temporary glue and a highlight marker (This pack is given in the treasure box from last game).

Time: There is no time limit.

Method of explaining to child: Explain the goal clearly. Explain that this will be a piece of art that could be in front of their eyes as an inspiring image or a private one. Explain how this is something personal and without competition.

Interview: to ask about children's aptitudes and passions, realize the foundation of the passions, and let children know about their aptitudes an individual interview is performed. A summary of this interview is pointed out for comparison.

Board and interview Results:

Ali:

Interview one (before games):

-what do you wish to be? "football player", he replies.

-what are you good at? "I'm good at football only".

Interview two (after games):

-what do you wish to be? five top choices made by her was being **superman, motorcycle racer, wrestler, football and video game player.** Based on the team's psychologists some of this choices could be a result of violence and frustration applied to him. However, the goal is not to keep the child away from his passions, but to lead him through a correct path.

what are you good at? Based on the games he liked the most and was comfortable with, he believes he is good in bodily-kinesthetic, logic-mathematical, practical and lateral thinking.

-what can be your element? he mentioned either **motorcycle racer** or a **video game player**.

Faeze:

Interview one (before games):

-what do you wish to be? "Businesswomen", she says, "my mom says being a business woman, I can help everyone and my family too".

-what are you good at? "mathematics and language, a little in painting," she replies.

Interview two (after games):

-what do you wish to be? She still wants to be a businesswoman, though this time she gives subjects of business based on her visual board; She wants to own a big flower shop, and sell flowers to all the world, she likes to be writer but she is not sure if from that she can earn money, she likes teaching and painting but not as a profession.

what are you good at? Based on the games which she liked the most and was comfortable with, she believes she is good in bodily-kinesthetic, linguistic, creative and spatial intelligence.

-what can be your element? she mentioned either a **writer** or a **businesswoman**.

Mehdi

Interview one (before games):

-what do you wish to be? "football player," he says.

-what are you good at? "nothing," he replies.

Interview two (after games):

-what do you wish to be? Mehdi's reaction to this board was amazing, he has chosen the ones he liked the most and has written a convincing reason why he likes them. His top five choices were first **an engineer**, specialized in constructions, so he can build beautiful houses for his family and other friends in his group. He as well likes to be **a football player**, though he is not sure if he is good enough to go to a team. He likes **traveling** on earth or to other planets to find the questions in his mind. He like **cooking** and **video game** too, but not as a job. He likes to be a **doctor**, but he is not sure if he can handle seeing people die.

what are you good at? He had such problem accepting that he is good in something, with a lot more talking he has finally accepted that he might be good at those which he did it simply. Spatial intelligence, lateral thinking, musical and practical intelligence are those he is confident about.

-*what can be your element*? He mentioned, **Construction Engineer**.

Figure 9: Visual board result- game two- by Mehdi.

Elham

Interview one (before games):

-*what do you wish to be?* "teacher", she says "and a doctor".

-*what are you good at?* "everything" she replies. Based on the psychologist's idea, although she is the most confident in the group, she has a severe problem of concentrating on the subjects and gives random answers to a question. Due to Robinson's claim, a child in such situation does not compulsory have ADHD, and they can learn and respond perfectly by finding the correct learning solution.

Interview two (after games):

-*what do you wish to be?* Asking about her passions, she mentioned to **horse riding**, **watching a cartoon**, **swimming,** and **dance**.

what are you good at? Talking about her aptitudes she was giving herself a grade ten times the maximum

limit, though the subjects she claimed to be even better in, are Bodily-kinesthetic, creativity and practical intelligence.

-*what can be your element*? She decides, "**swimming is my one and only passion**".

Mohamad

Interview one (before games):

-*what do you wish to be?* "An English teacher, "he responses, "or a singer".

-*what are you good at?* "mathematics and language, I have a good memory for memorizing a poem as well," he replies.

Interview two (after games):

-*what do you wish to be?* Mohammad is a very motivated boy, very easy to work with and highly talented in almost every task that was given to him. Mostly he is passionate about **music and singing**, he likes **flowers** and he wonders if he can earn money

from them. He likes to learn different **languages** and eventually he wants to become a doctor but not now.

what are you good at? Based on the games he liked the most and was comfortable with, he believes he is good linguistic, creative and spatial, music and practical intelligence.

-*what can be your element*? she mentioned either a **writer** or a **businesswoman**.

Hossein

Interview one (before games):

-*what do you wish to be?* "A goalkeeper," he says.

-*what are you good at?* "football"

Interview two (after games):

-*what do you wish to be?* Hossein was a child who was disappointed about the size of the paper." There are lots of things I had to drop," he continues," but above

all I love to build **computers and cameras** as well as huge **buildings**", he likes to earn a lot of money, and meanwhile, he loves to learn **sculpture**.

what are you good at? He has a very good memory, he was able to explain the details of the games in right order, along with the performance of each child in a group. He could explain how and why he thinks he is good in one aptitude and not in the other. He thinks he is good in lateral thinking, spatial, practical and bodily-kinesthetic intelligence.

-what can be your element? He mentioned, "inside the computers". It was explained to him that he can be very good in **Electronics** and **Hardware Engineering**. "if not I will try to be a goalkeeper"

Reihane

Interview one (before games):

-what do you wish to be? "teacher", she says. "I love to study a lot and teach others".

-what are you good at? "dress making and painting," she replies.

Interview two (after games):

-what do you wish to be? She doesn't like at all to be a dressmaker, and due to psychologist's opinion, this is because of her intensive working hours. Though her favorite things to do is to be a **painter**, a **makeup artist**, **swimmer** or a **horse rider.**

what are you good at? Based on the games he liked the most and was comfortable with, she believes she is good in creativity, synesthesia, spatial and musical intelligence games.

-what can be your element? she mentioned either a **painter** or a **makeup artist**.

2.1.5   Conclusion

Based on observations, results and psychologist's analysis, a general perception of one's aptitudes is

achieved which, was mentioned in results of the first exercise. Comparing the initial answers with their interview and mainly taking into account children's self-evaluation, a more accurate insight was reached. During the interview, children had a chance to discuss our theirs percepton. Each child was individually interviewed and informed about the aptitudes they were good at, and how they can rely on each of them.

Comparison of the first and second interview shows how even a short introduction to jobs can create a whole wider perspective of what or who these kids can choose to become.

 Based on their opinion, in the second interview, children have pointed out what has changed in their perspective so far. "I realized that a group work is such a valuable thing since not all of us have equal talents. For example, if Mohamad were not there to give us his ideas, we could never take out the keys from bottles (in game number nine)," Hossein states. Mohamad believes that through this game he has realized that

painting as well is an important talent that not all students have. He adds: "I wish I could paint or play an instrument in school as well". Mehdi had a very low self-steam though trough this games he was participating much more after he realized that he was first to solve the lateral thinking problem and he after he was appreciated by his groupmates to gain points for the whole group. Ali, is the most violent member of the group though he was forced by the rest of the group to participate and later encouraged to gain points for his group as he was mostly the first to finish the game.

By suggestion of the psychologist, we performed different methods of learning to children to prove that this solution does actually work.

An IQ based test was taken from those four who mentioned spatial intelligence as a comfort aptitude and the result was quite convincing.

Due to the special situation of Elham, and behavioral analyze of her attitude, team's psychologist

suggested to try to get results from her during a game, sport or dancing. The result was impressing. Not only she was responding very well to the questions, but also, she showed over expectation talent in any sportive activity she was placed in.

04.2 PRACTICE TWO

Level one: Characterizations game
Level two: The play

2.2 Practice 2: Creativity

2.2.1 Three elemental principles

In this chapter the goal is to make children believe what they have is priceless and let them embrace what lies inside each of them, so it can be supported to efflorescence. Sir Kin Robinson in his book, "Find your element", instructs **Three Elemental Principles** which are the foundations of the process, "Finding element". These principles are applied to everyone. First is, "your life is unique". Second, "you create your own life" and last, "life is organic". He shortly answers to the question that, what sets human being apart from rest of nature; "I believe, is that human beings have immense natural powers of **imagination** and **creativity**". He later explains, "you are not given your résumé with your birth certificate. You create your life and you can recreate it. Truly understanding these

principles means that no one is compulsory going to be successful in paths that are suggested by others and each should choose their own path. By a creative solution, each can create the path they wish to walk in and not be a victim of one's past. And finally, they will realize that taking the first step does not mean that they should follow a linear path, but it means that with each step which is taken based on one's Element, other paths will be created to choose from.

2.2.2 Creativity in theory

Robert Gagne considers creativity as a Kind of solving problems. Robert Gagne was an experimental psychologist who was concerned with learning and instruction for several decades. Gagne, in his sorting of all types of learning production, has measured the highest level of learning as the solution to the problem. He has not assigned another classification to

creativity. He believes that creativity is a special kind of solving problems[37].

 "George Kelly as well has a famous quote in this subject: "No one needs to be a victim of their own biography[38]". Creativity is the ability of creation, to bring into reality what does not exist. It is the ability of a human being only, to make a change, to create new and recreate the initial. He believes that most important achievements have flowed from a human being's collective powers of creativity. Based on David Kelly's assertion on his 2012 TED talk, Creativity is usually devastated from childhood to adulthood, mostly because of false attitudes of adults or even peers toward child's creative enthusiasm. However, he suggests a series of captivating processes based on Bandura's Guided-mastery method of curing phobia. Kelly assumes that people who have gradually lost their creativity, have not actually lost it for good, but instead they suffer from a phobia called fear of judgment. Therefore, they can be treated with the same process. He believes, through series of small successful practices, it is possible to retrieve creativity. He calls this groundbreaking methodology, "**Design thinking**". Design Thinking draws upon systemic reasoning, imagination, intuition, and logic, to explore possibilities of what could be, and to create desired outcomes. It involves both imagination and analysis. "I really do believe I was put on the planet to help people have creative confidence," he says. "I don't have 27 agendas. I'm not the sustainability guy or the developing world guy. My contribution is to teach as many people as I can to use both sides of their brain, so that for every problem, every decision in their lives, they consider creative as well as analytical solutions".

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[37] Araghieh, A. and Siadat, B. 2012. The Impact of the Application of Teaching Art On the Increase of Creativity in Elementary Students. J. Life Sci. Biomed. 2(4): 153-160.

[38] "*Finding Your Element: How to Discover Your Talents and Passions and Transform Your Life.*" Ken Robinson. Viking, 2013-05-21

2.2.3 Imagination in theory

Robinson in his book [39] clarifies the link between creativity and imagination;" imagination is the source of creativity. Creativity is about putting your Imagination to work, it is applied imagination". In his defining, imagination is the ability to bring to mind things that are not present to our senses." In imagination you can step outside the present moment and look back to the past, you can enter other people's inner worlds and try to see with their eyes and feel what they are feeling, you can anticipate future and try to bring it about". The role of imagination is human being achievements is undeniable. Einstein claims his revolutionary theory of general relativity is all based on imaginations of a child sitting on a ray of light. "When I examine myself and my methods of thought, I come close to the conclusion that the gift of imagination has meant more to me

than my talent for absorbing absolute knowledge[40]," he says.

2.2.4 Divergent thinking in theory

Divergent thinking as it was defined in the first chapter, is the essence of creativity. Based on Robinson's Definition, it is the ability to finding many possible solutions for a single problem.

Since creativity and particularly, divergent thinking is one of the key tools of this thesis and the "child abler" hypothesis behind it, it is crucial to utterly realize the value of it. Alex Osborn claims that the "early ideas are unlikely to be the best ideas generated during an ideation session". The first ideas we generate for a given problem are the common ideas that almost everybody first obtains for that specific problem. The

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[39] "*Finding Your Element: How to Discover Your Talents and Passions and Transform Your Life.*" Ken Robinson. Viking, 2013-05-21

[40] "*The Ultimate Quotable Einstein*", Alice Calaprice (2010), Page 26

higher quality ideas are ones that have been built on earlier ideas[41].

The term "divergent thinking" was first mentioned by Joy Paul Guilford. Guilford was a United States psychologist, best remembered for his psychometric study of human intelligence. He, in his famous theory, **Structure of Intellect (SOI)**, introduces two types of thinking; Divergent and Convergent thinking. Guilford presents creativity in line with divergent thinking and in contrary to convergent thinking. He illustrates divergent thinking as achieving new approaches for a problem, and convergent thinking, as achieving "the answer".

The alternative (or unusual) uses test, was made by J.P. Guilford in 1967 as part of his Structure of Intellect (SOI), is a simple way of evaluating divergent thinking ability or, in his own words, "spontaneous flexibility[42]".

In this test, applicants are asked to list non-obvious uses for an everyday object such as a fork or a paper clip, in a limited time[43]. The results will be evaluated based on components of **originality**, **fluency**, **flexibility** and **Elaboration**. Originality is one main component that determines creativity. scored by 1 or 2 points based on the rarity of each response in comparison to the total amount of responses from all of the participants. 1 point for 5% and 2 for 1% rarity. Fluency is the quantity of the answers; each response will be counted as one score. Flexibility is scored by the number of different categories of responses. Finally, Elaboration is a number of details added to the response, say, to explain the performance or use[44].

[41] Goldschmidt, G. & Tatsa, D., 2005. "How good are good ideas? Correlates of design creativity". Design Studies, 26 (6), pp. 593-611.
[42] "*Evaluating The Alternative Uses Test of Creativity*", Caitlin Dippo College of Design University of Minnesota Twin Cities, April 11 – 13, 2013

[43] "*The Structure of Intellect*". Guilford, J.P. 1956. Psychological Bulletin, 53(4), pp. 267-293
[44] "*instructional Strategies for critical thinking, collaboration and motivation*", Gale Dow, Indiana university.

Guilford was the first to propose that it is possible to study and evaluate creativity of subjects using a psychometric approach with pencil and paper. His tests began the usage of divergent thinking tests as the main instrument for measuring creativity[45]. As it was mentioned in first chapter, from kinder garden to age of 10,11 divergent thinking ability is deteriorated up to 50 percent and till the age of 15 ,it can drop 80 percent .[46] Based on the cited theories, researches and experiments it can be concluded that there exists some valuable ability that is deteriorated in time. This can be a good base for children, on which they can start building their confident.

2.2.5 Spontaneity in theory

Spontaneity is the act of being spontaneous. What it means in *J.L Moreno´s* **Spontaneity-Creativity theory**, is to create instinctively without having the anxiety of evaluation or being judged. If creativity is the process of coming up with new ideas, and anxiety prevents that process, focused spontaneity can help by taking away the anxiety and pushing it entirely. Spontaneity-Creativity theory is a powerful phase in which one will be spontaneous and will give creative ideas, without evaluating any idea that comes to mind. It is a powerful tool to have many ideas. "Spontaneity has the capacity for freshness, originality, and usefulness[47]". Moreno in his book [48] identified it as being pathological, stereotyped, or **true**. True spontaneity " Is a high-grade creativity variety of genius. In this type here is an adequate response accompanied by characteristics that are both novel and creative . . . to be truly spontaneous, the results

[45] Sternberg, R.J. and Lubart, T.I., 1999. "The Concept of Creativity: Prospects and Paradigms" in Handbook of Creativitity, R.J. Sternberg, Editor., Cambridge University Press, New York.
[46] "Creativity research: past, present and future", J.P. Guilford, university of southern California,

[47] Hale, 1981, p. 6

[48] "*Theory of Spontaneity-Creativity*", J. L. Moreno,

must be in some way new and useful for some purpose [49]".

Moreno's action therapy, psychodrama, was designed to increase spontaneity and creativity. Psychodrama will challenge emotional intelligence of children which operates in the right hemisphere of the brain, along with logic and everyday routines that happen in the left side of the brain to act on the scene. It soon became a very powerful tool in many types of mental therapies, since it is one of the rare processes in which both hemispheres are involved. This is exactly what we need in a creative process. In this activity, there exists no audience and no play script. It is a group spontaneous play with some psychodrama technics, and its stage could be anywhere.

2.2.6 Games:

Surrealism and psychodrama:

Theory:

To bring mentioned claims to exercise, children will be guided through a creative process, to give solutions to common social problems as many as possible. The Same test will be taken from adults from age 25-30 for contrast. Nobel laureate Linus Pauling said, "you aren't going to have good ideas unless you have lots of ideas [50] The main reason for choosing social problems, is that this trust and confident should be not only by children on themselves, but also, from adults. And we will want to see lots of results in this game through creative practices.

The game is designed based on different theories, Kelly's theory of design thinking, Guilford's Alternative Uses Task (divergent thinking test), *Jacob L. Moreno*'s

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[49] "*Psychodrama & Creativity: Introduction & Demonstration*", 2007, Rob Pramann, Ph.D., TEP, CGP,Shepherd's Staff Training in Psychodrama

[50] Pauling, L., 1977. Interview. In: Linus Pauling, Crusading Scientist. TV, WGBH-Boston.

psychodrama theory in a Surreal world. "Surrealism, then, neither aims to subvert realism, as does the fantastic nor does it try to transcend it. It looks for different means by which to explore reality itself [51]".

In action:

Goal: Through this game child will create a surrealistic world by themselves, expand it to details, play their roles and each will have a chance of showing off his/her personality and respond to some predetermined occurrences with as many possible solutions as they can.

Principle: A creation and play of a surreal world for meliorating imagination, with principles of psychodrama for being spontaneous, with subjects that step by step will create a trust in children (and grownups) that kids can and will change their own world and eventually ours as well.

Essentials: open or closed space, but selected as a stage. No competition, no rewards, just a play.

Time: There is no time limit for the whole game though there is time constraint equal for all children for divergent thinking brainstorming.

The method of explaining to child: It is explained that they live in an unreal world and each is a creature. They should create a costume for that character, explain in detail to others the personality and habits of that child. Next, when the play starts, they should take out notes from the jar which explains what happens in a part of their world and they should react to it. (During the play the children are guided and more obstacles will be added to the problem).

Game details:

Level one: *Characterizations game:* Children are each asked to choose a character and an unreal

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[51] "*Dedalus Book of Surrealism 2: The Myth of the World*", Michael Richardson, 1995

world where they live in. they will have to design their own costumes and build their own nest on the stage (in this case yard). This will make children get deep into their imagination and step away from their real life.

Level two: *The play:* during the play, children are asked to receive stories from a jar (prediction well) one at a time. Inside jar they can find wrapped piece of papers, on which a story is written. Two of the stories were created each with a social problem subject. Children should first, act spontaneous reaction correspondence to the short story and then gather around (in a court) to find alternative solutions (divergent thinking). Each player should write as many solutions as they can think of and suggest it to the court for the action. These stories will be selected respectively. Since the method of testing divergent thinking does not require a professional tester, it is evaluated by following the instruction of the test.

Story one: *limitless game* (creative confidence): no solution is wrong in this game. It is basically a practice of spontaneity.

> "Wild creatures attack the vegetarians. Split into two groups of wild and vegetarian and start play. Wild creatures cannot attack while creatures rest in their nest. Find solutions how to survive by using your super-powers. "

Story two: *Felling trees* (social problem): This story is an example of a social problem subject, and the goal is to observe spontaneity-creative solutions as well as divergent thinking test.

> "A human enters your world and starts to cut down trees. Smallest creature among you is in danger. Solve the problem, then take the human to court. In court, you need to find the reason why human is cutting the tree, find a solution for the problem, find the method to make human understand the solution. "

Results:

Mohammad

spontaneity: stop the cutting and arrest the cutter, lets the cutter cut trees but with the previous accord.

Divergent thinking: Tell the Mayer to talk to him, arrest the cutters, tell people about the trees, show his face to people so he will be ashamed, cutting old trees for books, recycle papers, use recycled papers for unnecessary use, not destroying papers, stop giving tissues in restaurants, instead of each cut tree plant 4 trees, use of small branches to create papers, buy paper tissues from outside of Iran with lots of jungles, buy papers from outside so Iran will be green.

Score: fluency 12, originality 5, flexibility 7, Elaboration 19

Original Ideas: **Stop giving tissues in restaurants, buy papers from countries with big jungles so Iran will stay green**

Hossein: *spontaneity:* save the endangered creature, *kill* the cutter, then feels guilty so puts him in jail and he will release him if he plants new trees.

Divergent thinking: Talk to them nicely, arrest them if they don't listen, cut the old trees, if you cut new, plant new, Keep them prisoner and let them free when they plant one, don't print so many books, Each person should plant tree in their house and use it for papers and books otherwise they will not have books, Make laws to not give notebooks to those who use a lot, To give the book to the ones that will need next year, if someone destroyed the book cannot continue school and has to study alone, Send someone to bring wood from somewhere else, send the king to scare them all, wait until the trees are big the cut them, in this time use old woods, cut trees from half, plant trees that grow faster

Score: fluency 16, originality 9, flexibility 8, Elaboration 23

Original ideas: **Giving coupon to people who plant trees** (each tree gives coupon for amount of wood that a tree can provide), **put limits on selling papers and wood to people,** legislate **a law to reuse the school books for next year students** (if they destroy the books, they will have to pay penalty)

Mehdi: *spontaneity:* no violence, talk to the cutter

Divergent thinking: Plant new trees, cut old trees, have a law of balanced use and cut, use few papers, cut few papers, not to tear papers

Score: fluency 5, originality 2, flexibility 3, Elaboration 7

Original ideas: legislate **a law to balance the use** of trees and papers.

Elham: *spontaneity:* Hides and waits to be saved, then sentences the cutter to death

Divergent thinking: We should not write on papers, to have something and write on it with chalk, kill everyone that cuts the trees, use other materials like wood if

nobody cut them, nobody uses it, carpenters should not make things with real wood,

Score: fluency 6, originality 4, flexibility 2, Elaboration 8

Original ideas: Use some **other materials instead of wood and paper,** find another **solution for students to read and write.**

Reihane: *spontaneity:* doesn't like violence so stops and watch without evolving, then she understands the need of the cutter but asks him to negotiate for their use to cut those without a nest.

Divergent thinking: Warn them to stop, they should plant tree in city and cut that and leave the trees in jungle, talk to them nicely about animals and they will realize, use fabric tissues and not paper tissues to clean noses, tell them there will be no fruits, tell them the air will be polluted, have a tree farm and plant trees in different floors, not just one floor, use less wood, use plastic chairs instead of wood

Score: fluency 9, originality 7, flexibility 5, Elaboration 14

Original ideas: build a **tree farm in different levels** to use less ground and have more trees to cut and leave the jungle alone.

Faeze: *spontaneity:* it is very important to her to save the animals first, then arrest the cutter, eventually voted for him to be free after they explained him very well. She thinks it is important to explain it very well.

Divergent thinking: Tell them air will be polluted and you will die, cutting old trees or dry trees not the one that jungle needs and are green, use the old trees that have good skin, use less papers, don't tear papers, talk to people to use less because animals will die and there will be dust everywhere, tell them to use something else for making house instead of wood, tell them there will be no spring, animals can live with us on the roofs and yard where we plant trees.

Score: fluency 7, originality 3, flexibility 5, Elaboration 13

Original ideas: To have **gardens on the rooftops** so animals can live there and the city will be clean too.

Story three: *Water shortage* (social problem): This story as well is an example of a social problem subject, and the goal is to observe spontaneity-creative solutions as well as divergent thinking test.

> "Biggest creature has fallen into the river on top of the mountains and caused the water supply go very low. It takes six days to move the creature but the storage of water will be enough for only three days. First, solve the problem. Then go to the court to decide what to do with the water shortage. "

Results:

Mohammad: *spontaneity:* First, take a decision on finding water, meanwhile solving it ask people to use less until we find a solution.

Divergent thinking: Cut off water so they will accept to use less, talk to people about it, sending paper announcements, going house to house to explain, use of

underground water, creating a well then a dyke to collect and clean the water, collect waters on the floor to stop them from getting polluted or vapored, changing the pipes to have waters from sea for washing and stuff, use moisture in the air to get water, invent a device to clean water of each building for reuse,

Score: fluency 11, originality 10, flexibility 7, Elaboration 16

Hossein: *spontaneity:* send the fastest creature to solve the problem in short time.

Divergent thinking: Close their doors so they can't come out of their house until they learn to use less, talk to the Mayer because Mayer's water will be cut off too, throw people in jail when they don't listen, cut off people's water when they use a lot, talk to them nicely, ask famous people to talk about it to people, tell them that their children will die without water, reduce the water pressure, cut it from time to time so we save water, cut it so they know how bad it is not to have water, each talk to their relatives about it, tell them that without water there will be no food, bring water from another country, go with police to houses that we know use a lot and talk so they get scared, when all the children talk they will listen.

Score: fluency 13, originality 11, flexibility 8, Elaboration 21

Original ideas: ask **celebrities to talk to people** to use less water, **reduce the water pressure**, **cut water from time to time** so they understand the tension.

Elham: *spontaneity:* talk to people nicely to save water until the problem is solved.

Divergent thinking: Talk to them nicely many times, shout to them, if didn't listen, we threat to hit them with stone, kill the ones who use it the most because the rest will die, cut their water off and ask them to come and get water from us until the problem is solved, so nobody dies.

Score: fluency 5, originality 2, flexibility 2, Elaboration 7

Reihane: *spontaneity:* start going to talk to creatures, house by house, no violence.

Divergent thinking: Talk to people, penalize them if they use a lot, cut off their water, take the ones who don't listen to

places where they can see how much water is left, tell them if they use a lot they will have problems, the Mayer should show many pictures and show in streets about the problem, take the ones who use a lot to the places where they can see the real amount of water left, use the unclean water for washing and garden, show pictures of what will happen without water.

Score: fluency 11, originality 4, flexibility 7, Elaboration 10

Original Ideas: plan **a program that takes people who use a lot to places where they are shown how critical the water situation is**.

Mehdi: *spontaneity:* use his super power of being fast to open the river for water.

Divergent thinking: Cut their water, talk to them, scare them, arrest them, tell them about problems, teach them how to use less water.

Score: fluency 4, originality 2, flexibility 2, Elaboration 6

Original ideas: **Teach** people **how** to use less water.

Faeze: *spontaneity:* we ask people to collect water for themselves when it rains

We use less water to start, we teach our children to use less, they will tell their friends to use less, to put big umbrellas when it rains and collect waters, like a story of a man with demons, find demons to grip stones to get water out of it, use water inside our body, shelter the waters from sun and heat so it doesn't go to air, cut off water once a week to be without water so they will know how bad it is.

Score: fluency 9, originality 8, flexibility 6, Elaboration 14

Original ideas: **design huge upside down umbrellas that will collect water when it rains.** or invent kind of **stones on the floor that absorbs water** and keeps it.

Story four: *Detective game* (therapy): This story is about the psychology of these children's anomalies based on the **Children's Apperception Test (CAT)** and due to psychologist's suggestion. Analyzing the results will be eliminated from the thesis due to its irrelevancy to the creativity subject and exclusivity of the cases. The test is a set of ten pictures of human characters in

a form of animals, doing some activities. players should tell a story about them. Based on the answers, the acute anomalies of children will be clear.

> "A secret agent has taken some pictures from the house of creatures. explain what you see and discuss if it is against the law of your world."

Figure 10 Example of the CET test. This slide is a tool to diagnose emotional disorders caused by violence.

Level three: Same subjects will be given to grownups to compare the results.

Results: (Story two): *felling trees*

P1 (30 years old): *Divergent thinking:* Penalize them, collecting papers from trash for recycle, put those who break the law in prison, teach people about using fewer papers and collect the used ones, educating others of not cutting, put more keepers for trees to stop illegal cutting.

Score: fluency 6, originality 2, flexibility 5, Elaboration 8

P2 (28 years old): *Divergent thinking:* Cutting old trees, planting new trees for each cutting, educating from childhood the culture, mechanizing agriculture, solving poverty of those who sell woods for fires so people don't cut trees, put strict rules, using new technologies of using less water

Score: fluency 7, originality 6, flexibility 2, Elaboration 6

P3 (19 years old): *Divergent thinking:* Economize using paper products, planting full root trees in fertile plains, economizing use of wooden products, prevention of wasteful felling trees.

Score: fluency 4, originality 0, flexibility 3, Elaboration 4

P4 (26 years old): *Divergent thinking:* calculate correctly the amount that is needed to cut, have new rules to cut trees based on that only, arrest those who disobey

Score: fluency 3, originality 1, flexibility 2, Elaboration 4

P5 (23 years old): *Divergent thinking:* Using natural alternatives instead of paper to produce toilet papers and tissues, raise the price of paper, rationing the sale of tissues and paper, use papers only in case of need, for uses like contracts and bills, use the digital solution.

fluency 5, originality 5, flexibility 3, Elaboration 6

Story three: *water shortage*

P1 (30 years old): using water, store water, store snow, fine people who use a lot of water, have some educational plans for awareness, using less underground water.

Score: fluency 7, originality 2, flexibility 4, Elaboration 7

P2 (28 years old): *Divergent thinking:* collect surface water efficiently by using pools, make green more to lose less moisture, stop making wells to save underground water, teach children now to introduce this culture, teach them the correct farming because some type of farming, will cost more water than product.

Score: fluency 5, originality 6, flexibility 4, Elaboration 10

P3 (19 years old): *Divergent thinking:* using natural resources for water, purification of non-beverage water, optimization excessive consumption, and prevention of water pollution.

Score: fluency 5, originality 2, flexibility 4, Elaboration 5

P4 (26 years old): _Divergent thinking:_ Everybody should understand to not use water more than the required amount, they should use it efficiently, not to pollute water with chemicals, try to reuse the used water before it gets to underground.

Score: fluency 4, originality 2, flexibility 3, Elaboration 6

P5 (23 years old): _Divergent thinking_: collect rainwater, raise the price of water, cut the water once a week to learn how to save water for an extra day, twice a week open the non-beverage water so people learn to manage their consumption. Use rainwater for daily uses.

Score: fluency 5, originality 6, flexibility4, Elaboration 7

2.2.7   Conclusion

Comparison: Bellow there is a set of tables to compare the results of five randomly chosen participant of each group.
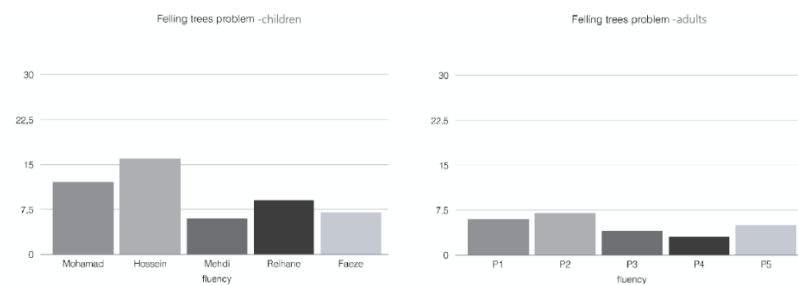
Diagram 3::comparing groups of children and parents, game 3, **fluency** for **felling trees** problem
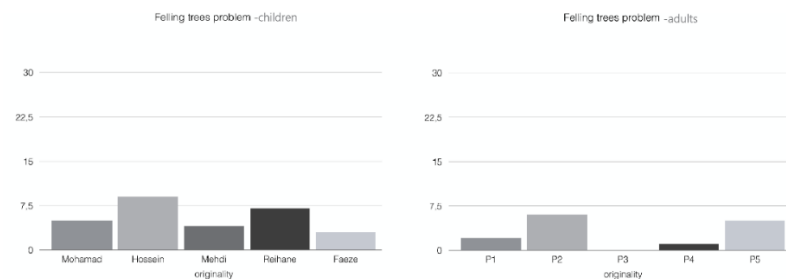
Diagram 4: comparing groups of children and parents, game 3, **originality** for **felling trees** problem
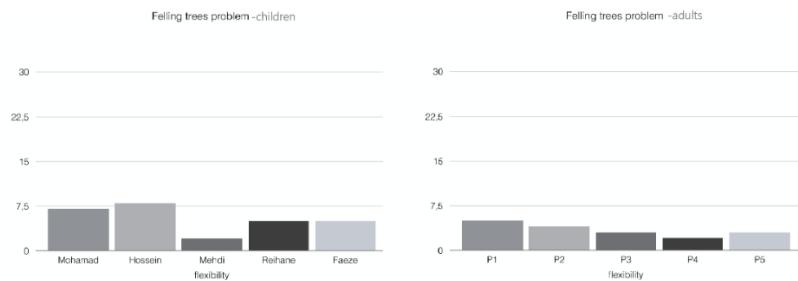
Diagram 5: comparing groups of children and parents, game 3, flexibility for felling trees problem
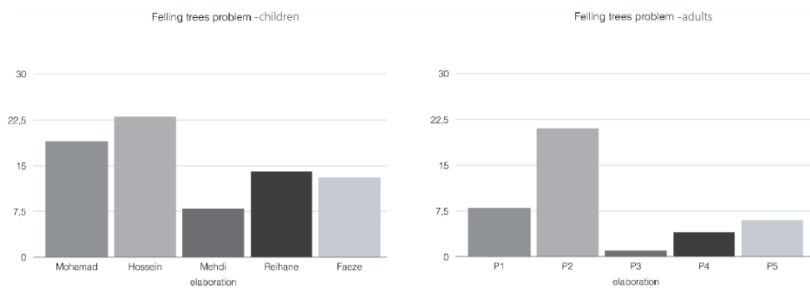
Diagram 6: comparing groups of children and parents, game 3, Elaboration for felling trees problem.

Comparing each set of diagrams shows very well the differences between these two groups of participants. almost in all parts children have performed much better.

as Ken Robinson defines, creativity is the ability to come up with original Ideas that have value. The more original Ideas you come up with, the more likely it is to be a creative Idea;

To have a more accurate results, the original ideas were presented to the board of directors of the "*Sardsaz Novin Co*", they believed some of these ideas of both groups does actually have value and can be considered a creative solution, But the main point in all these ideas is that the solutions presented by the group of children are much more simple to process than those of adults. " kids think more sufficiently and see the solutions in small missing occurrence, while adults mainly see the solutions in first taking the biggest leap, "replies *Hamid Heidary*, co-founder of Sardsaz Novin construction company and the member of the creative marketing team of Emersun company, which is the biggest refrigerator production company in Iran. Top solutions chosen by engineers are as following;

- Reducing the water pressure and using a type of head for taps which distributes the water to create illusion of high pressure water, is a very good solution.

- "Designing **upside down umbrellas** for the saving water for each building is like using photo voltaic cells for saving electricity. This idea could become a good solution if developed well," says Heidari.

- The "**law of rationing wood and paper**, and giving coupons for number of trees each person plants", reminds me of the youth promotions of bank that parents can open an account on the day the kid was born and by the time of his graduation, he will have enough money to start a living," says *Rastegari*, the head of marketing of Sardsaz Novin Co," it is a great solution for parents to plant a tree on the day the child is born and by the time they start school, the tree is big enough to accept cutting another tree for him or her school book. this way they will learn the value of trees"

- "I love the idea of those **stones that absorb water** and I can imagine how many uses they can have, even in field of refrigerating", Says *Fattahi,* the CEO and founder of Emersun Co.

04.3 PRACTICE THREE

Level one: START-UP
Level two: Make it happen

2.3   Practice three, make it

2.3.1 Entrepreneurship

There have been many objections against kid's entrepreneurship and idea of kids making money. These points are as well the strongest objections against this thesis. It is a common belief that children should not work and worry about money, instead they should stay in school and do what kids do. Who knows what these kids are capable of and who defines what is the best thing that kids should do. What is the point of not being worried about money during the school and then suddenly drop into an economically ever changing world? This case gets more considerable in case child-labor where gaining money is the most critical issue in child's life. This subject is the most controversial chapter of this thesis, that how is it

possible to break the paradigm of child-labor by encouraging them to work and gain money.

What Child Abler tries to explain is that there exists a whole big difference between working in "Element" and laboring. That it is fairly positive for children to learn and work through what inspires them the most, that there is no age to start a business of their own. A survey was done in 2012 from the Ewing Marion Kauffman Foundation[52], showed that 73% of youth ages 8 to 21 have the ability and yearning to effectively launch their own business. There are kids all around the world that planed their own small dreams into a big successful business.to name few, *Sean Belnick*, was only 14 years old when he used $500 to launch bizchair.com. before 2015, this business generated more than $72 million in sales. Or Scottish-born *Fraser Doherty* was 16 years old when he hit the young entrepreneur millionaire mark. He started to make Jam in his grandmother's kitchen. Currently, his

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[52] A leading foundation promoting entrepreneurship

Super Jam supplies main United kingdom grocery stores.

Duane Spires, a national motivational speaker and the CEO of Extreme Youth Sports (EYS) in Tampa believes, that bad economy will cause fear and uncertainty and results parallelization of action. One solution to break this situation is by educating entrepreneurial mindset and it is going to start from children and young adults[53]. Spires, hosts summer camps and after school programs that teach children ages five and up how to become leaders, develop confidence, and learn how to create successful lives through sports training and entrepreneurial education. He suggests some principals to raise entrepreneurial abilities in children which are the main inspiration for this exercise[54].

Entrepreneurship as a word means, "The capacity and willingness to develop, organize and manage a business venture along with any of its risks in order to make a profit. Metaphorically, it means to be a dreamer, and more importantly a doer.

2.3.2 Entrepreneurship practice

Step one: *Goal setting:* Setting a goal, writing it down, visualizing and planning and review it day by day has been recommended by many businessmen, stars, and champions.

Duane Spires, suggests, "teaching your children how to set and accomplish their goals is a fun and exciting activity". He claims that writing down a goal will increase the possibility of its happening up to 80 percent. A good practice for this step is to first, find 10 most inspiring subjects, eliminate all but one most important, and write down all necessary stages to accomplish the goal. Then encourage them to start it from the same day.

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[53] *Empact 100award speech*, Duane Spires, white house, 2011

[54] INC. magazine, 1 FEB. 2012

Step two: *Recognize opportunities*: "Teaching your children to seek out opportunities and take action on them, will directly contribute to their level of future success," Says Duane Spires. An exercise for this phase is to ask children to write down some everyday problems and ask them to brainstorm solutions how to resolve them. this is a great practice of creating positive solutions, instead of focusing on a problem only and builds up a creative mind with the ability to create profitable ideas.

Step three: *financial practice:* Spires believes that teaching children about money from very early ages, is essential to install a financial foundation that public education often fails to teach. A good practice is to practice with children basics of investment, how to create money out of a smaller amount, or how to budget their income.

Step four: *marketing skills:* As Spires suggests, teaching about how to attract customers will gradually plant the seed of good observation in children, to recognize marketing points from billboards and advertisings and eventually be able to generate creative ideas. A practice is to identify and analyze some headlines, as well as trying to create new solutions.

Step five: *independence:* Being independent is a great push for generating business ideas. Good ideas come suddenly when a subject is your daily concern. When you Spires suggests on encouraging children to earn the money, that they need for their toys. "The entrepreneurial mindset causes kids to depend on themselves for their own success, which leads to well-rounded adults and future leaders".

Step six: *selling practice:* lemonade stand is one very famous practice for children to learn sail's basics. [55] It is a recognizable symbol of entrepreneurship and it can be traced in history to 130 years ago in New York where a kid was trying to sell lemonade to thirsty streetcar riders. Although in some states it is illegal with

[55] Electric Power and Light Company, Ad, *Life Magazine*, May 1947, 4. Annotated by Robert Sexty.

labels such violation to "operation without a business license", "lack of adherence", "health codes," and sometimes child labor laws [56], It is one very much recommended practices by many great entrepreneurs such as Spires. As he states, this practice is a lifetime practice, as it concerns all types of business and careers.

2.3.3   Entrepreneurship practice

This part as it was mentioned before is an essential step for breaking the paradigm of child labor, as contradictory as it might sound. One, being and working in his/her "element", as specified by Spires, is doing a job that you are willing to do it even free. If you get paid for an effort toward your dream, not only It will not be called labor, but it is, in fact, the best path of heating up the education and make it more tangible for students.

To place this claim into a practice, two games were designed and played. First, is a small practice on entrepreneurial brainstorming regarding to each of individual "Element" and second is to make something actually happen.

2.3.4   Games

Game 4: *Start-up*

Theory: To realize how an entrepreneurial practice can make a difference, even in a short period, and place this claim into a practice, two games were designed and played. First, is a small practice on entrepreneurial brainstorming regarding each of individual "Element". To write down a start-up. "Startup is a state of mind," says *Adora Cheung*, co-founder and CEO of Home joy, one of the great U.S. Startups of 2013. According to Merriam-Webster, start-up means "the act or an instance of setting in operation or motion" or "a fledgling business

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[56] Associated Press. Retrieved 2011-07-16.

enterprise." The American Heritage Dictionary suggests it is "a business or undertaking that has recently begun operation." Brainstorming a start-up in this exercise is to think of how an idea can become a business plan step by step to reality.

In action:

Goal: Help kid find basics of how to draw a start-up and practice the opportunities, discuss it and ask each other's opinion. This process will plant seeds of business planning on what they are motivated to do.

Principle: This game is mainly based on steps one and two of the series mentioned above, inspired by Duane Spires. It is a warm-up for next game.

Essentials: closed or open space, paper, and pen. This game should be cooperative rather than competitive.

Time: no time limit. It could even be presented to children and ask them to think about it for days. In this case, the whole game takes place in 4 hours.

Game details: children are first, introduced to some basic definitions of business, sale and marketing. Then, they are asked to write a small business plan about their Element (they have chosen their own element in the second game of the first exercise), and present it to the class to ask for other's suggestions. Next, they should write down the steps, problems, effort, and time required for it to come true.

Based on the group of children's aptitude and passions, it was decided to do a group project, in which abilities, aptitudes, and passions of each child could be taken into action. This project is to publish a book. Children will take part in all steps from its writing and illustration to marketing and sale. To explain in details, they decided to write a book, do the illustrations, design a poster for it, and make a musical short advertising animation.

Game 5: *Make it happen*

Theory: This practice as well is a group job. They should star an idea and make it happen. This plan is drawn by themselves based on what kids have chosen in their second game (board vision). Since it is going to be a group business, they had to come up with ideas of how to link their passions together into one project. this practice is a real life practice, to let kids believe what they are capable of. It is one big step and the last leap of this workshop in the process of guided-mastery to build a confidence in children of self-efficacy. The belief of how it is possible to trust their own aptitudes and take steps even on their small knowledge to grow it into a big experience in real life. It is very important for this part of the workshop to step out of the classroom and get to the real world, with real deals.

Levels of this game are set each based on the last one, though all these levels should be a guide only not a decision.

DAY 1

Level one: *Start- up:* First, children are asked to find a common subject among themselves to start a business with. They should focus on their own aptitudes, passions, along with their groupmates. They can discuss about it give three proposals to the tutor. On each proposal, they should each define a job linked to their Passion board.

Level two: *brain storming:* Final decision is taken on a subject which, is the most compatible with children's aptitudes and passions. What comes out is "publishing a book". From Characterizing, writing, illustrating to find a publisher and do a marketing. In this level, children are asked to brainstorm and vote for best ideas about the subject, look of the book and options which makes the book different from others and how to sell it better.

Level three: *Marketing:* in this level children are asked to brain storm a simple marketing solution. They are questioned about the solutions to raise the number of sales. Since the sponsor of the workshop, Moogital Group, are experts in digital marketing, an online

marketing was preferably chosen. In addition to that, digital marketing is more economic and has a wider range of possibilities, rather than traditional marketing.

Level four: *Writing:* The key is to use imagination. To create a story by reaching deep in kid's creativity and characterizing. In order to achieve this state, technics from the second game is used. They have to create an imaginary world and try to each present a character of this world in detail.

Level five: *Job definition and responsibilities:* It is important to first, define the path to have a book, to ask for their opinion and let each decide on what they wish to have or add to the book. After what they have chosen, the job officially starts.

Results: Faeze: head of writers and illustrator, Mehdi: Pagination and edit, Ali animation-creation, Hossein: photography-animation, Reihane: Cover design, Mohammad: music, Elham: motion-animation

Level six: *Contract:* To let the kids, understand the importance of their responsibilities and make them

familiar with the process, an informal contract is signed with each responsibility written on it. There is a copy of the contract for each of them, fully detailed on what is the job about, the conditions and indemnifications.

DAY II

Level seven*: In position:* This level practically proceeds in another session. In last 5 levels, details of the jobs are well clarified, consequently, tools and materials are specially prepared;

Mohammad: A special basic course of music, about notes and keys, is given to him along with a basic instrument(Bells).

Faeze: she is responsible for characterizing and illustrating as many as possible. She will filter the writings of other children to decide whether it can be published or not.

Ali, Hossein and Elham are collaborating on creating and introducing animation to be used in social media advertising. This animation is made with "**Stop Motion**" application on IPad. Elham creates the scene, Hossein takes photos and Ali makes the animation ready.

Figure 11: Stop Motion app.

Stop Motion, based on Apple's app store, is "the world's easiest app to get you into stop motion moviemaking."

Stop Motion Studio helps you to create terrific stop action movies with a whole host of unique features:

• Overlay mode to show you the differences between frames for precise control

• Grid mode to position animated objects more easily

• Ability to use the volume button on your device to capture images

• Integrated movie editor with frame-by-frame preview at different speeds

• Cut, copy, paste, delete and insert frames at any position

• Automatically capture frames with an adjustable time interval feature

• Zoom in and out on the timeline view so you never get lost, even if you have hundreds of frames

• Fade your movie in or out for a professional look

Reihane: is going to paint the cover of the book, using her imagination of the world they created. She is equipped with oil color essentials.

Level height: *Finding a publisher:* After finishing the book, it is time to look for a publisher. The pages are hand written and ready to be shown to a publisher. Due to the transport problems, it was decided to call the publishers and talk to them. from twelve children

publishers, each should talk to at least one of them- except Ali, who didn't want to talk so we encouraged him to send an email. Talking of children with a publisher will teach them the literature of business.

As a result, two publishers accepted to publish the book and the society decided to choose the private one, " Behnegar Publishing[57]".

Level nine: *Edit:* To fully introduce the steps of the book publishing, children are introduced to methods of editing and the importance of a good edit. They learn what as well to write acknowledgment and to be thankful for the people who helped them through the process.

Level nine: *selling:* Like the lemonade stand, it is a good practice for children to get involved in the process of selling to realize the challenges, and learn the attitude toward the customers. For these mean, the Imamali society prepares some pop-up stores with society's authorization to sell these books.

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[57] http://www.behnegar-pub.com/

03 ^{IN} THE CONCLUSION

03 IN THE CONCLUSION

3.1   Main conclusions [58]

Finding the element: comparing the interviews from before and after the first practice- Finding the Element, there is a difference between the initial choices of aptitudes and passions and those after the games. "Their initial choices were in fact, either an idealization of the few good things they had in their life, like street football contests and their teachers' attitudes, or an unconscious imitation of the violence in their life," says Jafari, the psychologist of the team," during the first interview, children mainly mentioned "being a teacher, a wrestler, or a football player" while in the second interview each selected number of interests which most of them in the psychologist's idea, were based on their inner passions. Choosing wrestling or high violence subjects in first interview, is based on

frustration, and the fact that these kids find the violence as a key to fulfill that feeling. She believes that through this workshop, children started **to find new values** on themselves and replaced the new idealization with frustrations. This gradually resulted in

another considerable point is that these children have chosen subjects, very close to the aptitudes they were observed to be good at. This is a proof of Howard's claim on the fact that children with a type of intelligence are likely to be interested in the activities related to it. And it shows as well how these kids might be **qualified enough to find their own aptitudes**.

Such transformation in a short period, and under such limited facilities illustrates that **informing children** in terms of their abilities and their opportunities, even in tiny scale, changes their perspective toward life in a much larger scale.

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[58] The sessions and mentioned conclusions are fully video recorded and will be presented in case of require.

As it was mentioned, on the divergent thinking process of psychodrama exercise, the original ideas of the children were presented to directory group of Sardsaz company, and they believed some of these ideas do actually have potential. This shows that creativity can indeed be a strong tool in child's hand. On the other hand, the comparison between children's results and adults', have shown a higher average ability of children to come up with original ideas, and that they can be **trusted with their own creativity** to lead the life they desire.

Getting into action, taking children out in the world of deals and contracts, these kids came out as surprise to all members of the society. The ability to finish a group job based on their own aptitudes, helping each other to fulfill the responsibility and the level of motivation, gives new hopes on how trusting and healing a creative confident on children can lead them to a phase, in which they **start to create new opportunities for themselves** and fulfill the task as good as a mature person.

Special condition of Elham and her sever lack of concentration, led us to examine new methods of teaching her. It appeared that **she needed to move in order to concentrate**. Based on the psychologist's opinion, her high Bodily-kinesthetic intelligence in one hand, and her limits as a girl to stay in one place and concentrate on boring subjects (in her idea), she created a defensive metal phase for herself to repeat other's opinion in order to pass the boring stuff to get to point she can freely move. Comparing the results of an individual test on her, supports the claim that when she is free to move and dance, she has the highest level of concentration.

3.2 Secondary conclusion

Many instructions have been applied to the games, in term of game rules or tutor's behaviors, mostly to promote trust, confidence, and creativity. Based on the psychologist's claim, applying these rules had positive behavioral effects on children. Improves **sense of leadership** is one of the important

outcomes. Based on one of the children's claims about last game, "each child is good in one thing, and other in something else, so each can be a boss in one category".

Teamwork is another positive behavior that gradually flourished in children. Based on the psychologists' idea," taking away the competitive setting, and avoiding the individual evaluation has created a more relaxing stage in which they started to trust and benefit from other's aptitudes to finish the group tasks. "I thought I can finish the levels all by myself until we got to the last level where I realized without Mohammad's great idea, we could never take the key to treasure out of the bottle," says Hossein.

In general, during last session's interview with children, we asked their opinion about working, jobs and schools. They surprisingly have come to this confident that "**an easy job is a job in which they are good at and love it so much**," and they mostly like to start learning what they are passionate about so they can soon start a job based on that. Few of them like

Mohammad, even gave some specific age to go to a second job which is more serious and might require sacrificing playtime. "for now I will make money out of my paintings and study until the age of 20 that I wish to be a doctor then".

3.3   Considerable conclusion

This workshop was a great experience for me, to realize how fragile and mutable the child labor paradigm is from inside. Of course it has been tried to get the most at of this short time, and to eliminate the mistakes as much as possible with support of experts and specified survey and study, yet there are points to be improved and some features to avoid. As an example, although the first game was a challenge for children to realize their own aptitudes which was indeed successful in high range, in some cases it might lead to a false self-underestimation. Some kids with a low confident could think they are not good in those games in which they did not perform good, by any reason.

To improve this feature, there must be a consideration to change the game template into a more diverse one in which kids could play freely through levels and chose their comfort aptitude. In this was they will still realize their confident point, while eliminate the self-judged against their groupmates. They will have to finish all the tasks still to challenge themselves, but in a much more relaxing phase.

3.4 Future perspective

Child Abler concept, in its first stage of development has already been presented to different organizations and societies. Moogital Co. and Sardsaz Novin co. are two groups who have already shown interest to negotiate sponsorship on a detailed program.

3.5 Child Abler Society

The hope is to firstly continue this workshops, gradually expanding them to empower more children.

Second is to create a society,

- with membership of **Abler Children** who are empowered, have a wish and want to be trusted with it.

- A society that runs by **children** who know their rights as a child and will use this platform to inform other children about theirs.

- A society with backing of volunteers who have a knowledge and are willing to share it with these children even for a single day to more and more inform them about their opportunities.

- A society supported by those who are each enthusiastic to take responsibility of the education of even one child who they find talented.

For this mean, on next step a platform will be constructed with possibility of public visit, where each child has a portfolio in form of a video or

any other formats, so people could go through an easy process to take actions for sponsorship. The sponsorship will take will take place under predetermined regulation, such as;

- The sponsorship should be only under laws of Imam Ali society. This laws exist to avoid negative impacts on the children, like frustrations caused by different social classes.

- No direct money transaction is allowed. This is to avoid possible abuse of both sponsors and the families.

On next steps, the hope is to expand the society to more and more children, even to wealthy ones to create a bigger society of empowered children who wish to   make a change. Here are few possibilities;

- A marketing plan for funding the society in order to access more deprived areas.

- Bringing more and more successful people for inspirational short lectures similar to TED, though special for children.

04

IN
MOTION

Practices, games and motions captured
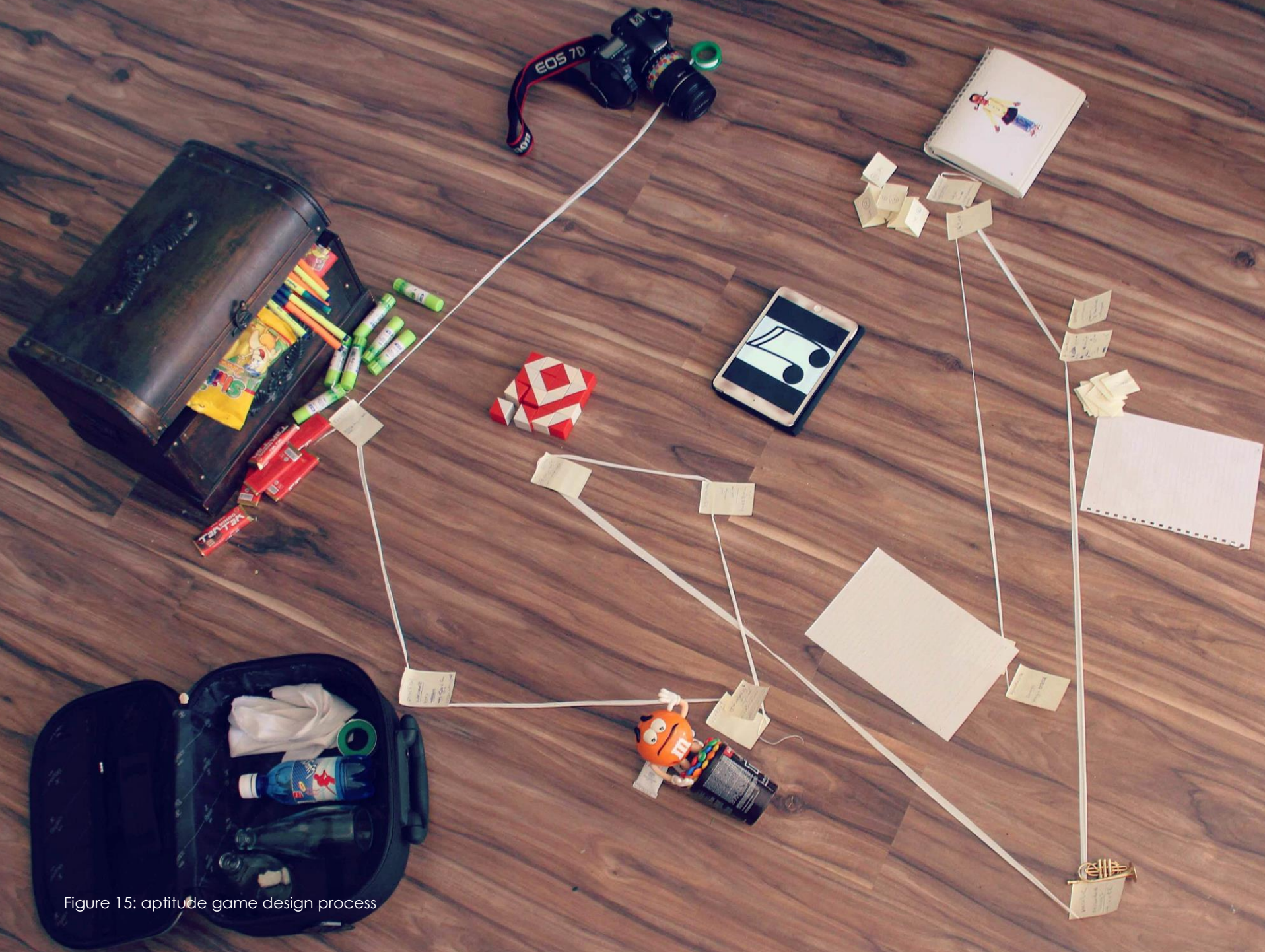
Figure 15: aptitude game design process

▶

Fig.16 **EXERCISE ONE- GAME ONE**
Children are waiting to start the
aptitude game.

◀

Fig. 17 & 18 **LEVEL ONE:** Game of
synesthesia

Each child is given a paper filled
with letter "S". some of them are
mirrored. The goal is to find the
mirrored signs as fast as possible
and draw a circle around it. They
have 20 seconds to finish it, after
they should help each other.v The
one who finishes first is the most
probable to be synesthetic.

▶

Fig. 19 **LEVEL TWO:**Game of music

This game is based on musical intelligence of Howard Gardner's multiple intelligence theory. This Game is designed base on a test of perfect pitch. Perfect pitch or Absolute pitch (AP), widely referred to as perfect pitch, is a rare auditory phenomenon characterized by the ability of a person to identify or re-create a given musical note without the benefit of a reference tone.

Children will listen to series of notes pre-recorded with the same instrument. Each piece is played three times. Then children are asked to recreate the same notes on the given Orff instrument.

▶

Fig. 20 & 21 Children can halp each other to gain a score for the whole group.

▼

Fig.22 **LEVEL THREE:** Game of Body Language: This game is based on Bodily-Kinesthetic intelligence of Gardner's theory of multiple intelligences.

During this game main players should play mute. Each child is given a card which is part of a story. This story explains the goal of the next game. Players should explain the cards

Figure 23 *Level Four Game of poem*

▼

Fig. 26 **LEVEL FIVE:** Block design game. This game is taken from Wechsler's Spatial visualization ability test. The items in a block design test can be scored both by accuracy in matching the pattern and by speed in completing each item. Spatial intelligence is as well one of the intelligences suggested by Gardner's MI Intelligence.

◀

Fig. 27 **LEVEL SIX:** game of number under car . This game is based on a test of Lateral thinking. This game is a riddle. It is said to be a question that grownups can't solve. In this game a piece of paper is placed in front of players. There is car parked in a parking lot with a number hidden under it. Other free parking spaces have a number and the challenge is to find the hidden number under the car.

▼

Fig. 23 **LEVEL FOUR:** game of poem. This game is based on Linguistic intelligence of Howard Gardner's multiple intelligence. The instruction of this game was the result of last game. children are selecting words for themselves.

Fig. 24 & 25: Players should find 10 words that rhymes with a given word. The words are hard to rhyme.

Fig. 28 **LEVEL SEVEN:** Children are waiting to start the aptitude game. painting game. This game is the second part of Synesthesia test as well as creativity at the same time. In this game players have 20 minutes to draw something based on the music they listen to. The music is in the player which has a passcode. The code is the number they found from last level.

Fig. 29 **LEVEL HEIGHT:** Mystery game. This game is based on Logic-Mathematical intelligence. children are asked to solve a riddle to understand the instruction of this level. The goal is to find the object that was mentioned in the riddle, find a solution to open it, solve the cross letter puzzle inside to find the place that the key to the next level is hidden. Children have found the object that was mentioned in the riddle.

Fig. 30: Seven pieces of M&M is marked, each with a letter. Lining them up in a correct order will expose the place where key is hidden.

Fig. 31 **LEVEL NINE:** Cork in the Bottle Game. This game is based on the Practical Intelligence. There are two keys hidden inside two rubbers, Each inside a bottle. Rubbers are bigger than the bootle hole. The challenge is to use one of the other objects given to take out the cork without breaking the bottle. Hossein was the only one who found the solution.

Fig. 32 **GAME TWO- VISION BOARD**

Game Boards of children:
Reihane, Faeze
Hossein, Elham
Mohammad, Ali

Vision board is an amazing method suggested by Ken Robinson. "It is a collage of Images that reflect your aspiration, hopes and dreams. Vision board process is a simple person-al collage of cut out pictures. These photos could be taken from any-where, magazines, printed photos, even some words or phrases from newspaper

04.2 PRACTICE TWO

Level one: Characterizations game
Level two: The play

Fig. 33 **PRACTICE TWO - GAME TWO**
Elham with SurReal costume in her nest.

► Fig. 34 **GAME FOUR- LEVEL ONE**

Characterizations game: Children are each asked to choose a character and an unreal world where they live in. they will have to design their own costumes and build their own nest on the stage (in this case yard). This will make children get deep into their imagination and step away from their real life.

◄

Fig. 35, 36, 37, 38 & 39 **GAME FOUR- LEVEL TWO**

The play: during the play, children are asked to receive stories from a jar (prediction well) one at a time. Inside jar they can find wrapped piece of papers, on which a story is written. They will solve prolems first,spontanously and then by their power of divergent thinking.

▶

Fig. 40, Spontanious action of children to problem of level two.

◀

Fig. 41& 42 Psychodrama methods used to diagnose violence and mental problems of children based on CET tests.

04.3 PRACTICE THREE

Level one: START-UP
Level two: Make it happen

Fig. 43 **PRACTICE THREE- GAME FIVE**

Make it happen:Book cover, Painted
by Reihane for the group work.

▶

Fig. 44, 45, 46, 47, 48, 49, 50, **PRACTICE THREE- GAME FIVE, START-UP:**

children are first, introduced to some basic definitions of business, sale and marketing. Then, they are asked to write a small business plan about their Element (they have chosen their own element in the second game of the first exercise), and present it to the class to ask for other's suggestions. Here each child is explaining what they wish to do with the bussiness of their own.

This game is mainly based on steps one and two of the series mentioned above, inspired by Duane Spires. It is a warm-up for next game. It help kid find basics of how to draw a start-up and practice the opportunities, discuss it and ask each other's opinion. This process will plant seeds of business planning on what they are motivated to do.
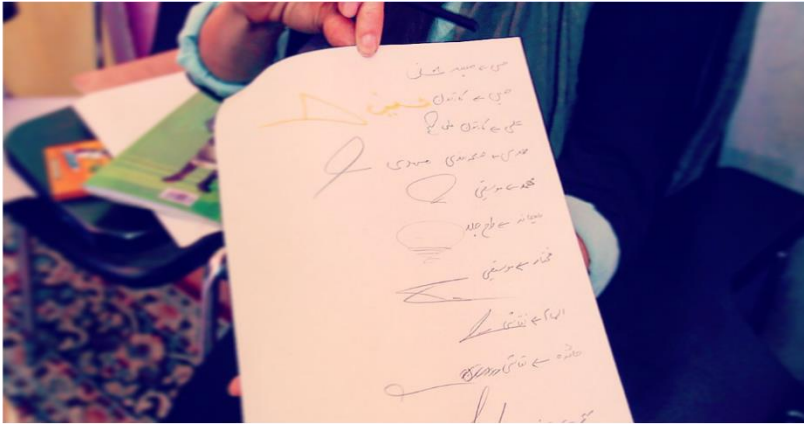
► Fig. 51 **GAME FOUR- LEVEL SIX**

Contract: To let the kids, understand the importance of their responsibilities and make them familiar with the process, an informal contract is signed with responsibility written on it. There is a copy of the contract for each of them, detailed on what is the job about, the conditions and indemnifications.

► Fig. 52 **GAME FOUR- LEVEL FOUR**

Writing: The key is to use imagination. To create a story by reaching deep in kid's creativity and characterizing. In order to achieve this state, technics from the second game is used. They have to create an imaginary world and try to each present a character of this world in detail.

► Fig. 53, One of the positive results of groupwork on Ali, who is the most violent, though he is trying to ask Reihane to visualize his imagination.

▶

Fig. 54 **PRACTICE THREE- GAME SIX, LEVEL SEVEN;**

In position: This level practically proceeds in another session. In last 5 levels, details of the jobs are well clarified, consequently, tools and materials are specially prepared;

◀

Fig. 55 **PRACTICE THREE- GAME SIX, LEVEL SEVEN;**

In position: Hossein trying to visualize the creature he imagines.

▶
Fig. 56 **GAME FOUR- LEVEL SEVEN**
In position: Reihane painting the cover of book.
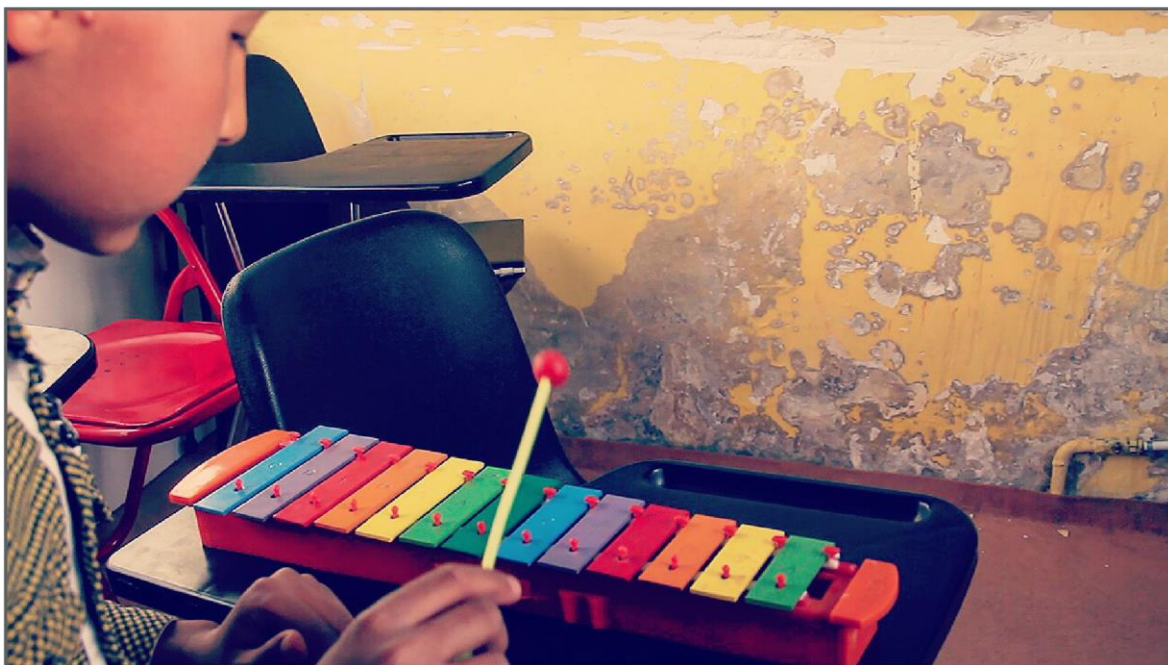
▶
Fig. 57 **GAME FOUR- LEVEL SEVEN**
In position: Mohammad trying to learn the piece to play for the adverting animation.

▼

Fig. 58 **GAME FOUR- LEVEL SEVEN**

In position: Music Expert Teaching music basics, along with training a piece with children.

▼

Fig. 59 **GAME FOUR- LEVEL SEVEN**

In position: Ali and Mehdi working on Stop-Motion animation making.

◄

Fig.60 **GAME FOUR- LEVEL SEVEN**

In position: Mohammad performs the peice to record.

▶

Fig. 61 **PRACTICE THREE- GAME SIX, LEVEL SEVEN;**

In position: Fazeze visualizing the main characters of the book.

List of figures

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