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Chess for Educators

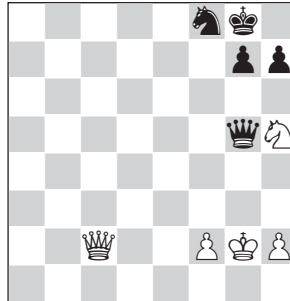
How to Organize and Promote a Meaningful
Chess Teaching Program

New In Chess 2021

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Introduction



Chess is a playground for the brain. Children enjoy playing it, and it poses fascinating challenges to their brain. But the game also widens their horizon. Chess teaches us life lessons – for example, that you can solve one problem with another, as in the above diagram. The white king is in check, and his knight is attacked. One move solves both problems: 1. ♖f3. Another example of an insight that children can pick up effortlessly during a chess lesson: at the chessboard, you always have to look first what your opponent can do, and this is just like in traffic – if you don't look what others are doing, accidents may happen.

I have given chess lessons to all kinds of groups of children for the past thirty years, and have also immersed myself in the psychology of this wonderful game. I have come to the conclusion, just like many of my colleague psychologists, that chess is a metaphor for life. You can learn to shape your personality, and develop self-knowledge, self-confidence, self-management and a 'growth mindset': 'looking, thinking and doing', judgement and planning (the latter is also the title of a book by former World Champion Max Euwe).

Chess can contribute to the cognitive, social, emotional and meta-cognitive development of children. For children with special needs and other groups, chess can also be a means for empowerment. It helps them to develop self-respect, and to get a grip on themselves and their environment.

In other words, especially for children, chess has many benefits. What are these exactly, and how can chess have a positive influence on the education of children? That is what we examine in this book. We will discuss didactics and teaching methods, the organization of school clubs,

scientific research on the benefits of chess education, and chess as a means of emancipation within the scope of school chess and special needs groups.

Variety, fascination and participation (being actively involved in a learning process) are the cornerstones. Likewise, the key to the activities is that pleasure and learning are the main things, while winning is a derivative.

There is a distinction between competitive chess and educational (instructional) chess. Both forms include similar aspects, like: learning to play chess, deliberate practice (a well-thought-out way of learning and training), didactics, empathy from teachers and the application of psychological insights (with regard to teaching methods and self-management).

With school chess, the emphasis is on education, personal development, enjoyment, and, certainly in the case of pupils with special needs, 'empowerment'.

With competitive chess, the accent is on achieving results. Here, more time is devoted to chess, the level is higher, and more themes and techniques are discussed. Also, the role of parents is often more important.

In both competitive and educational chess, there is still a world to be won in the area of the contents and the structurization of training. A lot is already being done in many different countries all over the world. I will give an (of course, inconclusive) overview in Chapter 1 below.

A lot of scientific research has been done on the question of which effects chess education can have. It may be that this question is wrongly formulated. A better question seems to be: which combination of which chess-teaching methods and which form of didactic coaching can lead to optimal learning effects for certain target groups, and in which circumstances? In other words, it's all about combinations – in the same way that the combination of hydrogen and oxygen produces water.

Much research has been done into the benefits of chess for education and for personal development. Often this involves experimental and quantitative research into, especially, cognitive aspects. Benefits are possible partly thanks to the intrinsic characteristics of the game, and partly thanks to the teaching methods and the stimulating role that can be fulfilled by teachers. But research has also been done into social, emotional and meta-cognitive effects.

Children like to learn via playing. This is a very effective way to learn. Chess fits well with this idea. During a chess lesson you are going out on an adventure, it's a marvellous and exciting voyage of discovery. On the one hand, you let yourself be surprised ('in search of the unexpected'), on

the other hand you are thinking systematically (chess thinking is based on pattern recognition, reasoning with the help of rules-of-thumb, and calculation, i.e. 'if this, then that'). The 'seventeenth chess piece' (Lasker) also plays a role. That seventeenth piece is you, with your personality, your emotions, your willpower, and your way of thinking.

Chess is a metaphor for life: you analyse, make plans, take decisions and search for creative solutions (cognitive). You learn about self-management, taking blows, and dealing with challenges (emotional). You discuss positions with others (social). You learn to reflect on your behaviour and on situations (meta-cognitive).

In chess instruction, content (for instance, tactics, openings, endgames), methods (for instance, discovery learning, frontal teaching, working in small groups), circumstances (for example, noise in the classroom, the time of day) and the role of the teacher (empathic or not, stimulating or not) are relevant factors. The question is what the influence of these factors is on the results of the research. Certain combinations of content, methods, circumstances and role of teacher can have more effect than others.

If you incorporate all kinds of different research in different combinations into one grand-scale 'meta-analysis', then the enormous amount of data may cause you to miss certain specific relations (subpopulations). Moreover, different learning effects may take place with different pupils. Chess may be especially helpful for one pupil to learn to deal better with defeat, while another will mainly learn to think more creatively – and so on. Also, certain teaching methods may be better suited for children of a certain age. Besides, there are often differences between boys and girls. In much of the research, this distinction is not made. Because there are so many variables playing a role, it is difficult to discover a very large effect on a single dimension in quantitative research.

Moreover, effects don't need to be limited to the development of practical skills that are also applicable in other domains of life (the 'transfer issue'). A positive self-image and learning attitude may also be developed, providing a child with insight in, and a grip on, its own mind and its environment (empowerment).

In fact, scientific research on the effects of chess on life skills has produced only a limited amount of evidence of such effects so far. It's not only that there is such multitude of variables, but specialists like Fernand Gobet have also criticized the methodology of much research that has been done. In Chapters 19 and 20, we will go deeper into the different methods of research that have been used, the issues that can play a role in research, and how research may be conducted in the future.

Practice teaches us that there are many examples showing that children benefit from chess instruction in many different ways. They have fun, and they derive self-confidence from it. This is an argument in favour of 'blended research': besides quantitative (statistic and experimental) research, also qualitative research (observations, interviews, taking stock of experiences, and the like).

When pupils enjoy chess lessons, and derive self-confidence from them, then that is a beneficiary effect. Children as well as parents and teachers will notice this.

In this book, we also pay special attention to specific groups of children, for example girls and special needs groups.

Girls play chess less often than boys, and perform less well on average. They often have a different learning attitude. Often, in research, no distinction is made between boys and girls. In cases where this distinction is made, often differences in learning effects become apparent. We will elaborate on this in Chapter 13.

Research and practical experience teach us that chess can play an important role for the personality development and emancipation of groups of people and children with special needs. Chapters 8-12 and 14 are devoted to this subject.

This book provides insights and practical methods. Its content is based on scientific research and practical experience. Teaching chess in primary schools can be simple: you explain a few things to children, and they play a game. But it's possible to do more.

Karel van Delft
Apeldoorn, December 2020

CHAPTER 3

Pre-school chess

What is the earliest age when children can learn to play chess? What is the best way for them to learn chess? In this chapter, we will discuss insights and experiences with children under 6 who learn to play chess.

You can use insights when you are developing a talented child towards top performance. You can use insights in order for chess instruction to benefit the personal development of children. And then you can use insights to develop both performance ability and personal development.

Research

Scientific research on very young chess-playing children is scarce. More information can be obtained in practice, by means of interviews and observations. Accounts in books and on websites can give anecdotal information. One or two people, like Laszlo Polgar, for instance, have developed their own theory.

Insights can also be extracted from research on the talent development of infants in areas other than chess. Scientific literature on developmental psychology and cognitive psychology also provides insights.

It may be useful to make a single methodological remark about research on chess education here. In many articles, the blessings of chess instruction are praised. Chess education is supposed to be good for almost anything, e.g. concentration, creativity, mathematics, etcetera. This is supposed to be the result of a transfer of learning effects to other domains. Many scientists, however, are of the opinion that transfer only takes place if the skills learned are also part of another domain.

There is little methodological research with a good scientific basis. A lot of scientific research on the presupposed transfer effects and the benefits of chess instruction is shaky, as the researchers Prof. IM Fernand Gobet and Dr. Guillermo Campitelli argue in an article called 'Educational benefits of chess instruction: A critical review'. This article is discussed in Chapter 19 of this book.

Often, researchers do not explain, or do not explain clearly, what the contents, methods and time schemes are of the chess lessons they have investigated. Often, also, no distinction is made between boys and girls.

What is it in those examined chess lessons that causes all these different effects? Is it, for instance, the French Opening, the visualization of tactical variations, or the logic of rook endings? Or does a teacher's

empathy play a role, or perhaps the size of the group, or the cooperation between children? Or the fact that they are acquiring knowledge on either a weekly or a daily basis – or, on the other hand, that they do a lot of exercises? Are possible learning effects the result of intrinsic characteristics of the chess game, and/or are they a result of the way in which chess lessons are given?

What is talent?

There are various definitions of talent. It can, for instance, be used as a synonym for ‘giftedness’, which signifies that somebody is capable of performing well in a certain area.

In this chapter, talent is viewed in its denotation of ‘aptitude’, in other words: the potential to quickly and aptly develop cognitive, social, emotional and physical functions to perform a certain task.

The required potential differs with every task. For singing, running or playing chess, partly different functions are required – or to a different extent.

Chess makes demands on a person’s cognitive development. Memory is important, since the basis of chess thinking is pattern recognition. You have to perceive, judge, analyse, reason, visualize, think ahead, solve problems, take decisions, and make plans. It’s also important to be able to think from the perspective of the opponent.

Other important skills are concentration, patience, perseverance and self-control (do not capture a piece right away, maybe your own king will be mated).

In the denotation of ‘aptitude’, talent is a matter of ‘nature’, i.e. genetically determined qualities which are already present at birth. Besides nature there is also nurture, which is a generic term for all the environmental influences on one’s development.

Nature and nurture both play a role in the development of people. For instance, they can both be found in Prof. Elshout (University of Amsterdam)’s definition of performance ability as the resultant of talent, good training circumstances and motivation.

‘Aptitude’ is beginner’s luck, but is in itself not sufficient to develop good performance ability. Research shows that the quality of education and upbringing can make a 30-point difference in IQ-tests.

How to start young

You can start teaching chess as soon as a child shows interest. Interest can arise if children get acquainted with chess in a way that appeals to them.

Children may see a chessboard, or may see other people play chess, or may see a book with nice pictures, or a video. Role models can be an important factor. Infants like to imitate older children and adults.

Children are by nature curious and inquisitive. They want to discover the world.

Children are motivated to learn if they see the use of it for themselves, and if they can give shape to it themselves.

It doesn't make any sense to force a child's development – on the contrary, this has a contra-productive effect.

If, cognitively, children are not far enough developed to play chess, then it makes no sense to teach it to them. They won't understand it, won't enjoy it, won't make any progress, and won't have any success experiences. This is demotivating for them.

A baby is not yet able to walk or talk. To be able to learn certain things, the brain of a child has to have reached a certain level of development. The tempo of development differs per child.

Many children have to be approximately six years old before they reach the level of cognitive development that is required to learn to play chess.

A survey from the Dutch chess federation KNSB shows that it has several dozens of children under 6 among its members.

Examples

There are many examples of children who already play chess at three or four years of age. That does not necessarily mean that they will become top players later in life.

GM Loek van Wely took his chessboard with him to kindergarten. GM Susan Polgar was the under-12 chess champion in Budapest at four.

GM Roeland Pruijssers learned to play chess from his father when he was 3½ years old. The chessboard was put on the table seven days a week; 15 minutes in the morning, and 15 minutes in late afternoon. Henk Pruijssers taught Roeland according to the Steps Method. Starting at four, Roeland took part in tournaments; at five he won his first youth tournament.

Jutta Hempel (1960) from the German village of Flensburg was able to watch a chess game and reproduce it from memory when she was three. At four, she played games. At five, she was the best youth player of her home town. At six, she made a score of 9½-2½ in a simul against adults that lasted four hours. At seven, she could play six blindfold games simultaneously. At nine, she made two draws against an international master.

On the ChessBase website (<http://en.chessbase.com>) there is a story about the four-year-old Sparsh Bisht from India. When he was three years and ten months old, he saw his father playing chess on his laptop. He was

interested, and learned the rules of the game within a week. Four months later, he was taking part in tournaments. In a local event for under-7 players he came second.

Grandmaster Samuel Reshevsky (1911-1992) belonged to the world top. He was born in Poland as the youngest of six children. At five, he learned to play chess by watching games played by his father. His parents let him play against club players, and it turned out that he was talented. From his sixth year onwards, he gave simultaneous exhibitions throughout Poland, and later in Europe. Eventually, the family emigrated to the USA.

The American Kayden Troff became World Champion under 14 in Slovenia in 2012. In a radio interview in the USA he told that he had started playing chess by looking at games by his father and his older brothers. When he was three, he indicated to them that he wanted to play too. Later, their father gave lessons to the sons. Troff himself doesn't consider beginning at a young age to be a deciding factor. It's primarily important how much time you spend on chess. He trained two hours every day from when he was six, four hours a day from his ninth, and six to seven hours a day from his eleventh year. His training sessions consisted of several items, and over the years this shifted. For a large part, he studied openings and middlegames, and he played a lot of games, also blitz. For longer games he often turned to the Internet, because there are not many strong players living in Utah. He analyses many opening lines with the computer, and gets homework from trainers, like making game analyses and reading chess books.

Many grandmasters started playing chess when they were five or six. To become very strong, you don't necessarily have to start very early.

The 13th World Champion Garry Kasparov joined a chess club at seven in a Pioneers' Palace in the city of his birth, Baku in Azerbaijan.

World top player Levon Aronian learned to play chess from his sister when he was nine.

The American Paul Morphy (1837-1884) was ten years old when he learned to play chess. He grew out to become the strongest player of his time. In those times, ten years was a perfectly good age to start. Possibly, learning effects are less at a younger age, as in that period the brain has, cognitively, not far enough developed to analyse and reason about abstract things. It is imaginable that Morphy could even have become much stronger.

World Champion Magnus Carlsen learned to play chess when he was five, but at that point he wasn't interested in the game all the time. When he was eight, he became more motivated and started playing chess seriously. At thirteen, he became a grandmaster. Carlsen has a good

memory by nature, and has been able to concentrate well for long stretches of time from the first year of his life.

Two years

Two-year-old children can already show interest in the chessboard. This interest can be stimulated. You can give an own chessboard and (coloured) pieces to infants. You can use the pieces to build small towers with the child, or place pieces neatly in the middle of a square. While doing this, you can mention the names of the pieces repeatedly. You can also put the pieces in the starting position and take turns putting the pieces somewhere – at random: a rook moves from h8 to c5 just like that. As soon as all the pieces are standing in the middle of the board, the game is ‘over’. If you use a chess clock, it’s almost like the real thing. You can have the chess programme Fritz play a game against itself by pressing the space button of your computer in turns. It is possible that an infant will already show interest in the movie ‘Lang leve de koningin’ (= Long Live the Queen) and in YouTube videos of chess-playing children or a chess-playing uncle. Looking at photos in a chess book or on a website is fun, too – certainly if the child recognizes people they know. A little later, a child might think it’s fun to put all the chess pieces on the board in the same array as they are standing in a diagram in a book. Colouring pictures with chess pieces is also a good idea, or playing with a garden chess set.

On her blog, GM Susan Polgar tells about her participation in the ‘First Congress on Pedagogics and Social Applications of Chess’ in the Spanish city of Buitrago. It included two lectures on chess in kindergarten, where infants from the age of two to five learn to play chess. She also told about a simultaneous display she had given in Venezuela, where the three-year-old girl Esmeralda Blanco turned out to know the rules of the game. One of the lectures was given by Adriana Salazar from Bogota, Columbia (a six-time Chess Olympiad participant), who demonstrated her teaching method in a workshop. She explained how she attracted the children’s attention during the chess lessons. Salazar starts by showing the chessboard in a fun way (a world of chocolate and vanilla), making use of songs. Her enthusiasm is an important factor. See the Spanish-language website www.ajedreznelaula.com.

In Lagomar, Uruguay, chess lessons have been given at a kindergarten to two-to-five-year olds for the past 25 years already. Chess teacher Esteban Jaurequizar said that the 200 infants get weekly chess lessons in the Centro Educativo Vaz Ferreira. With very young children, it is important to arouse their interest and then to keep hold of it. According to the chess teacher, a warm relationship with the pupils and continuous

interaction are a few of the things that contribute to this. Lessons should be fun, exciting, and full of energy. Young children like fantasy worlds, and chess lessons should tie in with this. Therefore, it is important to tell stories, and to use words the children know. Jaurequizar said that giving instruction to infants requires continuous attention and a lot of energy.

Both teachers said that it is very important to present new information very slowly and systematically, piece by piece, and in a fun way (stories, songs, showing things physically).

Potential

Curiously, there are a number of children who perform extremely well at a very young age in the areas of mathematics, music and chess. Combinations of the three also occur – with boys as well as girls.

The eight-year-old Canadian girl Harmony Zhu became chess World Champion in her girls' age category in the United Arab Emirates in 2014. She is not only good at chess, but also at playing the piano. As a seven-year-old she already performed twice in Carnegie Hall in New York.

Performance ability is probably connected with a knowledge basis of a great number of patterns that are commanded by these children. There are no 'prodigies' in areas that demand a great deal of life experience. It is also clear that there are always adults who are guiding such children intensively.

In his book *We Are Our Brains*, the Dutch neurobiologist Prof. Dick Swaab explains how the development of the brain already takes shape in the womb, and how, especially in the first years of our lives, social circumstances are strong determinants for the further development of the brain. The implications this may have for education is discussed by psychologist professor Jelle Jolles in his book *Ellis en het verbreinen*.

It is clear that in cultures and social environments where a strong appeal is made to learning abilities at a very young age, there will be many more people who perform at a very high level.

Children like to play. Playing has an essential role in the development and the learning of children. By playing, children discover the world around them, and they develop knowledge, insights and skills in social, emotional, cognitive (also, creative) and physical areas.

Playing stimulates the development of the brain. It is best to offer chess instruction as playfully as possible, especially to infants. Playing is not only fun, it is also necessary – for children as well as adults.

Children have a great developing potential. Maria Montessori claimed that by nature children also have a great urge for self-development. She

summarized her view in her phrase ‘Help me to do it myself’. Teachers have to recognize what the needs and the strengths of children are. They have to anticipate this by creating the right learning environment.

Biographies of successful youth players show that they were given a lot of room to experiment and to develop their own insights.

For instance, teachers can present chess positions with a degree of complexity that a child will just be able to handle (zone of proximal development – Lev Vygotski). Explanation has to be brief and to-the-point. Too much information will distract a child’s attention from the essence, and will restrain its imagination. By asking questions, a teacher can guide the child in its search for the solution to a problem. The child has to draw its own conclusions. By doing this, it develops insights and creative skills.

For children to be able to experiment and to learn to act independently, it is important that they be given ‘maximum autonomy’. This means that they get freedom to act to the extent that they can handle it.

There are ‘sensitive periods’ in the development of a child. During these periods, a child is optimally able to learn something, like for instance a language. According to GM and psychologist Nikolai Krogius (*Psychologie im Schach*), chess players perform worse tactically if they learn to play chess only after their tenth year.

Developmental psychologist Jean Piaget distinguished four developmental phases in cognitive development, starting from the premise of a burgeoning potential within children. He took little account of stimulating environmental factors.

If children think differently in every phase, then they will also learn differently in different phases. The question is then what the optimal circumstances and teaching methods are in each developmental phase.

In any case, it is clear that the development of thinking moves from concrete to abstract. That is also the most effective order in which chess is taught to children.

Intelligence does play a role with chess, but this role is limited. This has become clear from research by, among others, Merim Bilalic.

More intelligent children learn faster, and highly gifted children often have other learning styles. But performance is mainly determined by training and motivation. If you are not motivated, then you will not train enthusiastically. If you don’t get good training, you cannot learn much.

People identify and arrange realities with language. An interesting question is: what role does language play with chess and with learning chess? With language you can transfer knowledge, and make yourself familiar with it. With language, you can ask questions.

CHAPTER 21

Alphabet of methods and teaching tips for chess education

What you do in a chess lesson or training depends on a number of circumstances – for example, the size of the lesson group, the subjects under discussion, the chess level of the pupils, their thinking level, as well as available tools and possibilities.

Below we give a number of methods and teaching tips a teacher can use. Not everything is applicable for everyone, let alone in equal measure. The idea is that trainers adopt insights and implement them as part of their activities. By developing routines, you will be able to apply a great number of insights automatically. A number of these subjects are also quite suitable for a checklist.

A good training is like a tasty and nourishing dish. There is a good balance between the various ingredients.

Abstracting

Abstracting is deriving the general from the particular. This is a useful thinking skill. If pupils formulate the essence of a position in a rule of thumb, they are abstracting. This requires thinking actively about an experience and a theme. This leads to more insight, and better storage of a subject in the memory. By coupling a picture (pattern) to a concept, you will make the concept applicable in similar situations in the future.

Acronym

An acronym is a letter-word. It is constructed from the first letters of a number of words. It can serve as a mnemonic device. For example: if one of your pieces is under attack, you can use CIEPC, which stands for Capture, Interpose, Evade, Protect, Counterattack.

Activating previously obtained knowledge

Knowledge is understood best when it is presented in a meaningful context. It is an important teaching principle to connect new knowledge with relevant previously obtained knowledge. With this aim, a teacher can start a lesson by repeating knowledge and asking pupils questions about it.

Active learning

Pupils will learn more and better if they are actively occupied with a subject. Explanation about a subject provides basic information and gives

direction to pupils' thinking. Being actively involved with it (discussion, playing games, making exercises, etc.) will give pupils more insight than merely listening passively. Active learning motivates pupils.

Activity

If you want to win in chess, you have to make your pieces active. Activity is the difference between possibilities and limitations. Take a position, and describe the possibilities and limitations for both sides.

Adventure

Chess is a playground for the brain – it is a great adventure. You can present a game as an exciting tale to children. Who of the children plays soccer at a club? Well, has your soccer coach ever told you about cooperation? Chess is also a team sport – all the pieces should cooperate. The white queen immediately joins the attack, but is that wise? What do you think? And what about the white king, by the way? Has he never heard of castling, and defending? Or is castling only for scaredy-cats? Give examples, make comparisons, ask questions, tell anecdotes. Make the game alive.

Alphabet game

Pupils get five minutes to write down an alphabet with as many chess terms as possible. They can do this either individually or in a group. Next, the teacher discusses the lists with the complete class. The pupil who has filled in the most letters, wins. Concepts that are unknown, are explained briefly.

Alternation

Alternation often improves efficient and effective learning. You use your energy better, and the training is more fun. You can, for example, alternate doing subjects with learning ones, or easy tactical exercises with difficult ones, fun subjects with boring ones, or individual learning with cooperation.

Analysing games (see also Game quiz)

You learn a lot by analysing games – especially your own games, because then you learn from your own mistakes.

If pupils notate their own games, the teacher can later discuss these games with them. Obviously, the teacher has to keep in mind the level of the children, and should only discuss themes that are in accordance with their level.

For young children, it is difficult to notate an entire game. You can, for instance, agree that they write down the first ten moves. A disadvantage of this arrangement is that you can only discuss openings.

The DGT board is a beautiful solution. These boards (which are also used in top tournaments) record moves and save them in a Fritz computer program. From there, you can play through the game. A teacher can also make prints of the games for his pupils.

Also, a teacher can notate an entire game himself every now and then, while the children are playing. In one of the following lessons, the teacher can then present the game on a demonstration board or a digital blackboard, and discuss the most important moves. The teacher can demonstrate these, but the pupils can also do this themselves. The teacher can stand in the back of the classroom, and add remarks or corrections to the pupils' explanations. It is especially useful if the teacher helps the children to find the right moves by asking questions ('discovery learning').

The teacher can encourage children to play a game at home and notate it. Children often enjoy playing against their father, mother, brother or sister, and bringing the game along to school. The teacher can also show a chess book and discuss a game in it.

It is useful if children have their own chessboard in class, on which they can play the moves of the game that is being analysed. This gives direction to their energy, and enables them to try out their own ideas.

If children enter games in Fritz themselves, and demonstrate them on a digital blackboard, they will learn to work with the Fritz program without effort. The teacher explains the way the program works.

When children play games in a schools' championship, the teacher can record fragments on video, or make pictures. Later he can show the footage in class (possibly also on his own website) and discuss it. The teacher can make a round and ask all the participants what their most remarkable experience or learning moment was.

The teacher can play against a chess program, like Lichess, together with the class. At each move, the teacher asks the pupils to give suggestions, and their reasons for them. He also gives suggestions himself. The class chooses a move together. As this can be quite time-consuming, the teacher can also play a few moves every now and then and explain what is happening on the board.

The Fritz chess program offers the possibility of activating the 'crazy' or 'drunken' mode. Playing such a game against the program may easily turn into a kind of penalty shootout. Children love it!

Variety makes lessons more fun. The teacher can make a video of a game between two children with a camera. He can upload the memory card of the camera on his laptop, and present the video on a digital blackboard.

He can stop the video at any move. The pupils play through the game on their own boards. This way, each move can be discussed.

Analysis questionnaire

The 'Analysis Questionnaire' has been created by Karel van Delft and IM Dharma Tjiam. This questionnaire consists of chess-technical as well as psychological questions, plus a survey of tactical motifs and the Elements of Steinitz. Chess players can fill in the list and discuss it with a trainer or with training partners. Trainers can also use the list for an oral interview with pupils. An option is to use only a part of the list, or to shorten the list for beginning chess players.

Anti-blunder weapon: take your opponent seriously

You won't get an easy win if you give your pieces and pawns to your opponent for free. How can you avoid blunders? By taking your opponent seriously. How much percent of the moves in a game does your opponent make? Fifty percent! That's half of all the moves. Therefore, it is wise to first look what your opponent can do (moves, plan) before you make a move yourself.

You can also think of the 'street-crossing rule': before you cross a street, you look if there is any traffic approaching. Or else...?

Apps

There are many chess apps, i.e. programs to play chess on mobile devices. Some are free of charge. The teacher, or a pupil, can explain how apps work. This gives extra opportunities to pupils to play chess.

Apronus en Lichess mini-games

Mini-games are chess games with only a couple of pieces. On the Apronus website you can make mini-games both with and without the kings, see www.apronus.com/chess/diagram/editor. Click on the 'empty' button and then slide your pieces and/or pawns on the board, then click on 'export'. On the next page, click on the second link. Then you can play a game.

You can also make mini-games on Lichess.org. Here you do have to put kings on the board. On the Menu page of www.lichess.org you go Tools and then Board Editor. You empty the board and slide pieces and/or pawns on the board. Using 'analysis' you can make moves for both colours. With 'Go on from here' you can play against a computer program or against a friend.

Arrangement of the classroom

It is important to arrange the classroom in the right way. Pupils have to have a good view of a demonstration board or a digital board. If a

classroom is messy, then this will have a distracting effect. It is also not in line with the norm that you have to behave seriously during lessons.

Assessment of positions

If children know a little more about tactics, and regularly play chess games, it is time to start discussing chess games. You don't always have to discuss an entire game. Quality goes before quantity. You can also assess a few positions from a game.

You can go through Steinitz's List of Elements with the children.

Projecting the position on a digital blackboard with the help of a chess program is often more practical than using a demonstration board. You can enter variations and it's easy to return to the game.

For the assessment of a position, three questions are very important: 1) What does my opponent want, and what can he do? 2) Where do I put my pieces? 3) Which pieces do I want to exchange? Answering these questions leads to a search strategy (see elsewhere in this chapter).

Our Masterplan is, of course, to mate the enemy king. Most of the time you can't do this immediately. Therefore, we have to get a good position first. We can achieve this by putting our pieces on active squares, and by letting them cooperate. First we start collecting small advantages, like winning a pawn or conquering an open file (a highway for the pieces). We collect small advantages with the help of small plans. You can make such a plan by talking to yourself in silence (verbalizing) about what is possible and what isn't. While doing this, we constantly pay attention to how active our pieces are, whether we have any influence in the centre, and the state of our pawn structure. Only after we have obtained a number of advantages, we are strong enough to set up an attack.

You can compare the pawn structure to the skeleton of your body. If it collapses, your whole body collapses. To make this clear, children can play games with each other. After a few minutes, the teacher stops the games. The children take the pieces from the board. How are the pawn structures looking? The teacher makes a round of the boards with the pupils, and first asks them to name the strong and weak aspects of the respective pawn structures. Then the teacher explains what the strong and the weak aspects are.

Attack on the king

The goal in chess is to mate the enemy king. To achieve that, you have to attack the king.

For this purpose, it is useful to develop all your pieces in the opening ('all your friends want to join the party'). The teacher can show various

miniature games in which one of the kings is quickly mated. A suitable opening is the King's Gambit. Here, children learn that the activity of their pieces is much more important than winning or losing just a little pawn. What do you prefer? A pawn that doesn't do much, or highways for your pieces? In chess literature, there are plenty of examples of attacks on the king. The teacher may also use his own games, or games by pupils. It is useful for a teacher to collect training material and sample games that relate to the subjects he brings up.

Automation

Automation is making yourself familiar with knowledge and skills in such a way that you can apply them automatically. That is practical, since it allows you to utilize a great deal of your knowledge in your games. For example, you automatize knowledge about tactical motifs (like a pin, or a discovery attack) by solving a number of chess exercises on this theme. The more you train, the better you will be able to recognize themes, also during games. The question is how much time the teacher spends on this in chess lessons. If he gives chess instruction for only 30 minutes a week, it may easily become boring if he only trains tactical exercises. He can also spend ten minutes on one tactical theme in each lesson and, besides this, discuss games and apply variety in subjects and methods. During these games and varied subjects, the teacher can also identify the tactical motifs that crop up. Variety makes chess fun. Pupils who enjoy chess, and get fascinated by the game, will play it more often, and then they will inevitably automatize themes. Ambitious pupils have to invest working hours, that is how it is with all sports. They can, for instance, make tactical exercises for 20 minutes every day to automatize their knowledge and skills.

Baby studies

Baby studies are endgame studies with a maximum of five pieces. Some of these, like several ones by Réti, are suited for discussion with school children. The nice thing about studies is that they are often paradoxical. Just like other endgame studies, baby studies are useful for the stimulation of creative thinking.

Balance

To learn to play chess and to become a stronger chess player, you have to have a balance between various components (building-blocks). There has to be a balance between knowledge and ability, in other words: theoretical know-how and practice. Components of a teaching programme

also need to be balanced. A beginner will benefit greatly from knowing (and being able to apply) the ‘three golden rules of the opening’, but detailed knowledge of openings is not so relevant. It is useful to devote attention to diverse study components, like tactics, discussing own games, discussing sample games, opening traps and simple endings. With all these components, it is important that pupils are actively occupied, converting their knowledge into ability. World Champion Mikhail Botvinnik had a chess school in Moscow. One of his well-known comments was: ‘You can’t teach chess, you can only learn chess.’

Besides regular study components, there are also many ‘varia’, ranging from giving talks to playing against a computer together. You can spend roughly half of the time on actually playing chess games.

A teacher also has to look for a balance in the design of his lessons. Spending an entire lesson on one subject may easily get boring for many children. Too many subjects may lead to unrest in class. It is not necessary that all the subjects return every week. A teacher will be wise to identify cross-bracings between study components. When discussing the pupils’ own games, for example, the teacher can point at tactical motifs.

Basic pattern of lessons

Lessons can have a fixed basic pattern. For example: 1) Question round; 2) Tactics; 3) Game discussion; 4) Varia; 5) Competition. Variations can be introduced in every component. Also, one of the lessons may be entirely dedicated to the ‘Varia’ part, like, for instance, making chess posters.

Beginners

For young children and beginners, useful learning materials and methods are, among others, Part I of the Steps Method, or the Chess Tutor DVD’s (both of them are available in various languages), CD-ROM Fritz & Chesster, mini-games with a few pieces, the Chess Course books by GM Lev Alburt, a quiz with yes/no questions for beginners (sit down if you don’t know the answer), and talk chess (play a game against each other and mention the reason for your choice at every move).

App: Chessmatec.com.

Websites: Raindrop Chess, Troyis, Jeugdschaakpagina (Dutch), Chess Kids Academy, Chess for Heroes, Lichess.org, Chess.com, Bill Wall (opening traps) and Professorchess.com.

Films: ‘Knights of the South Bronx’, ‘Searching for Bobby Fischer’, ‘Lang leve de koningin’ (Dutch) and ‘Chess Fever’. If you use the search term ‘chess’, you will find many videos on YouTube.