

ABOUT LEARNING AND CREATIVITY

About learning and creativity - US version

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About this book

Teachers, educators, mentors, and everyone supporting others during a certain stage of their lives, have a very important task. What happens in the classroom can make or break someone's disposition to learn, which in turn may have a fundamental influence on his or her future social and economic participation¹. In a rapidly changing world, this task can no longer be seen as a fixed trajectory. Schools and teachers need the flexibility to constantly adapt the range of learning opportunities. In the twenty-first century schools and universities need to foster creativity as a life skill, ensuring that students can learn to live with uncertainty, and allowing their personal creativity to thrive². At the same time, tapping into young people's talents so that they can play a meaningful role in the world, could be a quest which is a source of joy to all parties. According to Ken Robinson³, we were all born with immense natural talents, but by the time we have been through education, many of us have lost touch with them. This can hardly be the intention of educating.

A considerable number of countries have already revised their learning outcomes, with a new focus on competencies like creativity, collaboration, critical thinking and communication⁴. Methods for developing creativity, inventiveness and problem-solving abilities are being explored. This can be done from different perspectives, one of them being the attribution of a prominent role to arts education for learning purposes, and the connection of artistic disciplines with other subjects. However, merging creativity and education is not just about the arts, it also involves innovative ways of thinking within disciplines, and a creative approach to the learning process.

Learning itself is considered a creative process, and is ideally done in an environment where learners can build their own knowledge⁵.

Such an environment needs teachers to be a model of creativity. For many of them, this can be an opportunity to rediscover a source within themselves which has, often unconsciously, been neglected for a long time. In a new approach to learning teachers are facilitators, offering opportunities and observing how these are being used.

Facilitating goes hand in hand with the provision of high-quality resources, so that young people are enabled to acquire the knowledge

they need. Motivated learners, explicitly choosing to engage with certain issues, are closely connected with the learning process, and can gradually find out about learning methods while simultaneously discovering more about themselves.

This book looks for parallels between the creative process and learning, taking as a starting point that people tend to find their way through life (the ultimate creative process) most easily when they are allowed to be themselves. Moreover, learning and creativity involve the human being as a whole. Children and adolescents need to develop physically, mentally and emotionally. Of the many ways to learn, usually only a few are being shown.

The possibilities of human beings who allow themselves to be guided by their own lives, are infinite. Mentors can help getting a sense of the right direction, and provide resources or share insights and experiences.

How these human beings relate to others can be explored in a creative manner as well. The dance between individuals and a group, and between a group and its members, can be an intriguing matter for everyone involved. Exploring relationships prepares young people for collaboration in their later lives. If they can be confident that the society they are co-creating has a place for everyone, and that theirs will not require any crucial concessions to who they really are, they will be more likely to genuinely appreciate other people's qualities too⁶.

How do we commence a renovation which in the long run might modify the foundations? Many prejudices and assumptions are thwarting a new vision of learning. In the present situation, I think, it might be useful to start by coating some cracks in the wall with a new kind of plaster. We can acknowledge the creativity that already exists, search for fascinating examples of inventiveness outside of the school grounds, try out or propose alternative methods to learn subject matter, stimulate learners to discover their own creativity, and tap into our own creative potential for everything we undertake. After all, a different approach should mainly stem from the talents and experiences of the teachers themselves.

The first question to be dealt with is how the creative potential of the school team and students can be unlocked in the current circumstances. Time will reveal which practices get sufficient support for structural changes.

The latter has not prevented me from musing about a future education

with lots of freedom. In my view more time is needed for personal inquiry and elective courses, as well as a much broader range of learning styles.

These different kinds of learning would, in my opinion, benefit from collaboration between specialist teachers, individual mentors and group teachers. Teachers are obviously often monitoring a group and individual students at the same time. However, a person's individual learning trajectory as well as group dynamics offer major opportunities for creative development and enable educators to observe how the subject material is being processed. Enhancing group projects and individual coaching would be a means to organise the learning environment into a space where learning takes place in an atmosphere of creativity, independence and constructive collaboration, across disciplines when appropriate .

Projects and educational programmes, ideas and practical examples of creative learning which are characterised by a high level of originality can be a source of inspiration for a kind of education that fosters the creativity of learners and teachers.

My intention has been in the first place to have a closer look at both the creative process and creativity in general, having come to know them through experience.

In the interests of a clear conveyance of creativity in its liveliest form and of the qualities linked with it, I have chosen to alternate the scientific information at hand with quotes appealing to our empathy. Many of these quotes originate from the art world, because of its creative vibrancy.

What people know from experience seems to me an invaluable source of expertise. A selection of this has also been woven through this book.

In the second place I have focused my attention on ways in which the information about creativity could be of use in education, and with that in mind I have dug deeper into the literature on creative teaching and learning.

All this has passed through the filter of my personal experiences, as an eternal student in a wide range of disciplines and a satisfied autodidact in others, but especially as a human being. On top of that, the writing process has thoroughly changed my understanding of learning and creativity.

There are many ways in which teachers can be a model of creativity and of collaboration, and facilitating other people's learning can be a very creative process.

I hope this book will not only bring you information and inspiration, but also some joy.



I. About motivation

Dawn

I embraced the summer dawn.

Nothing was stirring yet on the fronts of the palaces. The water was dead. The crowds of shadows had not yet left the woodland road. I walked, waking vivid warm breaths, and the precious stones looked up, and wings rose without sound.

The first adventure, on the path already full of cool pale gleams, was a flower that told me its name.

I smiled at the blond dishevelled waterfall among the fir trees: on the silvered peak I recognised the Goddess.

Then I lifted the veils one by one. In the lane, waving my arms. On the plain where I denounced her to the cockerel. In the city, she fled among bell-towers and domes, and, running like a beggar across the marble quays, I chased after her.

At the top of the road, near a laurel wood, I surrounded her with her gathered veils, and I felt her vast body a little. Dawn and the child fell down at the foot of the wood.

Waking, it was noon.

Arthur Rimbaud, translated by A.S. Kline (2003)

Babies and children learn with all their senses. During the first ten to twelve years of life, humans are still unrestrainedly spontaneous. Young people who flourish, are inventive and feel like exploring things⁷. Their play, which is fundamental to learning, is the natural fruit of curiosity and imagination⁸. Young children are investigators and creators: they shape their own development. They have thoughts, ideas and fantasies. They make connections between their ideas, construct theories and make plans⁹. Energetically moving their bodies and minds across the space they inhabit, they enjoy the delights of physical expression and of engaging with new phenomena¹⁰.

Exploring the unknown goes hand in hand with an open attitude of experimenting and learning from mistakes, of trial and error¹¹. This kind of attitude is not reserved to children, but could be a driving force during the entire life. Exploring the physical world may be replaced by or combined with what Rogers¹² calls a mind, driven and nourished by an imaginative, comprehensive curiosity, not afraid to come up with

immature but unique ideas. In our technically oriented, control-focused society, we tend to avoid uncertainty and surprise. But without surprise, there is no discovery, nor progress¹³.

When a child puts heart and soul into something, it is also on a self-discovery journey. What exactly triggers a person's curiosity, is highly personal. Supporting young people in their quest for their most precious goals, for what drives them, is quite different from stimulating their talents in the interests of social productivity or profitability. Precociously pushing them in a specific direction prevents them from discovering potentialities that would reveal themselves if they were given enough time and space¹⁴. The real human being in the child is thus lost; it becomes unaware of its own being¹⁵.

I have to say, now is the happiest moment for me, ever, as a ballerina. I feel that I have never danced better. I have achieved freedom and gone back to the times when I was a little kid and I loved to dance. And I think it is for this reason that I have decided to stop. I love dance so much that this is what I want to remember.

Alessandra Ferri (Woods, 2001)

According to the self-determination theory, educating is the stimulation of the urge to explore, inciting people to discover what they find interesting and meaningful in life and to which values they want to commit. Passion, marvel and appetite form the basis for intrinsic motivation, and make people willing to undertake efforts¹⁶.

Students who struggle to memorize historical dates can often easily reproduce the lyrics to hundreds of songs. Their so-called bad memories in school may be a lack of engagement, not a lack of capacity¹⁷.

Meaningful learning is done on one's own initiative: even if the stimulus is external, the sense of discovery is perceived on the inside. Personal engagement makes learning meaningful¹⁸.

At the moment that young people finish their schooling, learning should be an attitude, initiated and shaped by themselves. Telling them what to do or think will not help them to develop such a mindset. They will internalise it only by deciding for every situation what they want to do and how, in all the different spaces of their lives¹⁹. No knowledge can offer certainty in a continuously changing environment. Only the process of searching and striving for knowledge offers a basis for certainty²⁰.

The function of a mentor is to give students confidence in their capacity to learn, so that they can build up the resources to enjoy challenge and cope well with uncertainty and complexity²¹. Encompassed in this learning are not only several ways of knowledge gathering, but also all kinds of processes involved in the interaction between individuals and their surroundings.

To motivate children and youngsters, we can impart the idea of learning as a source of joy to them. How can we make learning fascinating and meaningful? When the ways in which they are taught fit them personally and appeal to their interests, they can make enormous leaps forward²².

The curiosity of learners can be aroused by means of stimulating tasks or methods. Asking questions, holding back information, disturbing expectations or keeping outcomes open, are ways to bring in surprise²³.

To many people a problem, also an intellectual one, is a powerful source of motivation, increasing their creative potential²⁴.

It is not just the subject matter, but also the act of doing physics; I get a real rush as I suddenly figure out how to finish a question after over an hour's thinking.

Fionn Bishop (2020)

Connecting the curriculum to the real world appears to be a fruitful way of motivating learners. There are plenty of methods to do this²⁵. The designations of the many forms of learning sometimes lead to confusion, since similar names do not always refer to the same content.

To Galindo²⁶, *authentic learning* covers learning activities that are either carried out in real-world contexts, or have high transfer to a real-world setting. In any case, the intention is for learners to be able to connect the newly acquired information to their lives outside of the classroom. Learners appear to be more motivated to learn and to engage more deeply with the material if it feels personally relevant to them²⁷.

Revington²⁸ makes a distinction between authentic learning and *vicarious learning*. In his view, true authentic learning is activated in a real-world context, and can go from simulated tasks that connect learners directly with the real world, to complete real world integrations. Sharing the outcome with an audience impacts the whole process. A synergy of skills sets and learning processes results in deep learning experiences. Portfolios of records, plans, reading, contacts, drafts and support

information are the artefacts of the authentic journey. Learners are stimulated to commit themselves through immersion in relevant, multi-sensory activities with a tangible product. Moreover, there are opportunities for personal growth that are unique to a learner's qualities (practical, social, academic ...). This approach requires teachers to be a co-creator, a guide on the side who facilitates a programme, flexibly responding to how projects progress.

Robinson²⁹ mentions alternative education programmes in the United States, designed to reengage students who did not feel in line with conventional education. The youngsters could engage with practical projects or help others in a community, or they worked on artistic productions and performances. Their regular tutors were supported by people from other backgrounds, such as engineers, scientists, technologists, artists, musicians, and business leaders. These programmes helped many of them to build a stronger sense of purpose and to gain more self-respect. In most cases their achievements in conventional schoolwork improved enormously.

STEM is the abbreviation for *Science, Technology, Engineering and Math*, and originally aimed at integrating these disciplines within a flexible framework, making clear how knowledge in these areas is complementary and mutually supportive. STEAM in addition embeds the *Arts*, with the emphasis on the creative and innovative facet – which is (normally) a natural part of it.

In Scotland, schools are encouraged to offer outdoor learning activities, on the school grounds as well as in nature. They can get advice from external organisations and individuals, who may provide practical support and materials. Engagement of learners with ecological issues starts from the idea that an appreciation of the natural world and society depends on direct personal, aesthetic and spiritual experiences outdoors and in the real world. By making connections between curriculum content and the real world outside, skills, knowledge and understanding are developed in a meaningful context³⁰.

When learning takes place within the walls of the classroom, content can be presented in the form of fictional cases or real-world problems³¹.

Dealing with problems may be a way to steer students' learning (*Problem Based Learning, PBL*). It can even be a choice to structure the whole curriculum as a series of problems, instead of systematically presenting subject content.

An extension of PBL is *Enquiry Based Learning*, which includes small-scale investigations and project work³².

Brazilian educator Paulo Freire's critical pedagogy puts forward that the problem to be explored and transformed is the reality of learners themselves. They are invited to think critically about their social and historical context, to understand how it is connected to their individual circumstances³³. The teacher and student are co-investigators of knowledge and of the world, starting from how the student experiences reality³⁴. Here, not only the connection is made with real life; the young people's lives are the source to draw from for learning.

The said forms of learning are mostly examples of active learning, through which students become conscious of their own learning process and achieve deeper levels of understanding of what they have learned. By means of lots of open-ended questions and group discussions they are invited to think for themselves and try out new ideas³⁵. They learn through discovery and trial and error, and make their own decisions on what information to accept or reject. As part of this autonomy emphasis is placed on critical, individual thinking by stimulating inquisitiveness³⁶.

To enhance creativity, the general advice is to give open-ended tasks, within a certain framework, but without predetermined outcomes. The learning process is more important than the product here³⁷. Teachers can have a more or less guiding role in this. For active learning, the teacher clearly sets the direction. When planning activities and assessment moments, what has to be learned is the principal concern. The main intention is to increase the control of and engagement with the learning process for learners, and to stimulate their development of autonomy.

What exactly is meant by autonomy in the context of schooling is subject to discussion.

Autonomy implies the experience of a sense of psychological freedom during the performance of a certain activity. Intrinsic motivation requires the freedom to explore matters to which one feels attracted. Gradually one acquires skills and knowledge, while feeling free to be oneself³⁸.

The question is how to figure out who we are, how we can become independent and free enough to make choices that are truly ours. Habitually listening to others to make a decision yields no self-confidence. Therefore, young people should have the chance to break free from their own backgrounds without being in turn overly influenced by all sorts of expectations at school.

Victor was a little baby,
Into this world he came,
His father took him on his knee and said:
"Don't dishonour the family name."

from *Victor* - W.H. Auden

Everyone longs to be affirmed and appreciated, though. It is hard for children to remain themselves if that means feeling an outsider or being disregarded. Here lies an important challenge for schools, teachers and mentors to raise the awareness students have of the values they are brought up with. An attitude free of values is perhaps impossible, but it is good to be conscious of our own expectations and prejudices, and to be open about them. Often schools communicate abundantly on positive values and missions, but are hardly aware of their own biases or restraining convictions.

On top of that, a teacher is ideally capable of accepting all students as they are, knowing that they are all finding their way and deserve to be acknowledged for that. Setting boundaries of behaviour can be done without rejecting someone as a person. Equally essential is to give learners a sense of belonging whenever possible, irrespective of their values and belief systems. Young people, who care highly about their peers' opinions, can certainly use some guidance in that respect.

Autonomy therefore also involves "learning to think", in the sense of being conscious enough to decide what receives our attention and how we make meaning out of experiences³⁹. Freedom implies choosing our own attitude in any type of circumstances. In times when we are constantly being flooded by information from the outside world – and when it is sometimes hard to differentiate between information and publicity – enhancing this awareness is important. By taking over the conceptions of others as our own, we lose contact with the potential wisdom of our own functioning and confidence in ourselves, says Rogers⁴⁰. What people contribute to the world around them results from how they engage with the world within them⁴¹.

Freedom of choice does not mean that we have to find out everything ourselves. Autonomy is best coupled with a specific structure.

Young people have a tendency to explore options and make choices we cannot and should not make for them⁴². On the other side, society has become so complex that adolescents need ample knowledge in order to

cope. Furthermore, the knowledge and experience of teachers can be very useful in their learning processes. Which structure would be optimal to merge support and freedom of choice?

A structure that makes clear choices regarding depth and ways of learning can create more room for personal development. A form of basic education which is less time-consuming could be combined with a flexible and wide range of elective courses.

Mentors, who are familiar with the learners' personal backgrounds and know what they are interested in, could offer support for composing a personal learning path. Options could be considered together with students and parents, flexibly responding to what students contribute and to how their learning journey evolves. This creative process, through which students are actually creating themselves, has no fixed outcome. There is merely the driving force behind the life of a young person.

Ideally, during this whole process students could choose and discover objectives and means independently, learn to formulate their own problems, and make choices from a wide range of possibilities, while sufficient personal and material help is available. This would enable them to take part in their learning process in a responsible manner⁴³.

This would mean that the learner takes ownership of the knowledge and learning processes, and of the resulting skills⁴⁴.

In this way, the seeds would be sown for lifelong learning, where people take the responsibility for success as well as failure – although these words seem rather charged for the natural cycle of ups and downs. Eventually a dual role of facilitator/learner⁴⁵ would be assumed.

Within the basic educational and elective courses teachers could each time search for balance between leaving space for the personal input of students and giving directions.

Process-based didactics may be a source of inspiration for this⁴⁶. In process-based learning, which is currently applied particularly for cultural education, final outcomes are not predetermined. The learning is targeted however, as in active learning. Teacher-directed and student-directed learning can alternate. The teacher may for example formulate the task and help to divide the inquiry process into stages. Within the various stages pupils can take ownership of the learning process. They look for answers themselves, and can do this in a way that highlights

different talents. Multiple reflection moments are integrated to enhance the learners' critical awareness.

Learners could be included in decisions about what knowledge is to be investigated, about how to investigate it and how to evaluate the learning processes (a *learner inclusive* approach⁴⁷).

Through process-based learning group experiences could be characterised by richer group dynamics and communication than when a specific result has to be presented. Support for this by a group teacher, who helps to reflect on these dynamics, seems interesting. Awareness of relationships and of different modes of cooperation will in the long term give learners more freedom of choice in that field.

Apart from this, a group teacher could assist in cross-disciplinary projects, starting from the interests of the children and young people themselves.

There appears to be a strong connection between intrinsic motivation and creativity, and the relationship is reciprocal.

On the one hand, creativity enhances learning by increasing motivation, deepening understanding and promoting joy⁴⁸. Jeffrey and Craft⁴⁹ describe a creative school where learning experiences are made interesting in an imaginative way. Literacy is presented as a set of keys unlocking a whole range of delights and emotional journeys. Science is developed as a passion for enquiry, discovery and experimentation. Technology provides intensely focused activity involving problem-solving, frustration and satisfaction. And the arts offer opportunities for expression.

On the other hand, intrinsic motivation is essential to the creative process, and rewards or other forms of extrinsic motivation tend to constrain creativity⁵⁰. Academic creativity is driven by intellectual curiosity: the desire to find out, to understand, to explain or to prove⁵¹.

To be capable of creative insights, individuals need freedom: the freedom to explore, to be themselves, to entertain ideas no matter how wild, and to express that which is within themselves, without fear of censure or judgment⁵².

Creativity does not flourish in an authoritarian environment. Creativity requires freedom of thinking and acting. My first visit to Portugal was in

1971. The country was ruled by an authoritarian regime. It looked grey. After the Carnation Revolution in 1974 I went back and in every village you could see colourful murals, people were having parties and there were improvised cultural events everywhere. The collapse of the dictatorial regime brought new oxygen into the country, and loads of creativity.

Marie

Three times learning

1. The *Pullenvale Environmental Education Centre* (PEEC) in Australia offers learning experiences for elementary school children from across the state⁵³. Through the use of drama, investigations and play, learners are connected to real people, places, issues and events. This pedagogical practice is called *Storythread*.

A *Storythread* unit of learning begins with a story, which has often been created by the teachers at PEEC. The story captures a key issue in need of further exploration, frequently concerning environmental sustainability.

Class teachers are provided with materials a few weeks in advance, so that the children can engage with the issues at hand and build knowledge of the related curriculum content. After that, they can step into the story during their excursion at PEEC.

The PEEC teachers role play certain characters and scenarios, and engage the students in solving the particular dilemma or problem. Creativity, attentiveness and reflection are highly important in this form of learning.

The *Storythread* teachers facilitate the search for information, refine understandings of the content, and navigate the development of values related to the subject. They design active learning scenarios and constantly respond to the students' reactions.

Storythread pedagogy has many similarities to Scottish *Storyline*.

2. In a democratic school adults and children have equal status. Freedom for the individual is central to the philosophy, implying that pupils are allowed to take their own path in life. They can follow their own interests to develop into the person that they personally feel they are meant to be. Through life in a community, they learn to assume responsibility from an early age⁵⁴.

De Vallei is a democratic school in the Netherlands for both primary and secondary education.

The primary school emphasises a safe environment, where activities are inspired by teachers as well as pupils. Skills like reading, maths, writing, computer literacy, communication, technical understanding, and worldly wisdom are embedded in all practices. Together with their coach, pupils shape their learning wishes and choose from a variety of activities, classes, workshops, materials, excursions, working methods and topics. Parents have access to a pupil monitoring system. Learning wishes and topics are grouped in periods and children are taught at their own level.

At the secondary school students determine what, how, when and with whom they will be learning, together with a coach. The attainment goals of the junior secondary classes are offered, and students can prepare themselves for a state exam. In addition, they can learn less common subjects, and attention is given to less obvious competencies like cooperation, conferring skills, seeing nuance and management skills. The infrastructure of the school encompasses a study wing with media library, a dance and theatre room, a workshop, a music studio, a darkroom, a mini cinema, a nerd space and a quiet room⁵⁵.

3. At the NCCU (*National Chengchi University*) in Taiwan, creativity and innovation have been prioritised for decades.

This university currently comprises ten colleges, including of education, commerce, foreign languages, science, communication, innovation, and liberal arts. It provides many courses and training to promote the students' creativity.

Kuo and Wu⁵⁶ describe how the *Creative Lab* at the NCCU (transformed into the *X College* in 2011) collaborated with a wide range of departments to offer such creativity courses. The course *Introduction to Creativity* for example, was a three-day camp, for which students were asked to live and work together and learn basic creative knowledge and skills. A course named *Dream and Creativity – Advanced Creative*

Writing included workshops about musicals, life stories, script writing, Western and Eastern music, composing, dancing, singing, theatre and management.

Under the auspices of this *Creative Lab* more than two hundred students took part in a musical. Students from other universities were invited to participate in the project.

The musical was based on the students' own experiences, more specifically their journey in search of ways to create new opportunities in an uncertain future. The participants could use their creativity for the music production, dance creation, stage design and event promotion. They also produced a digital film and related creative products.

For this event, the *Creative Lab* cooperated with other departments, and formed various partnerships with external organisations. A guest director was invited, and creative practitioners and academics provided advice and artistic suggestions. For the promotion and marketing of the musical the students were assisted by external teachers.