CHESS

A TOOL FOR EDUCATION & HEALTH

FIDE
GENS UNA SUMUS

This booklet can be downloaded in electronic format from cis.fide.com - in English, French or Spanish.

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FIDE - CHESS FOR EDUCATION, & HEALTH

01

CONTENTS

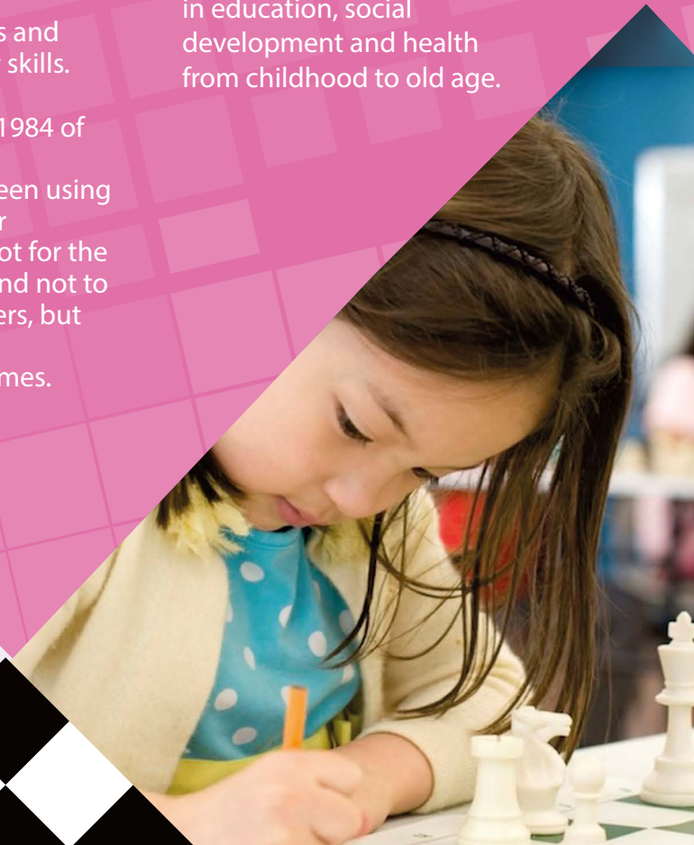
FIDE was founded in 1924. It is officially recognized as the world governing body for chess by the IOC.

FIDE has always concentrated on competitive chess, organizing world championships and doing a lot of work educating chess players, coaches, trainers and arbiters to improve their skills.

Since the foundation in 1984 of the Chess in Schools Commission, FIDE has been using chess more and more for educational purposes, not for the sake of teaching chess and not to create better chess players, but to improve children's educational outcomes.

This work has been extended by the more recent Commissions for Social Action (2012) and Social Projects (2012).

The objective is to use chess in ways that provide benefit in education, social development and health from childhood to old age.



02 MORALS OF CHESS

The value of chess as a tool for education & social benefits was first recognized by Benjamin Franklin in 1786.

In his article, The Morals of Chess, he wrote "life is a kind of chess" and that by playing chess, we may learn foresight, circumspection and caution and also "the habit of not being discouraged by present bad appearances in the state of our affairs ... persevering in the search of resources".

The educational benefits of chess came to be widely recognized during the 20th century.

It is only really in this 21st century that the social and health benefits of chess have begun to be appreciated.

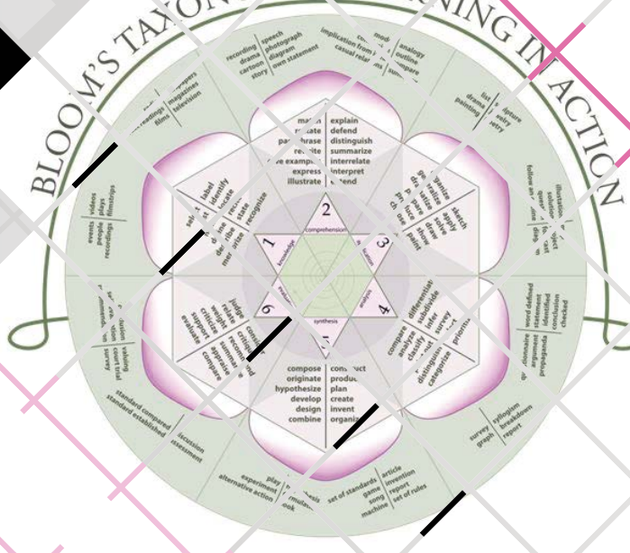
CHESS IN BLOOM 03

Benjamin Bloom (1956) developed a classification of levels of intellectual behaviour in learning. His taxonomy covers three domains: the cognitive, psychomotor, and affective.

The psychomotor and affective domains are at the heart of our Early Years Skills programme.

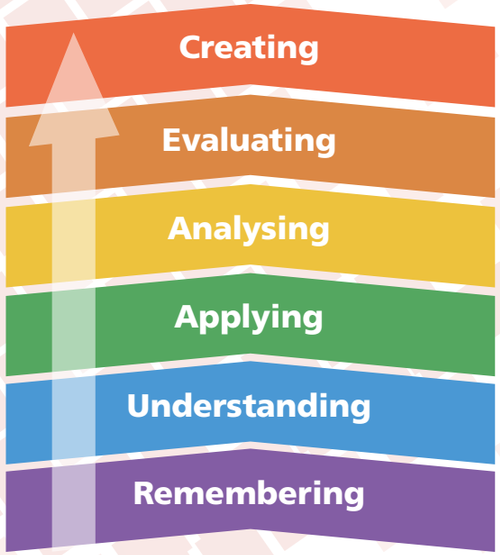
The cognitive domain list has been the primary focus of most traditional education and is frequently used to structure curriculum learning objectives, assessments and activities.

Within the cognitive domain, he identified six levels: knowledge, comprehension, application, analysis, synthesis, and evaluation.



04 THINKING SKILLS

Higher Order Thinking Skills



Lower Order Thinking Skills

All academic subjects, as well as chess, provide a simple and direct way to develop the three lower order thinking skills - Remembering, Understanding and Applying.

However, things are very different when it comes to the three higher order skills - Analysing, Evaluating and Creating. Academic subjects rarely provide a way to teach these.

An issue for students from poverty is the underdevelopment of thinking skills due to an environment that lacks enrichment. The gap in development is a result of the impoverished social context. Chess as a way of "learning through play" provides the social context in which to develop or remediate thinking skills ..."

[Joseph Eberhard, Ed.D]

Those three skills – analysis, evaluation and creation – are all involved at every step of a chess game! It is a perfect description of chess playing.

EDUCATIONAL CUTLERY 05

"Schools and educators need a simple and direct way to teach process standards" ('thinking skills')

[Nash 2011]

It is important that the content should not keep expanding every day.

The main challenge for children should be to explore and develop the way that we think. If it could be fun as well, that would be ideal.

Chess provides the perfect educational cutlery for teaching those higher order thinking skills, using a combination of both critical thinking and creative thinking.

Dr Alexey Root (Senior Lecturer, School of Interdisciplinary Studies, University of Texas, Dallas) has demonstrated in a series of books (see Bibliography) how chess can be used to link with and support all the core curriculum subjects.

06 CRITICAL & CREATIVE THINKING

Critical thinking involves logical thinking and reasoning, including skills such as comparison, classification, sequencing, cause/effect, patterning, analogies, deductive and inductive reasoning, forecasting, planning, hypothesizing, and critiquing.

Creative thinking involves creating something new or original. It involves the skills of flexibility, originality, fluency, elaboration, brainstorming, modification, imagery, associative thinking, attribute listing, metaphorical thinking, forced relationships. The aim of creative thinking is to stimulate curiosity and promote divergence.

CHESS IN THE EDUCATIONAL PROCESS

Contributes to development - affective, cognitive and, using the Early Years Skills programme, psychomotor.

DEVELOPS SKILLS AND ABILITIES:

- Concentration, Attention, Spatial skills, Logical thinking, Imagination, Creativity.
- Encourages acceptance of contrary ideas.
- Aids inhibitory control (control of reflex actions).
- Prioritizes reflection (think before you act).

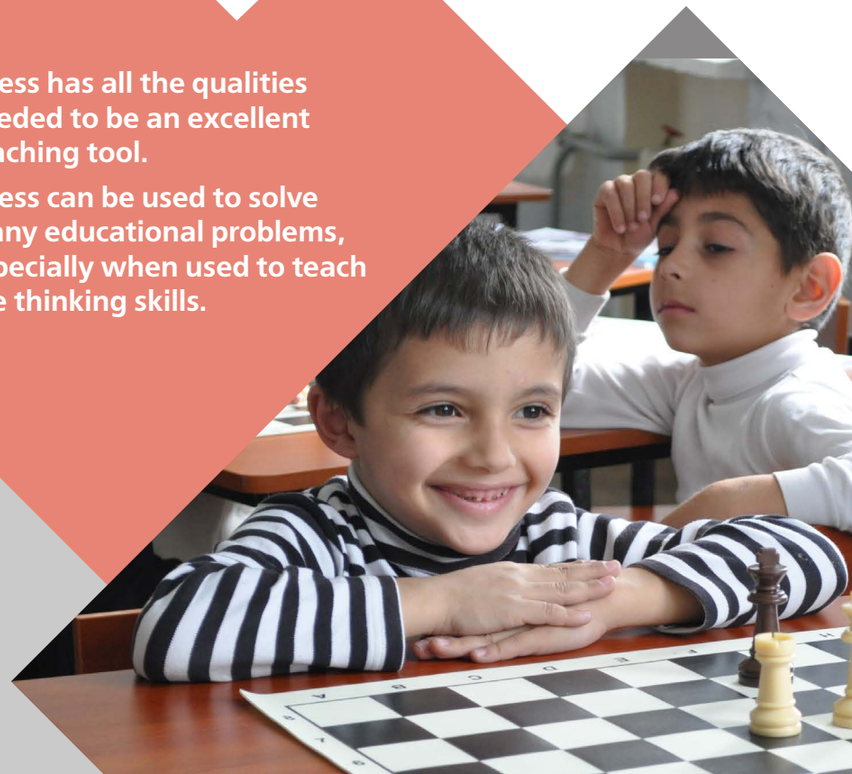
07 CHESS AS A TEACHING TOOL

SCHOOLS NEED:

- a simple and direct way to teach thinking skills
- gamification and motivation a plus
- where the content doesn't keep expanding every day
- where the rules are simple
- where the main challenge for children is to explore and develop the way that we think.

Chess has all the qualities needed to be an excellent teaching tool.

Chess can be used to solve many educational problems, especially when used to teach the thinking skills.



EDUCATIONAL BENEFITS OF CHESS

Chess teaches children to think analytically, logically and on more than one level.

The educational benefits of chess are many and varied.

They are well documented by a large body of research papers from around the world. There is so much evidence, that it is easy to miss the wood for the trees, therefore we keep this intentionally brief.

If detailed evidence is required, please refer to the sources and links in the Research and Bibliography sections.

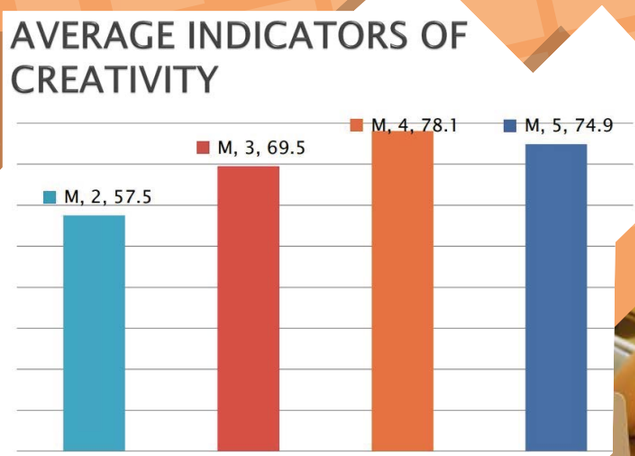
Chess helps promote intellectual growth and has been shown to improve academic performance.

Chess is a powerful tool for developing thinking and memory in children

It also helps them build up their decision-making tools. It educates them to be responsible for their decisions and the consequences of those decisions.

The most frequently cited general benefits include the development of:

- **Cognitive abilities**, such as attention, memory, and logical thinking; essential skills for the development of the individual.
- **Increased creativity**, through problem solving.
- **Critical thinking**, improving the ability to assess strengths and weaknesses, establish value judgments and make decisions.
- **Ethical sense.** Improvements in attitude and general behaviour are often noted.
- **Improvements in literacy**.
- **Better results in mathematics**.



Research in Armenia (2014) showed the difference in creativity between children in four grades - the three younger ones had been in the chess program, the older ones had not.

PSYCHOMOTOR SKILLS

Psychomotor learning is the relationship between cognitive functions and physical movement. Psychomotor learning is demonstrated by physical skills such as movement, coordination, manipulation, dexterity, grace, strength and speed.

Children learn through the fun of play to respect and control their bodies, as well as being given the chance to express themselves and establish interpersonal relationships through movement, increasing consciousness and perception of their own physical self.

The FIDE Early Years Skills program teaches basic STEM (Science, Technology, Engineering, Mathematics) skills to young children (4-6) using psychomotricity techniques (games, song, dance) on a giant chessboard.

The quality and awareness of movement that such exercises provide has a direct and positive effect on the entire range of a child's psychological resources: the ability to communicate, to perceive and resolve problems, to recognize him or herself as an individual – in short, they supply indispensable tools for successful interaction with others.

EARLY YEARS SKILLS

STEM SKILLS

"... the ability to generate, understand and analyse empirical data including critical analysis; ... the ability to apply a systematic and critical assessment of complex problems with an emphasis on solving them and applying the theoretical knowledge of the subject to practical problems; ... ingenuity, logical reasoning and practical intelligence."

[UK Parliament quoted in EU Skills Panorama 2014]

Argumentation

"using analytical and critical-thinking skills to look for patterns in data, trying to determine what those patterns mean, and then using that data to support a claim."

[Eric Brunsell, associate professor of science education, University of Wisconsin]

Data-driven decision-making

"Students need to be able to make a decision not just based on what they think or feel, but on scientific data that supports the best solution. Everyone needs to know how to do this. It doesn't matter whether you go on to a career in STEM or not—you need to know how to use data to make informed decisions in your life."

[Stacy Klein-Gardner, director of Center for STEM Education for Girls, Nashville, USA]

Problem-solving

"Employers talk about problem-solving. Society requires problem-solving. Doing your taxes requires problem-solving. Those are the types of skills that really matter."

[James Brown, executive director, STEM Education Coalition]

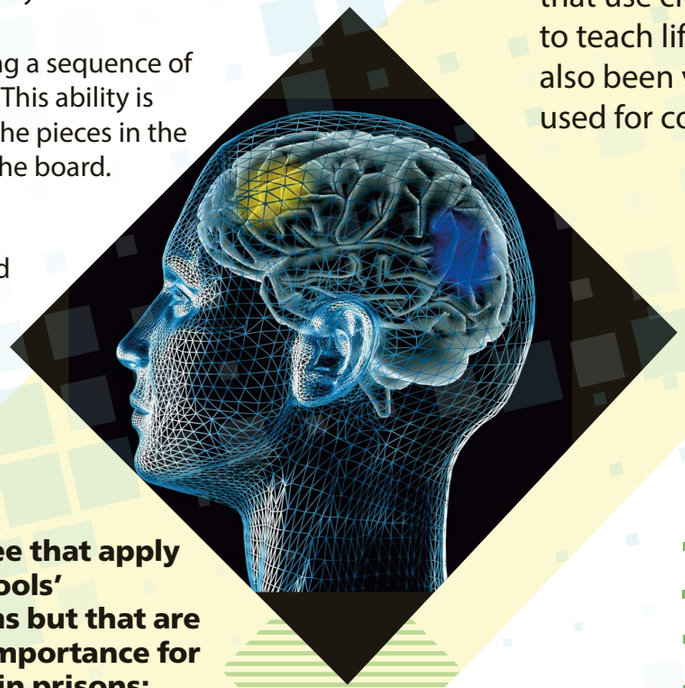
12 COGNITIVE ABILITIES

Chess is noted as beneficial for cognitive skills:

Focusing Attention - Children soon learn that if they don't watch what is happening on the chessboard, they can't respond to it, no matter how clever they are.

Visualization - Imagining a sequence of actions before it happens. This ability is strengthened by moving the pieces in the mind before doing so on the board.

Abstract Reasoning - The ability to analyse information, detect patterns and relationships, and solve problems is developed. One learns to take patterns used in one context and apply them to different, but related situations.



Planning - Developing longer range goals and taking steps to bring them about. The need to re-evaluate plans as developments change the situation.

Three that apply in schools' programs but that are of prime importance for the projects in prisons:

- **Thinking Ahead** - Learning to think first, then act.
- **Weighing Options** - Learning that you don't have to do the first thing that pops into the mind.
- **Analysing Concretely** - Does this sequence help me or hurt me?

LIFE SKILLS & COUNSELLING 13

There are many programs that use chess as a medium to teach life skills. It has also been very successfully used for counselling.

Moreno (2002) provides a detailed model (see Bibliography) with specific examples for:

- Conflict Resolution/Fights
- Finding Your Own Skills
- Stealing
- Making Wise Decisions
- Goal Setting
- Short and Long Term Goals
- Healthy Development
- Taking Risks

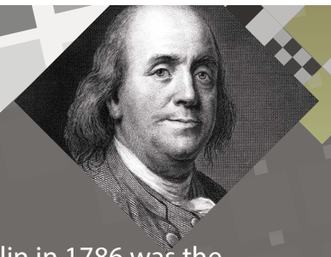
TEACHERS

"Chess is an excellent vehicle for growth in interpersonal relations."
"It is helpful for students as they reflect on how their decisions and actions impact on them and others."

STUDENTS

"Chess has helped me to respect other students."
"Chess helped me to see the consequences of my behavior."

ETHICAL SENSE



Franklin in 1786 was the first to allude to this. Schools chess programs in many countries have reported improvements in attitude and general behaviour ("ethical sense").

"Chess teaches fairness. You alert the opponent before you strike, and keep them informed of your moves and intentions."

[Jacob Zuma]

"Morality is respect of the rules. ... Education to fairness is an important goal of chess lessons."

[Marion Boensch-Kauke, psychologist]

The game and concept of chess is based on the assumption that everyone involved / concerned observe existing rules and regulations and attaches the greatest importance to fair play and good sportsmanship.

[FIDE Handbook]

ADHD & AUTISM

www.ajedrezytdah.com

Luis Blasco began a project in Collado Villalba, Madrid in 2012. A methodology was designed to use chess as a tool for helping students with ADHD. It attracted a great deal of media coverage in Spain.

In 2013 a new project began - Chess4ADHD.com. It won a special prize at the 2015 London Conference on Chess and Society.

Also in Madrid, Hilario Blasco-Fontecilla tested the results when 44 children with a primary diagnosis of ADHD underwent an 11-week chess-training program. "Our results suggest a large effect in decreasing the severity of ADHD." [Blasco-Fontecilla et al. (2016)] An earlier poster presentation concluded that "chess playing is a therapeutic choice for children with ADHD."

Attention is now turning also to the areas of Autism, Asperger Syndrome and Down Syndrome. Dr Sandra Maria Guisso reported in 2017 to the FIDE Social Projects Commission about a very successful intervention with a nine-year-old autistic child in Brazil.

SOCIAL BENEFITS & MINORITIES

Closely allied to the educational benefits, these include:

- reduced delinquency
- reduced drug use
- improved ethical sense
- improved discipline
- improved sense of fairness
- integration of minorities
- improved social mobility

Reductions in delinquency and in drug use have been noted particularly by the Chess-in-the-Schools program (mostly in The Bronx and Harlem) and by Orrin Hudson's "Be Someone" program, with its emphasis on learning "life lessons", both in the USA.

MINORITIES

Bring Minorities in Games is a 3-year social project in Aarhus and Copenhagen. In partnership with the Ministry of Social Affairs and Aarhus Municipality, Dansk Skoleskak uses school chess clubs not only as a gateway to community activities for the children and their parents – but also as a stepping stone towards involvement in other kinds of social activities such as sports and voluntary social work.

Chess often serves as a bridge, bringing together children of different ages, races and genders in an activity they can all enjoy.

Chess helps build individual friendships and also school spirit when children compete together as teams against other schools.

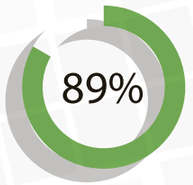
Chess also teaches children about sportsmanship - how to win graciously and not give up when encountering defeat.

For children with adjustment issues, there are many examples where chess has led to increased motivation, improved behaviour, better self-image, and even improved attendance.

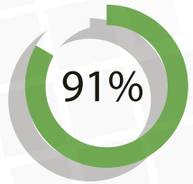
Chess provides a positive social outlet, a wholesome recreational activity that can be easily learned and enjoyed at any age.A

New York's Chess-in-the-Schools program surveyed the schools in their program after the 2016-2017 year and found:

89% of teachers reported that chess enriched their students' social skills.



89% of teachers reported that practicing chess increased students' self-esteem.



91% of teachers reported that practicing chess enhanced students' cooperation skills.

HEALTH BENEFITS

An increasing amount of attention is being paid to the health benefits of chess. These are mostly quite recent discoveries and point to the great value of learning chess during childhood since it seems to confer health benefits almost from the cradle to the grave. They can be summarized as:

- Chess leads to an improvement in cognitive functioning and has been cited as a significant tool in the fight against Alzheimer's.
- Chess can help patients who have suffered from stroke to recover.
- Chess assists recovery in people suffering from physical and emotional disability.
- Chess helps to prevent anxiety and depression by encouraging self-improvement, improving self-esteem and self-confidence. By contrast, excessive time spent on activities that do not challenge the brain, particularly tv watching, has been linked to an increased incidence of depression.
- Chess (as recreational therapy) helps prevent or reduce non-adaptive or inappropriate behaviour

It has long been known that chess improves attention, memory, organization skills and perception.

It improves the ability of cognitive-impaired individuals to work on issues related to orientation, sensory stimulation and environmental awareness.

BEATING COGNITIVE DECLINE

A team from Valencia University Hospital, led by Dr José Miguel Lainez Andrés, reported some very impressive results concerning the value of chess as an intervention therapy against cognitive decline.

The authors pointed out that chess is a complete mental training; in addition to sports and psychological factors, the player is forced to be highly accurate in this complex and elaborate mental process.

The object of the study was to examine whether the mental exercise performed during the learning and practice of chess has an impact on improving the performance of some cognitive abilities in older subjects.

Their hypothesis was that "Learning to play chess at the cognitive level is beneficial in older people."

The study population consisted of users of specialized centres for the care of the elderly in four locations around Spain. The chess group attended a weekly chess class for seven months, while the control group attended other courses. Standard tests were used to assess changes in cognitive abilities.

The researchers discovered that, broadly speaking, approximately two thirds of the entire experimental group of subjects experienced an improvement in neuropsychological test performance, usually progressive.

20 SMART GIRL UGANDA

Chess was launched in Gulu in the North of Uganda in 2009 by Robert Katende. In 2013, he gained support from the national chess federation and FIDE's Social Action Commission.

The programs have grown substantially and the lives of many children, especially the girls, have been empowered with improved social and life skills using this chess platform.

Beatriz Marinello, Chair of the Social Action Commission, has also secured scholarships for the children and she continues to advocate for the empowerment and transformation of children through chess.

SOM Chess Academy, through the support of the Uganda Chess Federation, has continued to implement the 'Smart Girl Chess Program' supported in part by the FIDE Social Action Commission, through the leadership of Robert Katende.

Koro Primary school girl's chess team from Gulu emerged champions in the 2017 National Schools Championship. The team was comprised of the girls from the Smart Girl chess program!

QUEEN OF KATWE 21

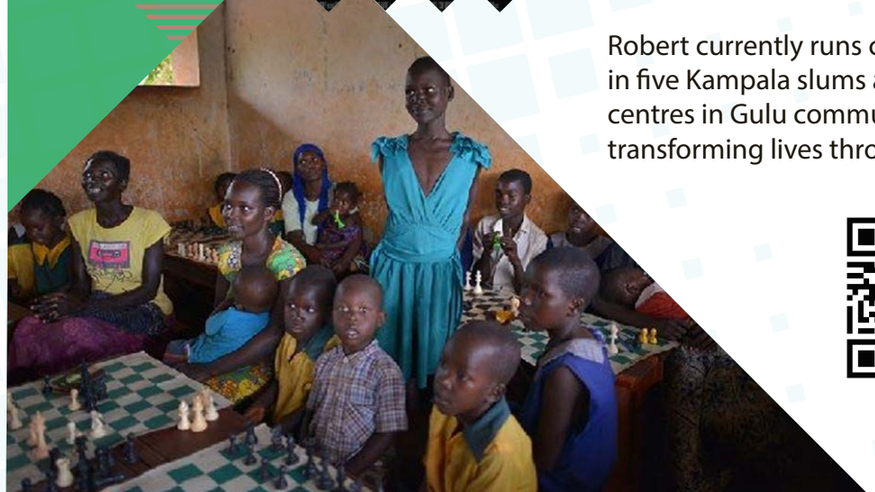
Robert Katende began a Ugandan Sports Outreach program in Katwe, the largest of Kampala's slums in 2002-2003.

The highly praised Disney movie Queen of Katwe depicts the life of Phiona Mutesi. She learns to play chess and not long after, in 2006, aged about 10, wins the Uganda National Junior Chess Championship, which she retained for three years in a row.

In 2010 she saw her first snow while playing second board for Uganda at the Women's Chess Olympiad in Kanty-Mansiysk, Siberia. She gained the title of Woman Candidate Master at the 2012 Istanbul Olympiad.

The movie trailer is at https://www.youtube.com/watch?v=hrMoDdofM98.

Robert currently runs chess centres in five Kampala slums and seven centres in Gulu communities - transforming lives through chess.



PRISONS

"... so much criminality is a complete failure to think before acting, or to take responsibility for decisions." [Dominic Lawson]

Isolated chess events in prisons go back at least to 1960 when future World Champion Robert Fischer played 20 inmates simultaneously in Rikers Island prison while 2400 prisoners watched and the prison band played.

Ireland was one of the first countries with a chess in prisons program.

Its origins lay in the early 1980s within St. Patrick's Institution for 17-21-year-old males and part of Mountjoy Prison. Max Brohan, a chess-playing prison officer, requisitioned a chess set for two inmates.

Interest in chess spread and in 1992 official chess tuition classes began.

In 1995 a team, given special dispensation to play all their matches at home, was entered into the Leinster Chess League. By 1996, almost half the inmates, 107 were involved in the program.

CHESS THAT BRINGS FREEDOM

This program has been running successfully in Brazil's Espirito Santo state since 2008, using chess to develop cognitive, moral and social awareness among the prisoners.

The video Chess That Brings Freedom won a prestigious 'Spirit of Sport' prize at the 2012 SportAccord convention: https://www.youtube.com/watch?v=t9MUlWNYVws

Cook County Jail, Chicago, Illinois is the largest county jail in the USA. Inspired by the Chess That Brings Freedom project, it began a chess program in 2012. About 150 detainees pass through the program each year.

In 2016 the seven best players played an online tournament against inmates of several different prisons in Russia. That was followed in 2017 by an online match against four prisoners in the Viana complex in Brazil.

"The goal is not to make them world champions," says Mikhail Korenman, who runs the program and does the teaching in Cook. "The goal is that when they get out of correctional facilities, they can use chess in everyday life, making right decisions under time pressure; winning; seeing they can do it themselves."

PRISONS -ITALY

In December 2016 the first ever FIDE Rated tournament inside a prison was held - the 'Open Casa di Reclusione' as part of the Italian 'Sport in Carcere' project which began 2015 in Spoleto maximum security prison.

Four FIDE rated players came in from outside, including Italy's Woman Champion. Five inmates also played in the tournament. The event was supported by CONI (the Italian Olympic Committee).

"In my life, since I was a teenager, I had always been attracted by drugs, especially by cocaine and everything related to it, and by the way it makes your head speed up; ... but today for the first time I am interested in a world that makes your head spin not in a frenetic way as cocaine does, but in a new and fascinating way."

Several countries are starting or preparing to start a program in the wake of Chess that Brings Freedom. Guatemala and Trinidad & Tobago started in 2017. Costa Rica and Honduras plan to start in 2018. FIDE's Social Projects Commission is at the heart of these programs.

2017 saw the publication of Chess Behind Bars by Carl Portman, the English Chess Federation's Manager of Chess in Prisons.

The 2017 London Chess Conference featured a talk on Chess in Prisons by Kajetan Wandowicz, who runs a project in Bristol Prison, Carl Portman, who has established chess clubs in three English prisons and Leontxo Garcia, who has lectured in prisons in Spain and Mexico.

A program was begun in Spain in 2009. In 2012 it won the silver medal for Mérito Social Penitenciario. It has now been introduced (2016-2017) in 17 prisons in Mexico.

ALZHEIMER'S – CHECKMATING DEMENTIA

Some aspects of age-related cognitive decline begin in healthy educated adults when they are in their 20s and 30s (Salthouse 2009). These declines may seem relatively minor compared with problems that may appear later in life such as Alzheimer's disease and dementia, but it's never too early to take care of our brains.

Most attention is being paid to the value of chess in the fight against Alzheimer's which blights the lives of 35 million people and their families.

Research among those over the age of 60 strongly suggests that chess is valuable in combating Alzheimer's. A collaborative Franco-Russian research effort began in 2010 between the Centre Hospitalier Universitaire of Nice, led by Professor Philippe Robert and Prof. Vladimir Zakharov's team from the Moscow State Medical University.

Dr David Shenk, author of The Forgetting, commented on the value of chess as an Alzheimer's antidote: "You need to exercise your brain. Chess is a particularly good brain builder. It's quite easy to learn, but the possibilities are endless - you never run out of a challenge."

Asked when it is best to learn, he answered "the earlier the better. Particularly for young kids, chess is like a Stairmaster for logical thinking."

Prevention is better than cure and teaching chess in schools is a cheap way to implement something of known value as an antidote.

Checkmating Dementia is a new organization in the USA where more than 5 million Americans are affected by Alzheimer's -

http://www.checkmatingdementia.com/

It is an excellent resource for further information - look under Research & Articles there.

PROGRAMS 4-6
EARLY YEARS SKILLS

Through song, dance and games, children in kindergarten learn basic concepts useful for STEM subjects.

This program can best be understood by watching the children during lessons in the 52 videos on our dedicated web site eys.fide.com.

PSYCHOMOTOR & AFFECTIVE

The children are the central figures in developmental game playing, progressively developing their sensory-motor capacity by requiring the use of active intelligence during game activities.

These highly beneficial lessons take place in an exclusive and protected space: the GIANT chessboard. Experience shows that this becomes a magical experience for kids – a bridge between reality and imagination.

Carefully structured game activities heighten children's self-esteem as well as providing a unique opportunity to build relationships with companions based on loyalty, responsibility and partnership.

OBJECTIVES FOR THE CHILDREN

- Gain command of lateral space and movement to improve time-space organization.
- Learn and experiment with single adirections - vertical (forward and backwards); horizontal (right and left); diagonal and directions in combination.
- Learn letters and numbers through psychomotor experience.
- Learn and experiment with different rhythms.
- Improve the capacity to concentrate and react to given stimuli.
- Develop self-control and command over general possibilities and limitations.
- Create a safe environment by respecting the rules.
- Develop the capacity to resolve problematic situations.
- Form/Develop 'strategies'.
- Enrich vocabulary and expressive precision.
- Learn respect and collaboration through team play.
- See the chessmen as characters and, finally, understand how they move on the chessboard.

FOR THE TEACHERS

The manual lists the teaching objectives and for each lesson provides a summary, an equipment list, a fairy tale, main instructions and activity details for the teacher.

PROGRAMS 7-11 PRIMARY SCHOOL

FIDE has developed or acquired several programs for children in this primary age group.

The materials are available for free and can be downloaded from cis.fide.com.

They may be freely used in the classroom, either in pdf form or printed out.

The most important materials are:

The books by Dr Olgun Kulaç, originally used in the Turkish program that began in 2005. The course comprises two books, elementary and intermediate levels for two years, and a teacher guide. These are available in English, French and Arabic.

Chess: The First Year of Study, together with an accompanying workbook, was developed in Russia but both are available for download in English.

This is FIDE's very own program, developed by the CiS Commission for children 7-11.

In 2018 this will be available in a much expanded 2nd edition. The first edition is available in many languages, including English, French, Spanish, Arabic and more.

At present this provides a one year basic introduction. It has been specifically designed for use by teachers with almost no knowledge of chess.

FIDE STUDENT MAGAZINE

This e-magazine started in 2011 and the 140+ issues now provide a treasure trove of 1000+ pages of material of interest to children of all ages, but especially useful for teachers of the 7-11 age group who wish to continue classes after they have exhausted the main program materials.

TEACHER TRAINING - TEACHERS OR 'CHESS TUTORS'

The work of chess tutors, who come into schools as external experts, remains the primary mode around the world for Chess in Schools projects.

Countries where the Education Ministry has launched a training program for teachers and chess has entered the educational system as part of the general syllabus, are in a minority.

The pedagogical expertise of a teacher and his or her knowledge of pupils makes the learning environment more favourable compared to the use of a chess expert, who has not received the same relevant pedagogical training.

These ideas underlie the FIDE courses for School Instructor and FIDE Chess Leader and the CASTLE project.

TEACHERS TO TEACH CHESS – SCHOOL INSTRUCTOR

FIDE instituted a course leading to the title of School Instructor in 2012. The objective of the course is to meld the pedagogical expertise of teachers with a very basic knowledge of chess sufficient to introduce children to the game.

By the end of 2017 hundreds of teachers across Africa, the Americas, Asia and Europe had successfully passed the course and its exam and obtained the title of School Instructor.

A notable development in 2017 was the introduction of a combined course, all in the Spanish language, of School Instructor and the Spanish Diploma of Docente de Ajedrez. This is a joint effort by FIDE, the Spanish Chess Federation (FEDA) and the Iberoamerican Chess Federation (FIBDA).

FIDE SCHOOL CHESS LEADER

This Diploma course is part of continuing CiS education, primarily for teachers who already have the School Instructor title.

In development since 2015, it is being introduced at the beginning of 2018.

OBJECTIVES

- Improve chess teaching skills;
- An FSCL should be able to prepare and organize a chess season, be it in a school, club or other association.
- Acquire or develop the ability to support other chess teachers in the same school or locality;
- An FSCL should be able to liaise with school organizations, public agencies, social networks and the national chess federation.

EARLY YEARS SKILLS

The 52 videos demonstrating the practice of this program effectively form a training course for teachers who wish to introduce this program – eys.fide.com.

SUPPORT FOR TEACHERS

In addition to program materials, FIDE provides support material.

Support materials, specially for teachers who have passed the FIDE courses, which are aimed at helping them with their task and broadening their knowledge of chess and chess teaching should they aim to build a multi-year program for their school.

For teachers who wish to develop their knowledge even further, and help those children who would like to move into competitive chess, there is a wealth of material available for free download from the FIDE Trainers Commission: trainers.fide.com. Most of the Trainers' material is of a very high level, but some of the books on the recommended reading list and some of the surveys are fine for intermediate level players.

EUROPEAN PARLIAMENT

A. whereas the Treaty on the Functioning of the European Union, in its Article 6, provides that sport is among the areas 'where the Union shall have competences to carry out actions to support, coordinate or supplement the actions of the Member States';

B. whereas chess is an accessible game for children from every social group and can help social cohesion and contribute to policy objectives such as social integration, combating discrimination, reducing crime rates and even the fight against various addictions;

C. whereas whatever the age of the child, chess can improve children's concentration, patience and persistence and can develop the sense of creativity, intuition, memory, and analytic and decision-making skills; whereas chess also teaches determination, motivation and sportsmanship;

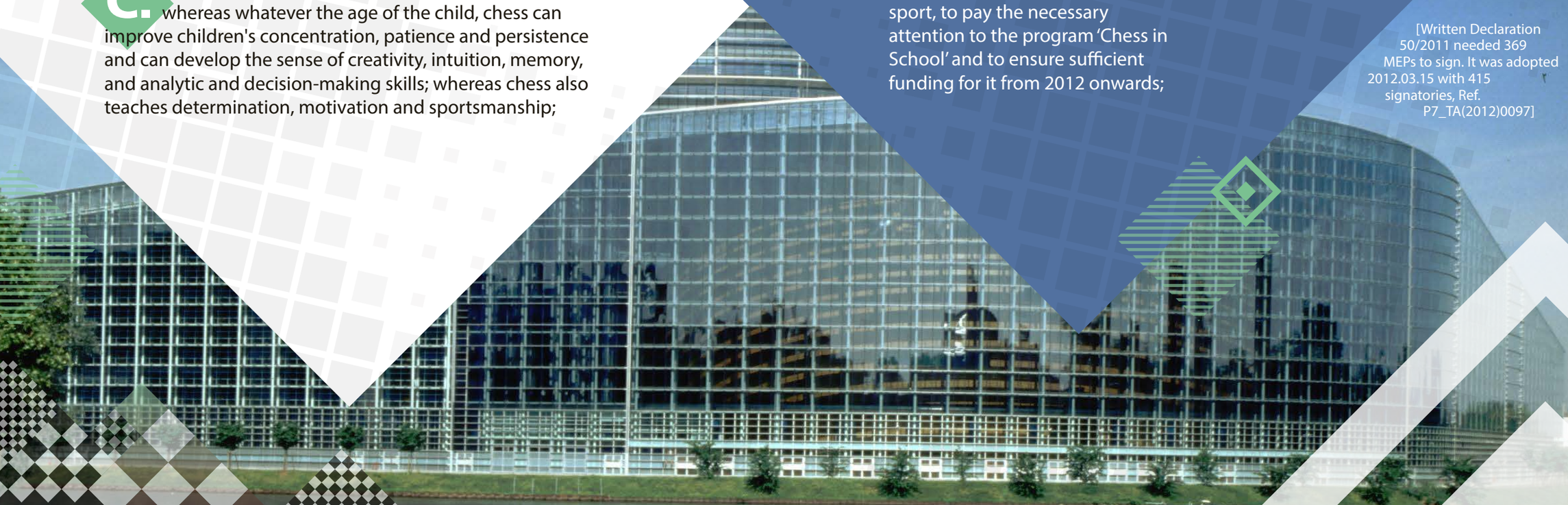
1. Calls on the Commission and the Member States to encourage the introduction of the programme 'Chess in School' in the educational systems of the Member States;

2. Calls on the Commission, in its forthcoming communication on sport, to pay the necessary attention to the program 'Chess in School' and to ensure sufficient funding for it from 2012 onwards;

3. Calls on the Commission to take into consideration the results of any studies on the effects of this programme on children's development;

4. Instructs its President to forward this declaration, together with the names of the signatories, to the Commission and to the Parliaments of the Member States.

[Written Declaration 50/2011 needed 369 MEPs to sign. It was adopted 2012.03.15 with 415 signatories, Ref. P7_TA(2012)0097]



EUROPEAN UNION

Erasmus+

The Erasmus+ program is an important EU funding mechanism for Chess in Schools projects, especially those with a strong research element.

The biggest project was CASTLE, which ran 2014-2017 with EU funding of €246,000.

CASTLE = a Chess curriculum to Advance Students' Thinking and Learning skills in primary Education.

FIDE was a stakeholder in CASTLE and contributed additional funding, resulting in our Early Years Skills program, its 52 videos and explanatory manual.

Among Erasmus+ projects currently running is that on Multidimensional Analytical Training in Education (MATE). This is a collaboration of Spanish and Lithuanian Universities and the Wyzsza Szkola Ekonomii i Innowacji of Lublin as coordinator, with EU funding of €207,000.

The MATE project plans to develop three software modules: testing and assessing chess skills, testing cognitive competencies, and training chess and cognitive skills.

EUROPEAN CHESS UNION

European Chess Union

The ECU (founded 1985) formed an Educational Commission (ECU-EDU) in 2014.

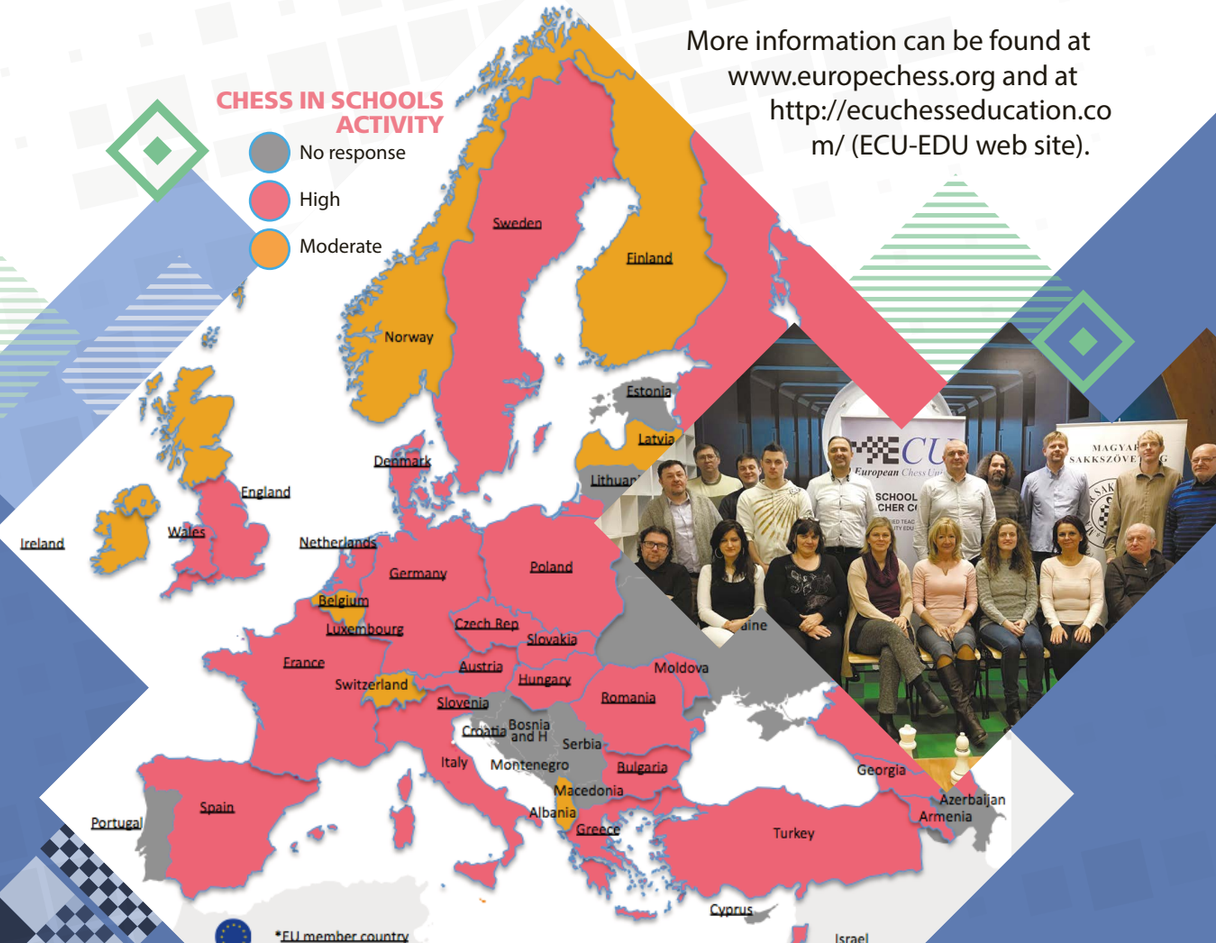
The ECU has been instrumental in organizing conferences, including the 2016 CiS conference in the European Parliament.

It has partnered with the London Chess Conference since 2015.

The role of ECU-EDU is to develop and promote chess as part of children's education and, like FIDE-CiS, concentrates on educational chess, not competitive chess.

In 2017 ECU-EDU introduced the ECU School Chess Teacher Certificate and began to organize chess training for teachers in several European countries.

More information can be found at www.europechess.org and at http://ecuchesseducation.com/ (ECU-EDU web site).



CIS AROUND THE WORLD

Precise figures are hard to come by, but 30 million or more children take part in chess in school programs around the world every week. Of these, 6-7 million are in Europe, about 20 million in Asia, 2-3 million in the Americas and 1 million in Africa.

There is an almost complete A-Z (no X) of at least 138 countries around the world with CiS programs small or large:

Afghanistan, Albania, Algeria, Andorra, Angola, Argentina,

Armenia was the first nation (2011) to introduce chess as a compulsory part of the school curriculum. The State Pedagogical University is one of the leading research institutions in the world studying the benefits of educational chess. Armenian schools teach chess as a purely academic subject, so the focus is educational not competitive chess.

Australia, Austria, Azerbaijan, Bahamas, Bahrain, Barbados, Belarus, Belgium, Belize, Bolivia, Bosnia Herzegovina,

Botswana, where chess in schools has made such an impact that in the 2017 National Sports Commission awards, chess took three of them.

Brazil, British Virgin Islands, Bulgaria, Burkina Faso, Burundi, Cameroon, Canada, China, Colombia, Comoros, Costa Rica, Croatia, Cuba, Cyprus, Czech Republic, Denmark, Dominican Republic, Egypt, El Salvador, England, Estonia, Ethiopia, Faroe Islands, Finland, France, Georgia, Germany, Ghana, Greece, Guam, Guatemala, Guernsey, Haiti, Honduras, Hungary, Iceland,

India has about 17 million children involved nationwide, especially in the states of Gujarat and Tamil Nadu where chess is part of the curriculum.

Iran, Ireland, Israel, Italy, Ivory Coast, Jamaica, Japan, Jersey, Jordan, Kenya, Kuwait, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liechtenstein, Lithuania, Luxembourg, Macau, Macedonia, Madagascar, Malawi, Mali, Malta, Mauritania, Mauritius, Mexico, Moldova, Mongolia, Morocco, Nepal, Netherlands,

Netherlands Antilles, Nicaragua, Nigeria, Norway, Oman, Pakistan, Palau, Palestine, Panama, Paraguay, Peru, Poland, Puerto Rico, Qatar, Romania, Russia, Rwanda, San Marino, Senegal, Serbia, Scotland, Singapore, Slovakia, Slovenia, Somalia, South Africa, South Korea, Spain, Sri Lanka, Sudan, Swaziland,

Sweden has its excellent Schack4an project which provides a superb model for projects that want to maximize social inclusivity.

Switzerland, Tanzania, Thailand, Togo, Trinidad & Tobago, Tunisia, Turkey, Ukraine, Uruguay, USA, US Virgin Islands, Venezuela, Vietnam, Wales, Yemen, Zambia, Zimbabwe.

More information about many of these programs can be found at cis.fide.com.

CHESS & EDUCATION CONFERENCES

Recent years have seen ever more conferences on the subject of chess in education. The most important ones have been:

2001 • Dallas, George Koltanowski Memorial Conference on Chess and Education.

2004 • Menorca, 1er Congreso Internacional de la Enseñanza del Ajedrez.

2007 • Aberdeen, Chess in the Schools and Communities Conference.

2008 • Tomsk, Problems and prospects of the development of chess education in Russia.

2009
• Turin, Chess a game to grow up with.
• Moscow, Chess in Russia's education system and the world.

2010
• Mexico City, El ajedrez, es una herramienta fundamental.
• Khanty-Mansiysk, Chess as a subject in an innovative educational system.

2011 • Dallas, 2nd George Koltanowski Memorial Conference on Chess and Education.

2011 • Satka, Problems of teaching chess in schools and kindergartens in Russia and other countries around the world.

2012
• Istanbul, Chess and Education.
• Turin, Chess and Mathematics: Learning by Playing.

2013
• London, Successes and Challenges; Improving School Chess Practice, Research and Strategy.
• Chongqing, On-site Promotion for Building up National Chess Tradition Schools.
• Khanty-Mansiysk, Chess Education – an Important Resource of the World System of Education.
• Bucharest, Simpozionul Educatie prin sah.
• Madrid - 1st International Conference on the Applications of Chess and Education - Chess Helps You Think (in Spanish).

2014
• London, Chess and Mathematics.
• Yerevan, International Conference Chess in Schools.
• Tromsø, Social aspects of chess.
• Sabadell, II Jornadas de Ajedrez Infantil Ciudad de Sabadell - Los valores pedagogicos del ajedrez en la etapa educativa.

2015
• London, Chess and Society.
• Ankara, International Level Comparison of Chess Education Models for Preschool level.

2016
• London, Didactics of Chess.
• Batumi, 1st ECU Education Chess Conference.
• Tsaghkadzor (Armenia), Theoretical and Practical Issues of Chess Education in Schools.
• Montevideo, Congreso Panamericano de Ajedrez Escolar.
• Geneva, 1er Forum Echecs et Education.
• Warsaw, Education through Chess in School.
Brussels, European Parliament Chess in School Conference.

2017
• London, Scholastic Chess.
• Cordoba (Argentina), Congreso Internacional de Ajedrez Social y Educativo.
• Madrid, CASTLE Project.
• Turin, CASTLE Project.
• Warsaw, International Methodical Conference "Chess in School".
• Madrid, Pedagogia y Aplicaciones del Ajedrez en el Aula.

Reports of the proceedings of almost all these conferences are available, many of them from the Conferences section at cis.fide.com.

In our view the single most important piece of research comes from Armenia. See Aghuzumtsyan and Poghosyan (2014) The impact of chess lessons on formation and development of the students. It is available at http://www.iccs.chessacademy.am/

The main repositories of important research on chess in schools are:

The FIDE-CiS web site:
cis.fide.com

The research portal of the Chess Club and Scholastic Center of Saint Louis:
https://saintlouischessclub.org/education/research

The research portal of the UK organization Chess in Schools and Communities:
http://www.chessinschools.co.uk/research.htm

It is expected that ECU-EDU will add a similar portal in 2018.

Blasco-Fontecilla, Hilario et al. (2016) Efficacy of chess training for the treatment of ADHD, Revista de Psiquiatria y Salud Mental, 2016;9(1):13-21.

Sala, Giovanni et al. (2016). Does chess instruction enhance mathematical ability in children? A three group design to control for placebo effects, in Proceedings of the 38th Annual Meeting of the Cognitive Science Society. (Philadelphia, PA).

Rosholm, Michael et al. (2017) Your move: The effect of chess on mathematics test scores. Plos One, https://doi.org/10.1371/journal.pone.0177257

Sala, Giovanni et al. (2017) The Effects of Chess Instruction on Pupils' Cognitive and Academic Skills: State of the Art and Theoretical Challenges. Frontiers in Psychology (23 February 2017) whence it can be downloaded.

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BIBLIOGRAPHY – LITERATURE REVIEWS

Nicotera, Anna and Stuit, David (2014) Literature Review of Chess Studies. In a systematic review of the literature, this report examined the degree to which existing empirical evidence supports the theory that participation in chess programs, whether designed as in-school or after-school programs, resulted in improved academic, cognitive, and/or behavioural outcomes for school-aged children. It can be downloaded from the Research Portal of the Chess Club and Scholastic Center of Saint Louis (saintlouischessclub.org).

McDonald, Patrick (2006?) The Benefits of Chess in Education, A Collection of Studies and Papers on Chess and Education. A very useful compilation of more than 20 papers and a guide to further resources. It can be downloaded from the Resource and Information Centre at cis.fide.com.

Ferguson, Robert (2001) Chess and Learning: An Annotated Bibliography (in Chess and Education, Redman ed., 2006, University of Texas at Dallas, ISBN13: 978-0-9786742-0-5). Ferguson provides brief descriptions of 95 studies, books and articles on Chess & Education and another 56 on Chess, Memory & Cognition.

RECOMMENDED BOOKS & ARTICLES

Aghuzumtsyan, Ruben and Poghosyan, Sona (2014) The impact of chess lessons on formation and development of the students. It is available at http://www.iccs.chessacademy.am/

Barber, Dewain ed. (2017) A Guide to Scholastic Chess 11th edition (free download from http://the80-20td.com/11thEditionGuideToScholasticChess-7-4-17.pdf)

Caramia, Javier et al. (2016) Estrategia y Táctica del Ajedrez Escolar. Ediciones Ventajedrez. Materials to help class teachers.

Healy, John (1988) The Grass Arena. Penguin Modern Classics. Autobiographical account of how chess brought an alcoholic prisoner back into society.

Jaureguiberry, Juan Luis (2012) Jaque a las fracciones. Editorial Municipal de Rosario. Using chess to make mathematics understandable and fun.

Moreno, Fernando (2002) Teaching Life Skills Through Chess. A guide for educators and counsellors.

Nash, Damian (2011), Making Chess Attractive to Educators in the Classroom, A New Approach To Curriculum. Koltanowski Conference, Dallas 2011. A curriculum model that can be used to teach higher order thinking skills directly.

48 RECOMMENDED BOOKS & ARTICLES

Noir, Michel (2002), Le Développement des habiletés cognitives de l'enfant par la pratique du jeu d'échecs. Noir's doctoral thesis (University of Lyon). An important source for background, information and research in French.

Portman, Carl (2017), Chess Behind Bars. Quality Chess. A guide to chess in prisons.

Root, Alexey W. (2006), Children and Chess: A Guide for Educators. One of the first books to show the connection between accepted educational theories and chess. It includes lesson plans teachers can use, and from which they can learn the basics of the game. Since the plans meet academic goals through chess, teachers also learn that chess can be a part of reading, mathematics, science and social studies. See also:

Root (2008) Science, Math, Checkmate - 32 Chess Activities for inquiry and problem solving.
Root (2009) Read, Write, Checkmate - Enrich Literacy with Chess Activities.
Root (2010) People, Places, Checkmates - Teaching Social Studies with Chess.
Root (2011) The Living Chess Game - Fine Arts Activities for Kids 9-14.
Root (2012) Thinking with Chess - Teaching Children Ages 5-14.

Sukhin, Igor (2010-2012) Chess Camp (7 volumes) Mongoose Press. 600 or so simple drills in each volume.

"Learning is a lifelong experience"

Dr Karan Singh
Indian Ambassador to UNESCO
Chancellor of NIIT University

Address to NIIT University, 12 November 2011, where he insisted that the concept of "world as one family" is the only way to go forward, which echoes FIDE's motto of Gens Una Sumus.

"It always seems impossible, until it is done."

H.E. Nelson Mandela