



Dice as pedagogic devices

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History, Observations, Dialog

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1. A Brief history of dice

Dice games are among the oldest games in human history. In the West, people have played dice from time immemorial, as archaeological finds in tombs dated to the fifth millennium BC prove.

Cubical dice, such as those used by ancient Egyptians in the Senet game, were common. They were so important that they appear in hieroglyphs dated to 3,100 BC.

Some of the oldest ones were excavated from the Royal Cemetery of Ur in Southern Mesopotamia (modern-day Iraq) dated to 2,400 BC.

Herodotus, a Greek historian who lived in the fifth century BC, maintained that they were invented by the Lydians in Asia Minor, an old historical area.

The Rig-veda, considered the oldest book in human history and one of the most important philosophical and mythological books of Hinduism, mentions dice games.

Dice are included in Buddha's list of games.

Several archaeological finds have proven that Eskimos, Maya, Aztecs, and some African and Polynesian people, played dice games.

The oldest dice ever found in Italy date back to the Etruscan era; they had six faces, were made of ivory and marked with letters and not numbers.

Dice games were extremely common among ancient Romans. Gaius Julius Caesar said the widely known line *Alea iacta est* (the die is cast) on 10 January, 49 BC. This expression is still in use today to mean that decisions have been taken and they cannot be changed.

2. The die, an instrument

Dice have been considered magical objects since ancient times and were used to predict the future. This may be the reason why dice have been found in tombs.

Later on, they became toys.

In literature, they are often considered symbols of chance, fate, and luck.

In the modern era, studies were conducted to assess the behaviour of dice. Both Gerolamo Cardano and Galileo Galilei sought to analyse dice games through mathematics and probability.

Nowadays, dice games are extremely popular. They can be easily played everywhere, do not require any specific skills, and have simple rules.

Dice games can also be considered a form of *art*, a set of rules and techniques that aim to create learning experiences with specific goals. It's an art that plays an important role in conflict management and stimulates a direct involvement.

This art does not simply offer the players the opportunity to obtain something, it enables them to do something different and to be free from standards and external pressure. Dice games allow them to be open to unexpected outcome, open to surprise, and encourages them to take risks, make mistakes, and try new solutions.

Rules are easy to follow in dice games, because the players do not perceive them as an imposition, but as a necessity. Even the opponent, the *enemy*, is perceived in a different light: he is an essential part of the game, without whom none of this could be possible.

Dice games reduce hostility and its intrinsic violence. They may promote change and enhance creativity in whomever is curious and likes to be surprised.

In conclusion, dice games are not for entertainment purposes only, but they can also convey important messages and fundamental values; through them we can easily learn rules and have a positive attitude.

Entertainment and learning, let's talk about the latter.

3. Games for educational purposes: pedagogical foundations

Several studies focus on the educational value of games, especially when younger children are involved. They support the idea that games may support and enhance learning abilities in children from the first days of life.

This game is considered a pedagogic entertainment technique that is useful to develop personal potentialities and promote cooperative learning contexts based on knowledge sharing and co-building.

How? Let's focus on a few elements.

Play facilitates the *meaningful learning* experience because it promotes the integration of new knowledge with knowledge already in our cognitive structure. Such a learning strategy is different from rote learning, which is based on memorisation with no connection between new and previous knowledge (Novak, 2012).

Meaningful learning allows us to give our knowledge a complex reticular structure. Knowledge organisation occurs by assimilation. A high level of meaningful learning enhances creativity.

David Ausubel, an American psychologist, was the first scholar to develop the meaningful learning theory. He stated that cognitive learning is based on the interaction among three main elements: thought, feelings, and actions. Emotions play an essential role in learning processes.

Furthermore, games promote *self-regulated learning* (Zimmerman, 1986) which allows people to take control of their learning processes and set their own goals, planning and organising their personal work patterns (Bandura, 1986).

Playing and learning are intertwined with one another: learning through play is an effective process. Therefore play belongs to childhood, but it also pertains to adulthood: adults should play because playing may stimulate their fantasy, emotions, and imagination.

If we want to delve deeper into the pedagogic dimension of games, we must mention Frederich Froebel's theory. A German pedagogue, he was the first to recognise the importance of play which until then had been regarded as a waste of time. According to Froebel, games promote child development, helping them to relate to others and to discover how the Universe is shaped. That is when children experience unity. Fictional activities facilitate a mutual comprehension between them and the world around them (Cera, 2009).

Several scholars have proven that games promote creativity.

Maria Montessori, who opened the first house of children in Rome in 1907, was the first to study empirically the effects that sensorimotor activities and scientifically organised educational materials have on child development. According to Maria Montessori, children have a strong social personality, a veritable world-power. They have unknown powers that can lead us to a bright future. Playing, telling stories, and creating objects are all expression of a child's creativity (Montessori, 1952).

Rosa Agazzi, who devised an innovative pedagogical method aimed mainly to kindergartens, added that learning activities need to be free and didactic materials cannot be scientifically prepared and organised, but spontaneous, based on objects found by the children on their way to school (Agazzi, 1922).

John Dewey, the leading spokesperson for American pragmatism, stated that it is fundamental to combine theory with practice in learning processes and to integrate creativity and play. Play is a vehicle for learning. His motto was:

Learning by doing, in other words, learning through experience. According to Dewey, thought originates from experience and therefore education is a reconstruction of personal and social experience in order to produce better forms of life (Dewey, 1961).

Research by Vygotskij and, more recently, by cognitive psychologists, have shown that cooperation is the foundation of personal development. For example, when children play together at first they adhere to the rules when their peers or the teacher urge them to do so, later on they develop self-regulation skills or internalisation (Vygotskij, 1979).

Thinking about what you are doing, comparing yourself to others, clarifying and defending your ideas, and explaining yourself clearly stimulate internalisation.

Renowned American psychologist Jerome Bruner, referring to Vygotskij's theories, claims that a child builds his basic skills through interpersonal relationships, but later in life he internalises these skills thanks to rational thinking. Learning processes take place because of specific instruments that the above mentioned scholar calls *cultural amplifiers* (such as wheels, telescopes, language); they allow people to develop and strengthen their own abilities (Bruner, 1970).

4. The art of loving, Eric Fromm and Chiara Lubich

Technological and socio-cultural innovation have created new challenges that require renewed educational models aimed at enhancing a deeper relationship between cognitive and rational processes. It is becoming more and more evident that it is no longer enough to provide the youth with abstract values, but it is of paramount importance to live together with them a life true to our values: it is a rediscovery of our own humanity that we find in our need for loving and being loved.

In *The art of loving*, an essay published in 1957, the German psychoanalyst and sociologist Erich Fromm showed that love is really an art form and therefore it requires discipline, focus, patience, care, and humility. As he wrote in the preface, love is doomed without an active development of our own personality and without loving others with trust, humility, and courage. According to Fromm, love is the answer to the problem of human existence.

Fromm said that love is an active force, a force that overcomes barriers among people; it defeats isolation and separation, allows us to be ourselves and maintain our dignity. Love is a proactive action that brings about change, but this process cannot take place without freedom.

Love is an active feeling whose highest expression is giving to others. One person gives him or herself to the other, gives his best, his joy, his attention. It is a gift that enriches the other person and elevates the life of both the recipient and

the donor.

Giving is a two-way street.

Active love is not only based on giving, but also on *elements* that are common to every form of love: care, responsibility, respect, and knowledge.

Love is being attentive to the very existence and growth of whomever we love. Its essence consists in being committed to something and make it grow. Caring and being interested require us to respond to the expressed or unexpressed needs of the other.

In order not to become a form of dominance and control, responsibility needs respect. Respect, whose etymological meaning is to look at (from Latin *respicere*), is the ability to see the other for what they are, to realise what makes them unique.

Only when we have true respect we wish for the other to grow and develop for what he or she is, according to their aspirations and possibilities. If I love the other person, I feel one with him or her, but with him as he is, not as I need him to be (Fromm, 1995).

The Brazilian pedagogist Paulo Freire stated that «no one can be authentically human while he prevents others from being so», «I cannot be myself if others are not» (Freire, 2002).

Fromm said that respect is only possible if it goes together with independence and interpersonal knowledge, if you can stand on your own two feet, without dominating the other person or taking advantage of them; at the same time, you cannot respect somebody if you do not know him or her. Care and responsibility would be pointless without interpersonal knowledge, but there are different types of knowledge.

Knowledge in the context of love is not superficial, but it goes deep inside the human nature. That is only possible if I lose myself, if I see the other as she really is. I discover myself, discover both of us, discover our common humanity in the other.

According to Fromm, knowing a person goes hand-in-hand with knowing God (Fromm, 1995).

What is new in the Christian God is not in believing that God exists, but that God is love (1 Gv 4,8.16). For the Christians, from the ontological and anthropological point of view, the idea of God-Love is a basic element of human nature, given that men are intrinsically connected with Love. Love as a universal need and dream (Cambon, 2009).

For Chiara Lubich, founder of the Focolare Movement, education is connected with such a universal need and dream, and could be considered as the fulfilment of Love, which requires that the educator be aware that, in order to educate, one must love.

The ultimate goal of education—she said in her talk in *Washington* when she was awarded a *honoris causa* degree in pedagogy—is to nurture the man-relationship, which is the icon man, the image of the Trinity (Lubich, 2001). For

Chiara Lubich, education is a process made of people in communion, modelled on the trinitarian relationship.

What is the novelty of an education based on such a model?

The relationship within the Trinity extends to human beings: everyone is and becomes himself only in a free relationship of love with one another; I am because I give myself as a gift. Chiara Lubich elaborated this concept and said: “*I feel that I was created as a gift to others and the others were created by God as a gift to me (...) Everything on Earth has a relationship of love with everything else. We need to be Love to find the golden thread that ties us together*”.

For Eric Fromm and Chiara Lubich love is an art. And we need to put it into practice to instigate the pacific—and at the same time incisive and radical—revolution that can change everything.

A demanding art, with strict requirements... It’s an art that goes beyond basic, natural love, which is mainly love of family and friends. We need to love everyone: nice and not-so-nice people, pretty and ugly people, our fellow countrymen and foreigners, followers of any religion, people of any culture, foes and friends. We must love everyone, be the first to love, always be ready to love, without expecting anything in return. This kind of love wants us to see others as ourselves. It is not just made of words or feelings, it is concrete. It wants us to be *one* with others, to *live* the other, the others, their suffering, joy, needs, to better understand and help them.

If many people practice this, the art of love will lead to reciprocal love: in our families, at work, in groups, and in society at large (Lubich, 2005).

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