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SELF-DEVELOPMENT HANDBOOK



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*“Chess, like everything else, can be learned to a
certain extent, but no further. The rest depends
on the nature of the individual”
(GM J.R. Capablanca)*



ICARUS

Including Chess As a Re-education Up-Skilling Tool

Erasmus+ KA2 Strategic Partnership for adults

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THE PARTNERSHIP



The leading partner of ICARUS. A training company based in Rome, Italy, with strong experience in soft-skills training and Erasmus+ projects.

skillupsrl.it



UniChess was born from the experience of several chess players, who after high competitive achievements, decided to promote their passion for chess at all levels.

unichess.it



A Spanish training company from Cordoba specialised in soft-skills and training courses, with great experience in Erasmus+.

indepcie.com



A Spanish chess club from Mérida that combines competition and promotion of chess with social and therapeutical chess.

www.ajedrezmagic.es



A Latvian education and research centre that focuses on innovative training and eco-sustainability.

<https://www.facebook.com/iiziriga/>



The national federation that gathers all chess players, trainers and enthusiasts in Latvia.

www.sahafederacija.lv



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INTRODUCTION

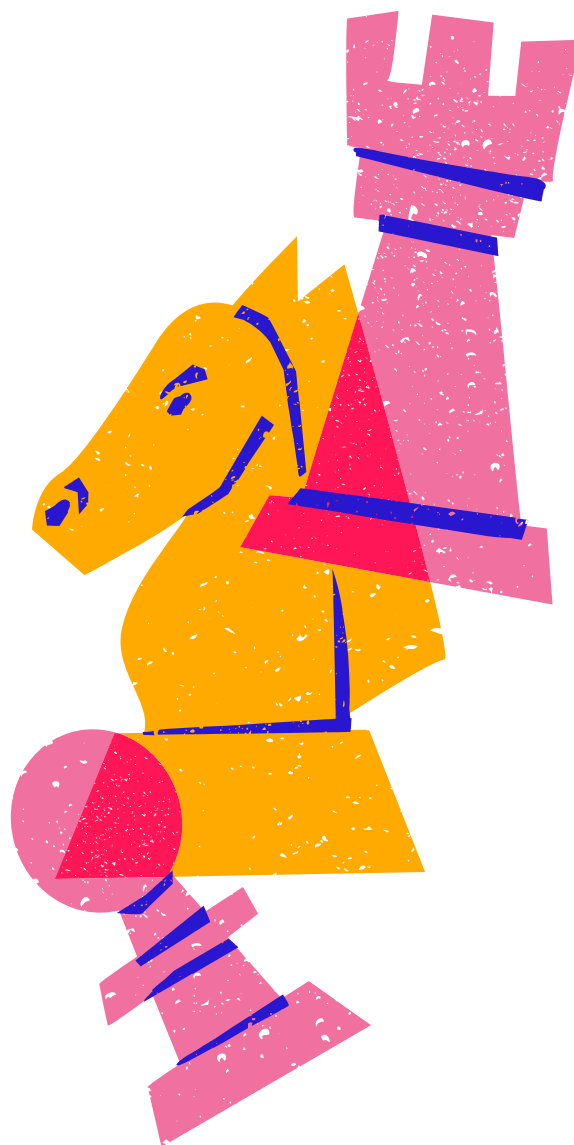
"Men must once have been semi-gods; otherwise, they would not have invented chess". (GM A. Alekhine)



The ICARUS project arises as an innovative initiative within the field of education in prison settings, with the aim of providing effective tools for the development of soft skills in people deprived of liberty. Social reintegration and the reduction of recidivism depend to a large extent on the acquisition of personal skills that promote reflective decision-making, emotional management and social integration. To this end, ICARUS uses chess not only as a game, but as a structured educational method that enhances metacognition, strategic thinking and emotional intelligence.

Chess has proven to be an effective tool in various educational contexts, facilitating the development of skills such as planning, problem solving and patience. In the prison context, its practice contributes to improving self-discipline and self-control, fundamental aspects for the rehabilitation process. Through ICARUS, we seek to offer an accessible, structured and adaptable educational model that can be applied in different countries and prison realities.

The ICARUS Self-Development Manual is presented as a key resource within this initiative. It is a document aimed at adult education teachers, chess trainers and other professionals working in prisons, providing methodologies and strategies for teaching social skills in these settings. In addition to integrating pedagogical and technical knowledge about chess, the manual incorporates previous experiences of the project and good practices that have proven its effectiveness.



CONTEXT

In Europe, prisoners belong to the most vulnerable groups for various reasons:

- they usually come from cultural and social backgrounds with fewer opportunities, often accompanied by trauma, the absence of a functional family and low schooling;
- the stigma of prison makes reintegration into social and working life more difficult;
- the prison experience tends to isolate them emotionally, distancing them from the “normality” of free life, which is based on interpersonal relationships;
- Prison is a microcosm of people who have not only committed crimes, but are often victims of addiction and abuse and often replicate harmful behaviour on others.

Finding ways to develop the emotional and social skills of prisoners is therefore vital to enable their reintegration into civil society and prevent them from committing new crimes due to their inability to find a better perspective.

The ICARUS project sees the game of chess in prison as a non-formal training practice that becomes a lever for the development of soft skills through a mix of chess activities and training. ICARUS will help participants decode the behaviours they engage in during the game and use them to acquire a greater awareness of their own emotions and those of others, stimulating self-reflection and developing more positive relationships with the Other.

GENERAL AND SPECIFIC OBJECTIVES

The main purpose of this handbook is to provide a practical and informed guide to teaching soft skills in prison settings. Its specific objectives include:

- To integrate chess as a pedagogical tool in the training of persons deprived of liberty.
- To provide methodological guidelines based on metacognitive and emotional development.
- To support adult education teachers in the planning and implementation of training activities adapted to this context.
- To promote the sustainability of the ICARUS model, ensuring its replicability in other educational environments.

TARGET GROUPS

The handbook is aimed at:

- Adult education teachers working in prisons.
- Chess trainers interested in applying their knowledge in educational and social reintegration contexts.
- Prison institutions looking for innovative and effective educational programmes.
- Organisations and associations committed to education and social inclusion.



Methodology

INNOVATIVE USE OF CHESS IN EDUCATION

Chess is emerging as an innovative and valuable tool in adult education. Its potential goes beyond mere entertainment, offering a range of cognitive, emotional and social benefits that enrich the learning process and the overall development of participants.

On a cognitive level, chess stimulates executive functions crucial for lifelong learning. It requires advance planning, evaluation of multiple scenarios, strategic decision-making and adaptation to changing situations. Each game becomes a mental exercise that strengthens memory, concentration, analytical skills and complex problem solving. The need to anticipate the opponent's moves and visualise the board encourages logical thinking and creativity, skills that are transferable to various areas of personal and professional life.

Beyond purely intellectual skills, chess cultivates important emotional aspects. Intellectual confrontation with an opponent, accepting defeat as a learning opportunity, and managing pressure in critical moments develop resilience, patience, and self-control. Victory, on the other hand, reinforces self-esteem and confidence in one's own abilities. This emotional component makes chess a powerful tool for developing emotional intelligence in adults.

The social dimension of chess is also significant in an educational context. Whether in group classes or informal games, chess encourages interaction, respect for one's opponent and the creation of learning communities. Debating strategies, analysing games and exchanging knowledge enrich the educational experience and strengthen social bonds between participants. For adults seeking new forms of connection and collaborative learning, chess offers a stimulating and participatory space.

The innovation of chess in adult education lies precisely in its ability to integrate these multiple benefits in a fun and accessible way. No extensive prior knowledge is required to start playing and enjoying its advantages. The complexity of the game is revealed gradually, allowing participants to progress at their own pace. In addition, the availability of online resources, apps and chess clubs facilitates learning and continuous practice.

From introductory workshops to chess clubs for adults, the possibilities are endless, and the challenge of introducing it into prisons as an element of social reintegration is exciting. Various international programmes have demonstrated the effectiveness of chess as a tool for reintegration.



These programmes not only teach the rules of the game, but also use chess as a vehicle to work on values such as respect, responsibility, discipline and the ability to learn from mistakes. The abstract nature of the game allows inmates to focus on strategy and logic, temporarily distancing themselves from their prison reality and offering them a mental escape and a space for personal development.

In addition, chess fosters logical thinking and patience, key skills for social integration and the management of emotions in a restrictive environment such as prison. Its teaching in this context is not only based on the acquisition of knowledge about the game, but also on the reinforcement of self-discipline and reflective decision-making, which are key factors in the rehabilitation process.

In conclusion, chess is not just a game; it is an innovative educational tool with significant potential for the cognitive, emotional and social development of adults.

METACOGNITIVE AND EMOTIONAL DEVELOPMENT PERSPECTIVE

The importance of the game of chess in relation to the development of personal and interpersonal skills, especially in socially disadvantaged individuals, has been recognised since the 9th century and was reaffirmed in resolution A/RES/74/22 of 12 Dec. 2019, by which the UN established World Chess Day.

In recent years, several experiments have been carried out to include this game among the activities of prisoners (<https://theconversation.com/the-benefits-of-prison-chess-clubs-102132>) that show clear benefits in the development of soft skills that are valuable for reintegration: respect for the rules and for the opponent, the advantage of thinking before acting, the importance of empathy, patience and emotional flexibility in dealing with defeat.

The introduction of chess in prisons is emerging as an innovative tool that addresses metacognitive and emotional development dimensions that are fundamental to successful social reintegration. Through the various tools developed and experiences implemented in ICARUS partner countries, this manual will explore these perspectives in depth, analysing how the practice of chess can positively influence the way inmates think about their own thought processes and how they manage their emotions.

THE METACOGNITIVE PERSPECTIVE OF CHESS IN THE PRISON CONTEXT

Metacognition refers to the ability to reflect on one's own thought processes, understand how one learns, and regulate cognitive strategies to improve performance. In the context of chess, this dimension manifests itself in various ways, offering significant opportunities for the development of inmates:



1. **Awareness of the Decision-Making**

Process: Each move in chess requires an evaluation of multiple options, an anticipation of consequences, and a selection based on a planned strategy. When playing, inmates are forced to verbalise or internalise this process, which fosters greater awareness of how they make decisions. This skill is directly transferable to real-life situations outside of prison, where thoughtful decision-making is crucial to avoiding impulsive behaviour and its negative consequences.

2. **Planning and Strategy:** Players must develop short-, medium- and long-term plans, anticipating their opponent's possible responses. This mental planning exercises the ability to set goals, sequence actions, and consider future implications. For inmates, this skill can be critical in planning their future outside prison, from finding employment to managing personal relationships, avoiding the improvisation and lack of vision that often contribute to recidivism.

3. **Thought Regulation:** Inmates learn to regulate their attention and focus their cognitive resources on the task at hand. In addition, the need to control impulsivity and avoid rash moves encourages self-regulation of thought. These skills can help inmates better manage stress, resist negative influences, and stay focused on their reintegration goals.



THE EMOTIONAL DEVELOPMENT PERSPECTIVE THROUGH CHESS IN PRISONS

Incarceration is often accompanied by a range of emotional challenges, including frustration, anger, anxiety, depression, and low self-esteem. Chess, although an intellectual game, offers a safe space to explore and develop emotional skills crucial for reintegration:

1. **Managing Frustration and Defeat:**

Inmates learn to cope with defeat, analyse their mistakes without falling into destructive self-criticism, and use loss as an opportunity to learn and improve. This capacity for emotional resilience is essential for overcoming the obstacles and setbacks they will inevitably encounter in their reintegration process.

2. **Developing Patience and Perseverance:**

Inmates learn to work toward long-term goals, even when progress is not immediate. This perseverance is essential for completing rehabilitation programmes, seeking employment, and rebuilding their lives outside of prison.

3. **Promoting Self-Control:**

Chess requires impulse control. Inmates learn to think before they act, consider the consequences of their actions, and resist instant gratification in favour of a long-term strategy. This skill is crucial for avoiding impulsive behaviour that can lead to recidivism.

4. **Increased Self-Esteem and Confidence:**

Winning a chess game, especially against a challenging opponent, can generate a sense of achievement and boost inmates' self-esteem. As they improve at the game, they develop greater confidence in their intellectual abilities, which can spill over into other areas of their lives.

5. **Promoting Empathy and Respect:**

Playing chess involves interacting with an opponent, recognising their skill, and respecting the rules of the game. Even in a competitive environment, chess fosters a certain level of empathy and understanding towards the other player. This ability to relate to others in a respectful manner is essential for building positive relationships outside of prison.

6. **Channelling Aggression and Anxiety:**

For some inmates, chess can provide a constructive outlet for aggression and anxiety. The concentration required by the game can divert attention away from negative thoughts and offer a space for calm and mental focus.

Thus, chess offers a unique and valuable perspective for the social reintegration of prison inmates. Its ability to foster the development of metacognitive skills such as planning, evaluation and thought regulation, together with the cultivation of crucial emotional skills such as resilience, patience and self-control, makes it a powerful tool for preparing inmates for their reintegration into society.





INTRODUCTION TO SOFT SKILLS TRAINING IN PRISONS

*"In chess, as in life, the most dangerous opponent
is oneself" (GM V. Smyslov)*



What are soft skills

Soft skills (also referred to as transversal or socio-emotional competences) are a complex set of personal, relational, cognitive, and behavioral abilities that influence how individuals interact with themselves, others, and their environment. These are transferable competences, not tied to a specific profession, and are useful across all areas of life, including contexts of disadvantage or deprivation.

Soft skills also include higher-order cognitive processes such as metacognition—understood as the ability to reflect on one's own thinking, regulate mental processes, and strategically manage learning (Chick, 2013).

This perspective expands soft skills beyond behavioral dimensions, linking them to self-awareness and learning regulation.

Unlike technical competences (hard skills), which are measurable and productivity-oriented, soft skills include the ability to communicate effectively, resolve conflicts, collaborate, manage emotions, and deal with complex situations.

Within ICARUS, these competences are considered fundamental tools for personal growth and social reintegration. The development of soft skills is closely linked to the promotion of autonomy, the reduction of recidivism, and the valorisation of personal resources among inmates.



CLASSIFICATION OF SOFT SKILLS

Soft skills are organized into various functional areas. Literature provides several classifications: the most comprehensive are proposed by bodies such as UNESCO (1996), the World Economic Forum (2015), and ESCO (European Skills, Competences, Qualifications and Occupations). However, for training purposes, a simplified and operational classification is often used, such as the one adapted from Romanenko, Stepanova, and Maksimenko (2024), which divides soft skills into four macro-categories.

This classification aligns with theoretical models that place soft skills at the intersection

of psychology and pedagogy. Specifically, metacognition is recognised as a psychological foundation for the pedagogical concept of learning to learn—defined as the ability to organise, monitor, and adapt one’s learning process in diverse contexts (Hoskins & Fredriksson, 2008; Eurydice, 2002; Ahrens & Zaščerinska, 2014).

This taxonomy is particularly suitable for the educational context of the ICARUS project because it allows each area to be connected to specific pedagogical objectives and methodological tools, such as the use of chess.

N	Soft Skill Category	Sub-competences
1	Goal-setting and achievement competences	Time management, planning, critical thinking, creativity
2	Adaptive competences	Stress tolerance
3	Communication competences	Presentation of ideas, public speaking
4	Social competences	Persuasion, leadership, motivation

Source: Romanenko, Stepanova & Maksimenko, 2024



1. Effective Communication

Effective communication is the ability to express oneself clearly, assertively, and comprehensibly, while considering the context and the interlocutor. It includes active listening, appropriate use of verbal and non-verbal language, and the ability to give and receive feedback. In prison settings, effective communication can prevent conflict, build trust, and facilitate interpersonal relationships (Spitzberg & Cupach, 2011).

2. Critical Thinking

Critical thinking is the ability to rationally and reflectively analyse information, evaluate arguments, and reach well-founded conclusions. It involves questioning one's beliefs and recognizing cognitive biases. This skill is particularly useful where the capacity to evaluate alternatives and make informed decisions is essential (Facione, 2011).

3. Emotional Regulation

The ability to recognise, understand, and manage one's emotions is a key aspect of emotional intelligence. It is essential for dealing with stress, avoiding impulsive behaviors, and maintaining balanced relationships. In high-stress environments such as prisons, emotional regulation can reduce aggression and support self-control (Goleman, 1995; Mayer, Salovey & Caruso, 2008).

4. Conflict Resolution

This skill involves managing disagreements and interpersonal tensions through dialogue, negotiation, and compromise. It is closely connected to assertive communication and empathy and enables non-violent conflict resolution. In community settings such as prisons, developing this skill is crucial to peaceful coexistence (Deutsch, 2006)..

5. Teamwork

Teamwork is the ability to collaborate effectively with others to achieve shared goals. It includes respect for roles, shared responsibility, and valuing differences. Promoting teamwork in prison education or work activities can foster inclusion, motivation, and a sense of belonging (Salas, Sims & Burke, 2005).

6. Empathy

Empathy is the ability to put oneself in others' shoes, understand their emotions, and respond in a supportive way. It is a key competence for building positive relationships, preventing aggression, and promoting a healthy social climate. Today, empathy is considered one of the core components of social competences (Decety & Jackson, 2004).



SOFT SKILLS IN EDUCATIONAL AND PRISON CONTEXTS

Numerous studies show that soft skills are essential for personal well-being, social effectiveness, and employability (Cimatti, 2016; Rychen & Salganik, 2003). In rehabilitative contexts such as prisons, these competences become levers of transformation: they foster self-awareness, improve interpersonal communication, support non-violent conflict resolution, and help reframe critical experiences constructively (Pittaro, 2024; Novus, 2025).

The training proposed in WP4 aims to integrate soft skills:

- As explicit content (modules on emotional intelligence, communication, empathy...),
- As methodological tools (self-assessment, feedback, coaching),
- As transversal competences promoted through the game of chess.

WHY SOFT SKILLS MATTER IN CORRECTIONAL INSTITUTIONS

In prison settings, soft skills development plays a key role for several reasons:

1. Social and occupational reintegration: Soft skills improve individuals' ability to interact positively in society and the labour market, increasing post-detention reintegration.
2. Reduction of recidivism: Programmes that include soft skill training have proven to lower recidivism rates by equipping former inmates with tools to deal with everyday challenges constructively.

3. Behaviour management: Developing skills such as emotional self-regulation and conflict resolution helps improve coexistence within prison environments, reducing tensions and problematic behaviours.

CONNECTION WITH METACOGNITION

In the ICARUS educational pathway, soft skills are also interwoven with deeper cognitive dimensions such as metacognition—the ability to reflect on one's own mental processes and to learn consciously and strategically (Chick, 2013). This dimension, also known as *learning to learn*, is essential for fostering autonomy and self-efficacy, especially in complex educational contexts like prison settings (Hoskins & Fredriksson, 2008). While not a soft skill in the strict sense, metacognition provides a fertile ground for developing emotional awareness, responsibility, and motivation—all transversal components explored in the following modules.

CONCLUSION

Soft skills are essential for individual and collective well-being. In the context of the ICARUS project, they play a particularly significant role, as they can meaningfully contribute to the re-education, empowerment, and reintegration of inmates. Their delivery through innovative educational tools, such as the game of chess, offers transformative potential on both personal and societal levels.

Relevance in prison settings

Development of soft skills of prison inmates is highly necessary and crucial. Trainers described a situation that is non-conventional for people who live in traditional conditions of having home, family, and job. Once, after having given chess training to prison inmates, young people between 17-25 years old, a trainer thanked them for participation in the training. The trainees were very embarrassed. Afterwards, the situation was re-considered by the trainers who came to the conclusion that the trainees are not treated as ordinary members of the society. The trainers concluded that such attitude to the trainees might decrease a level of their soft skills which are already at a non-sufficient level. A non-sufficient level of prison inmates' soft skills is a reason of their non-legal activities that led to their isolation from the society.

IMPROVING SOCIAL EMOTIONAL SKILLS

- Building students' task performance skills, particularly achievement motivation and persistence. Students with higher levels of these skills achieve higher grades in reading, maths and arts; are less likely to be late or skip school; and are more likely to expect to complete tertiary education. These skills predict greater social mobility aspiration among students whose parents have less prestigious jobs
- Methods of academic assessment also measure students' social and emotional skills. For example, assessment methods that take into account students' contributions in class may indirectly measure their assertiveness, while some assessments may require students to use creative thinking skills more than others.
- Make career development activities more accessible to disadvantaged students and those with lower levels of social and emotional skills. Such students more broadly are more likely to be uncertain about their future career plans and take part in fewer career development activities. This suggests that, despite these students having the most need for support with career planning, they are less likely to access it.
- Ensure career development activities allow students to explore a variety of education and career options. Almost all students say they expect to complete tertiary education, suggesting a lack of awareness or interest in alternative education and career pathways.
- Provide students with reliable information about their own skills and which skills are needed for different careers. This information could help students form realistic career plans which are more likely to



- succeed. While students are aspiring to careers based on their fit with their skills, students' expectations may not always know what skills jobs require. The most common career development activities, e.g. research online, may provide inaccurate information, or information poorly tailored to their needs.
- Prioritise building students' knowledge and skills. Efforts to boost students' aspirations as a tool to improve outcomes may be ineffective as most students display high levels of ambition for their future education and career. Education systems should focus resources on building students' knowledge and skills, including achievement motivation, persistence, and curiosity, to help them to fulfil their aspirations.



Domain	Skill	Description	Behavioural examples
Open Minded ness	Curiosity	Interested in ideas and love of learning, understanding and intellectual exploration; an inquisitive mindset.	Likes to read books, to travel to new destinations. Opposite: Dislikes change, is not interested in exploring new products.
	Tolerance	Is open to different points of view, values diversity, is appreciative of foreign people and cultures.	Has friends from different backgrounds. Opposite: Dislikes foreigners or people from different backgrounds.
	Creativity	Generates novel ways to do or think about things through exploring, learning from failure, insight and vision.	Has original insights, creates valued artworks Opposite: Acts conventionally; not interested in arts

Task performance	Responsibility	Able to honour commitments and be punctual and reliable.	Arrives on time for appointments, gets chores done right away. Opposite: Doesn't follow through on agreements / promises.
	Self-control	Able to avoid distractions and sudden impulses and focus attention on the current task in order to achieve personal goals.	Postpones fun activities until important tasks are completed, does not rush into things. Opposite: Is prone to say things before thinking them through. Binge drinking.
	Persistence	Able to persevere in tasks and activities until they get done.	Finishes homework projects or work once started. Opposite: Gives up easily when confronted with obstacles/distractions.
	Achievement motivation	Sets high standards for oneself and works hard to meet them.	Enjoys reaching a high level of mastery in some activity. Opposite: Lack of interest in reaching mastery in any activity, including professional competencies.



Engaging with others	Solidarity	Able to approach others, both friends and strangers, initiating and maintaining social connections.	Skilled at teamwork, good at public speaking. Opposite: Can struggle in working with a larger team, avoids public speaking.
	Assertiveness	Able to confidently voice opinions, needs, and feelings, and exert social influence.	Takes charge in a class or team. Opposite: Waits for others to lead the way; keeps quiet when disagrees with others.
	Energy	Approaches daily life with energy, excitement and spontaneity.	Is always busy; works long hours. Opposite: Gets tired easily without physical cause.



Collaboration	Empathy	Understands and cares about others, and their well-being. Values and invests in close relationships.	Consoles a friend who is upset, sympathises with homeless people. Opposite: Tends to misinterpret, ignore or disregard other person's feelings.
	Trust	Assumes that others generally have good intentions and forgives those who have done wrong.	Lends things to people, avoids being harsh or judgmental. Opposite: Is secretive and suspicious in relations with people.



Emotional regulation	Stress resistance	Effectiveness in modulating anxiety and able to calmly solve problems (is relaxed, handles stress well).	Is relaxed most of the time, performs well in high-pressure situations. Opposite: Most of the time worries about things, difficulties sleeping.
	Optimism	Positive and optimistic expectations for self and life in general.	Generally, in a good mood. Opposite: Often feels sad, tends to feel insecure or unworthy.
	Emotional control	Effective strategies for regulating temper, anger and irritation in the face of frustrations.	Controls emotions in situations of conflict. Opposite: Gets upset easily; is moody.

Table 3. Description of social and emotional skills (adapted from OECD, 2024)

REDUCTION OF RECIDIVISM

Offender can be described as impulsive, short term perspective, disorganized, failed in school, jobs, distorted thinking, hang around with others like themselves, use drugs & alcohol, and not rational actors (Latessa, Johnson, & Koetzle, 2020). The general purpose of the Code of Corrections is to rehabilitate the offender, if possible, and to restore him to useful citizenship (Hill, 2015). Effective correlational interventions and sanctions decrease a number of recidivism cases (Latessa, Johnson, & Koetzle, 2020) and even prevent them (UN, 2018). Society benefits from reduced recidivism by increased employment (Foley, Farrell, Webster, & Walter, 2018).

Recidivism is a broad term that refers to relapse of criminal behaviour, which can include a range of outcomes, including re-arrest, reconviction, and reimprisonment (Butorac, Gracin, & Stanić, 2017). Principles of effective intervention include risk principle or “who” to target, need principle or “what” to target, treatment principle or “how” to target, and fidelity principle or “responsivity factors” (motivation and similar) to target (Latessa, Johnson, & Koetzle, 2020). It is worth noting that motivation and confidence are crucial to an individual’s competence (Education Council, 2006 annex, paragraph 5). The most effective programmes that help reduce recidivism are educational programmes (Butorac, Gracin, & Stanić, 2017; Hill, 2015),

prison-based rehabilitation programmes (UN, 2018), post-release services and supervision (UN, 2018), and non-custodial sanctions (probation and community service) (UN, 2018). Effective programs have certain characteristics: they are based on research & sound theory, have leadership, assess offenders using risk & need assessment instruments, target crime producing behaviors, use effective treatment models, vary treatment & services based on risk, needs, & responsivity factors, disrupt criminal networks, have qualified, experienced, dedicated & educated staff, provide aftercare, evaluate what they do, and are stable & have sufficient resources & support (Latessa, Johnson, & Koetzle, 2020).

Education is the most effective service to reduce recidivism (Hill, 2015) as the fundamental purpose of education is developing habits of the mind that will foster well-being (Kaufman & Kaufman, 2013). Well-being is closely linked with sustainable development, social inclusion, social stability, welfare, and employment (Ahrens, Castellani, Di Francesco, Zascierinska, Zascierinskis, Bikova, Abjalkiene, Gukovica, & Aleksejeva, 2024). Personal well-being is related to education (White, 2012).

Education impacts personal success or, in other words, well-being in its conventional understanding (White, 2012). Higher levels of education and, consequently, qualifications are strongly associated with better prospects in the labour market (Farquharson et al., 2022). Therefore, chess as an education tool enhances

the inclusiveness of disadvantaged groups, as regarded by chess federations, social workers, youth trainers, and others (Ahrens, Zascierinska, Bikova, Aleksejeva, Zascierinskis, Gukovica, & Abjalkiene, 2024). Chess playing positively affects individuals' metacognition, and, consequently, increases this individual's inclusiveness (Ahrens, Zascierinska, Bikova, Aleksejeva, Zascierinskis, Gukovica, & Abjalkiene, 2024). Chess gamers benefit from learning mathematics, logics, problem solving, resource management (Ahrens, Zascierinska, Bikova, Aleksejeva, Zascierinskis, Gukovica, & Abjalkiene, 2024).

ROLE OF THE EDA TEACHER IN SOFT SKILLS DEVELOPMENT

Learning to learn is often considered within the social cultural paradigm (Hoskins & Fredriksson, 2008). Learning to learn cannot be understood separately from the learning context (classroom, youth club, work environment, home, peers, adult learning centre etc.), and the relationship and the interaction between the learner and the learning facilitator (a teacher and a student, a student with their peers or a youth worker with another young person, etc.) (Hoskins & Fredriksson, 2008). The role of educator is to create such a positive learning space where individuals can freely adapt learning to their own needs and continue this process on a lifelong basis (Maslo, 2007). Educators can play several roles (Zašcerinska, 2009): a mentor (Maslo, 2007);

a moderator or an advisor (Lūka, 2008); an assistant (Žogla, 2007); a guide and supporter (Feerick, 2007). Teacher as an assistant (Žogla, 2007) creates possibilities to examine new ideas; assists to organize learning environment, co-operation with other learners constructing new knowledge, enriching meaning to learn in the dialogue between teacher and learners, the understanding of knowledge is tested in the dialogue; helps students understand opportunities and their applying (Žogla, 2008). Teacher as a moderator or an advisor helps students attain high personal results and develop skills in a versatile socio-cultural context (Lūka, 2008). The role of teachers as mentors is

for students' self-discovery and self-realization; to help motivate students; to stimulate their interests; to help them develop their own learning structure and style; to assist them to evaluate their performance, and to be able to apply these findings to improve their further learning (Maslo, 2007). Partnership between student and teacher assumes that student is equal to teacher as a human being of equal quality (Čehlovs, 2008). The primary mission of teachers is to organize training in such a way as to promote active training processes: students need to learn how to learn, and students need to acquire independent study skills they will continue to apply throughout their life (Maslo, 2007).





CHESS AS AN EDUCATIONAL TOOL

*Thanks to chess, many of us have experienced the joy
of intellectual creation (GM T. Petrosian)*



Pedagogical benefits of chess

COGNITIVE DEVELOPMENT

Chess is an ideal game for introduction in prisons. It possesses all the elements that make its implementation highly beneficial: it is a healthy occupation; it entertains, amuses, and helps pass the time in prison – “chess takes a lot of the prison out of prison.” It **stimulates cognitive processes** (in other words, it enriches the mind) in an environment where mental stimulation is often limited and scarce; it **encourages strategic thinking** and reflection on the consequences of one’s actions; it **enhances emotional intelligence** and promotes values such as respect for others and for rules.

Quite often, people who begin to practise chess regularly find themselves, without quite knowing how, reflecting on their lives and asking a fundamental question: “Is it worth it?”

Many inmates have, throughout their lives, **adopted patterns of thinking rooted in the refusal to take responsibility** for their own actions; a clear inability – or at times a complete lack of interest – in putting themselves in others’ shoes; a disregard for socially accepted rules; and, in many cases, a serious lack of ability to plan or organise their personal future.

Chess-based strategic thinking is fundamentally incompatible with this mindset and these personal traits. The game is built on a set of principles: accumulating small

advantages, creating weaknesses in the opponent’s position, occupying the most important squares on the board, setting short-, medium-, and long-term goals, studying both oneself and one’s opponent, being patient and weighing important decisions carefully, continuously analysing the current state of play, waiting for the right moment to act, ensuring every move has a purpose, and thinking both tactically and strategically – in short, a wide array of guiding principles that encourage objectivity and personal responsibility.

These principles can be taught and explored independently of the game itself, and this course aims to apply them to real-life situations. Developing a type of strategic thinking that enables individuals to assess life situations objectively, become aware of the consequences of their actions, and adopt planning as a guiding habit may significantly contribute to the ultimate goal of true social reintegration.

Experiences of teaching chess in prisons have not been uncommon, and indeed, such initiatives have taken place in prisons across the world. Given the qualities outlined above, it is only natural that many chess players, even intuitively, recognise these advantages and have sought to organise activities within correctional facilities. However, **these efforts have often lacked continuity and a systematic approach.**



In countries such as Spain (the programme “our chess reintegrates” has been running for 15 years), Russia, Italy, the United States, Mexico, and others, various chess teaching initiatives have been carried out and continue to take place. Our hope is that Icarus will take these initiatives a step further, building on the solid work of our partners.

What makes Icarus a successful initiative truly innovative is the way it draws on the full range of resources chess has to offer. The focus is not limited to the well-known and widely accepted cognitive and intellectual benefits – such as improvements in memory, attention, concentration, logical and spatial reasoning – but also takes into account the other aspects we have already mentioned: its strategic components; its value as a tool for teaching ethical and social values; and its usefulness in developing Emotional Intelligence. This has been developed by other prison projects, such as those by Club Magic in Spain with their very own methodology for cognitive training, but Icarus offers a structured international effort where soft skills are also present.

Delving into this rich array of benefits that chess provides can inspire many individuals, even those in extremely difficult circumstances, to begin thinking like a chess player – that is, to approach life with objectives, viewing it as a complex and demanding game of chess. A game that, while challenging, has rules; and if we respect those rules and learn to adapt, we may just begin to glimpse victory at the end of the tunnel.

the inclusiveness of disadvantaged groups, as regarded by chess federations, social workers, youth trainers, and others (Ahrens, Zascierinska, Bikova, Aleksejeva, Zascierinskis, Gukovica, & Abjalkiene, 2024). Chess playing positively effects.

As a tool for growth, resilience, and reintegration, chess offers profound psychological benefits, particularly in the structured yet often chaotic environment of prison. It becomes a vital tool for managing stress and frustration while fostering emotional regulation. Through chess, inmates develop patience, resilience, and the ability to think ahead, with each move teaching the importance of understanding consequences—both immediate and long-term—mirroring the challenges of life itself. The game often transforms players, turning impulsive decision-makers into thoughtful strategists who carry these lessons beyond the board. However, despite its advantages, chess in prison faces challenges, such as limited resources that require players to improvise boards and pieces using materials like paper or soap, while overcrowded, noisy conditions can disrupt focus. Innovative solutions, such as painting boards on walls and utilizing prison libraries for self-study, underscore the ingenuity of inmates and their determination to overcome obstacles. Chess programs within prisons are frequently integrated into rehabilitation initiatives, teaching critical life skills like evaluating risks, resolving conflicts, and setting goals, with some inmates stepping into mentorship roles that build leadership



and camaraderie. The impact of chess extends beyond prison walls, as many former inmates carry the discipline, focus, and strategic thinking they honed into their lives outside, joining local chess clubs or global online communities. In this way, chess acts as a bridge between incarceration and reintegration, offering hope, purpose, and the powerful reminder that every move, whether on the board or in life, can shape a better future.

PERSONAL AND SOCIAL DEVELOPMENT

Let us remember: the aim of a chess workshop focused on personal transformation should not simply be to promote chess as just another sporting activity. Rather, it should highlight its power to foster values, its suitability for encouraging self-awareness and emotional intelligence, all with the ultimate goal of supporting successful social reintegration.

In the context of a prison – a setting that, due to its very nature as a place of enforced confinement, is often intellectually unstimulating – the structured practice of chess can help enhance cognitive processes. Inmates fully recognise their need to work on their mental abilities, and chess is ideally suited for this purpose: it develops these skills while simultaneously providing enjoyment, which clearly makes this kind of mental training more accessible and effective. There are also specific exercises designed to support this work.

When it comes to values, it is no longer universally accepted that sport in itself promotes positive values among participants or spectators.

Modern sports values, increasingly influenced by so-called “mass sports”, have in recent years been tainted by negative elements: the pursuit of results at any cost – including doping; the ideal of quick financial gain; the glorification of aggression; and an irrational and unconditional loyalty to one’s team, among others.

Chess played within a prison setting carries its own risks in this regard, as has already been discussed. Those delivering workshops of this nature must, in their day-to-day work, place particular emphasis on the following:

- Nurturing a healthy competitive instinct, which is inherent to human nature.
- Encouraging critical thinking.
- Supporting social integration.
- Teaching respect for one’s opponent.
- Enhancing self-esteem.
- Promoting chess as a rewarding leisure and recreational activity.
- Raising awareness of the value of study and personal effort as a path to personal and professional development.



The strategic principles of chess, when used to promote new, positive ways of thinking within the prison population, should be taught by drawing clear parallels with real-life experiences. This makes it easier for inmates to engage with these ideas, as the metaphor of life as a chess game helps them relate to the concepts being introduced.

Chess lends itself remarkably well to the development of emotional intelligence and the reinforcement of key values such as respect for rules and opponents, the importance of courtesy, the necessity of self-control, the value of effort, and the benefits of a healthy drive for self-improvement.

These goals are more likely to be achieved if the competitive aspect of the game is played down, and instead the emphasis is placed on cooperation, learning, mutual support, personal growth, and the correction of harmful behaviours. **For this aspect it is of great value taking into consideration the importance of soft skills** and how they can implement a chess course when trying to promote emotional intelligence.

The role of the instructor is essential to the success of the activity. They must act as a catalyst for change, fostering an atmosphere of optimism, respect, and mutual trust.



Adaptation to different levels

BASIC RULES AND SIMPLE VARIATIONS

Chess is more than a game; it's a tool for strategy, focus, and self-discipline. Within a prison setting, it serves a dual purpose: offering mental stimulation and providing a constructive way to pass time. For beginners or advanced players, chess becomes a means to connect with others, escape the monotony, and even find personal growth.

In a typical prison recreation room, a chessboard may be the center of calm amidst the chaos. Pieces crafted from scraps of paper or soap reveal the ingenuity of inmates who turn limited resources into opportunities for learning. This subchapter will explore the basic rules of chess and variations adapted to skill levels, while considering the unique dynamics of life behind bars.

Fundamental rules of chess for prison beginners
The game begins with a standard 8x8 board, where each player controls 16 pieces. Here's how each piece moves:

- **King:** Moves one square in any direction but cannot move into check.
- **Queen:** The most powerful piece, moving any number of squares in straight lines.
- **Rooks:** Move any number of squares vertically or horizontally.
- **Bishops:** Travel diagonally on squares of their starting color.
- **Knights:** Jump in an "L" shape, leaping over other pieces.
- **Pawns:** Move one square forward (two on their first move) and capture diagonally. They can be promoted upon reaching the opposite side.

Inmates who are new to chess often begin by focusing on these basics. Many prisons organize beginner workshops where experienced players teach newcomers, sometimes using boards painted onto tabletops or drawn on paper. Chess not only sharpens the mind but also fosters patience, critical thinking, and a sense of achievement.



Chess building focus and discipline

Prison life can be unpredictable, but chess provides structure. Inmates quickly learn the importance of focus: a single careless move can cost the game. This lesson translates into daily life, teaching players to think through actions before committing to them.

For beginners, an emphasis on control of the center—dominating the central squares of the board—offers an essential lesson: establish a solid foundation before making bold moves. Strategies like early piece development and king safety through castling are foundational skills taught during informal.

This process builds discipline, showing players the value of steady, thoughtful progress, both on the board and in life.

Chess Variants for novices

Chess for beginners in a prison setting often incorporates simplified rules and creative adaptations to encourage participation:

- **Pawn Wars:** Players use only pawns to learn their movement and promotion rules.
- **No Queens:** Removing queens forces players to rely on strategic use of weaker pieces.

These variants are particularly effective in introducing the game to those who might otherwise find it too complex. By reducing the number of rules and pieces, the game becomes accessible to more inmates, fostering an inclusive environment where everyone can learn at their own pace.

Intermediate strategies for skill growth

Once inmates grasp the fundamentals, they can explore intermediate strategies. Chess becomes not only a game but a battle of wits, encouraging deeper thought and creativity.

Key strategies include:

- **Forks:** Using one piece to attack two enemy pieces simultaneously.
- **Pins:** Immobilizing a piece by threatening the more valuable piece behind it.
- **Skewers:** Forcing a more valuable piece to move, exposing a weaker piece behind it.

Intermediate players often practice these tactics during tournaments, which are common in prisons. These competitions provide an outlet for healthy competition, offering rewards such as extra commissary items or small privileges.

Advanced variants in a prison context

For more experienced players, chess variants add depth and unpredictability to the game:

- **Blindfold chess:** Players call out moves without seeing the board, testing their memory and visualization skills.
- **Blitz/Bullet chess:** With extremely short time limits, this variant demands quick thinking and nerves of steel.
- **Team chess:** Multiple players collaborate, discussing strategies and building camaraderie.

In the confined setting of prison, these variants stimulate creativity and encourage social bonds. They remind players that chess is as much about community as it is about individual achievement.



GAMES AND PRACTICAL EXERCISES

The chess games selected for each level of players vary according to their skill and understanding of the game. For beginners, we choose games that are easy to follow or so famous that even non-chess players might recognize them. This approach helps establish a friendly rapport with students, sparking greater interest by highlighting common passions.

The famous "Légal's Mate":

One of the most renowned examples is the "Légal's Mate," which was first played by **Kermur Sire De Légal** in Paris in 1750. The game is celebrated for its elegant exploitation of the f7 weakness.

Kermur Sire De Légal - Saint Brie (1750 - Paris, FRA)

1.e4 e5 2.Nf3 d6 3.Bc4 Bg4 4.Nc3 g6 5.Nxe5 Bxd1 6.Bxf7+ Ke7 7.Nd5# 1-0

This game teaches beginners the vulnerabilities in the early stages of a chess game and demonstrates how they can be exploited efficiently.

Examples include the famous "Fool's Mate" and the "Légal's Mate." These games are useful for illustrating typical opening weaknesses (such as the f2/f7 pawn weaknesses, falling behind in piece development, moving the same piece multiple times in the opening, insufficient king safety, etc.), and how to counter them with solid defensive strategies, thus avoiding classic mistakes.



The game from "2001: A Space Odyssey":

Another famous game comes from the movie 2001: A Space Odyssey, where astronaut Frank Poole plays a game against the artificial intelligence HAL 9000. The game, although fictional, is inspired by a real match played in Hamburg in 1910 between Roesch and Willi Schlage.

Roesch - Willi Schlage (1910 - Hamburg, GER)

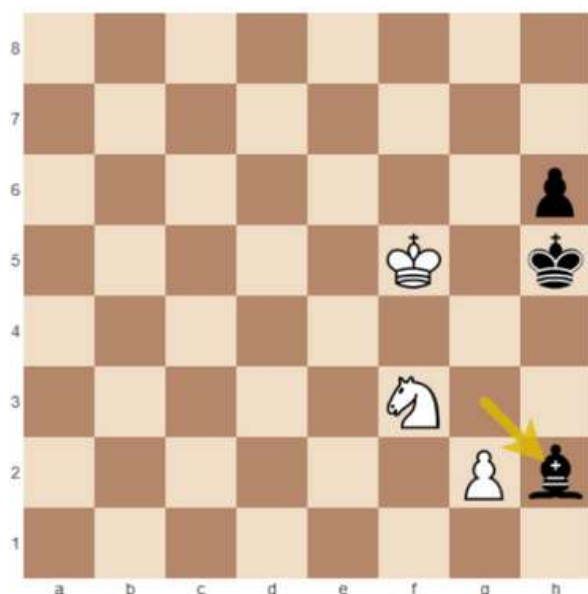
1.e4 e5 2.Nf3 Nc6 3.Bb5 a6 4.Ba4 Nf6 5.Qe2 b5 6.Bb3 Be7 7.c3 O-O 8.O-O d5 9.exd5 Nxd5 10.Nxe5 Nf4 11.Qe4 Nxe5 12.Qxa8 Qd3 13.Bd1 Bh3 14.Qxa6 Bxg2 15.Re1 Qf3 0-1

The position after 13...Bh3 was famously used in Stanley Kubrick's 2001: A Space Odyssey for the game between Frank Poole and HAL.

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Exercises for beginners

For beginners, the exercises are kept simple with minimal analysis. The exercises typically involve short sequences of moves, usually one or two moves, that lead directly to a checkmate. For example, in the diagram below, White moves and delivers checkmate in one move (1.g4#).



Intermediate-Level games

For intermediate players, we introduce more complex games that require a deeper understanding of the opening, middle game, and endgame. Each game is analyzed in detail, focusing on the strategic aspects of the position, planning, and execution. A prime example for this level is the famous Fischer – Spassky game from the 1972 World Championship in Reykjavik.

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Fischer – Spassky (1972 – Reykjavik, ISL)

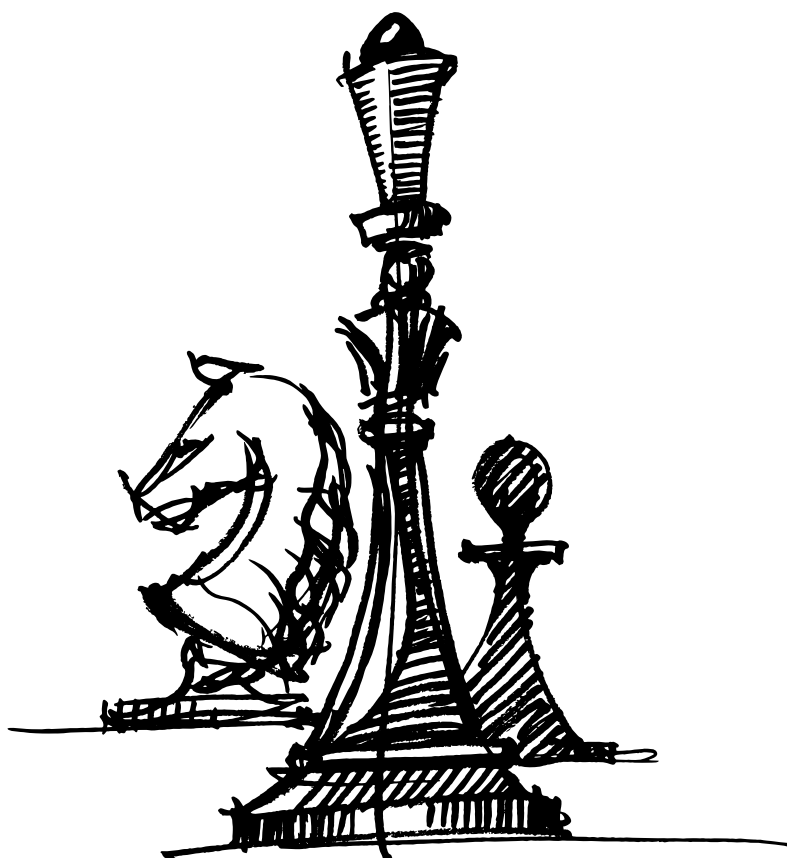
1.c4 e6 2.Nf3 d5 3.d4 Nf6 4.Nc3 Be7 5.Bg5 O-O 6.e3 h6 7.Bh4 b6 8.cxd5 Nxd5 9.Bxe7 Qxe7 10.Nxd5 exd5 11.Rc1 Be6 12.Qa4 c5 13.Qa3 Rc8 14.Bb5 a6 15.dxc5 bxc5 16.O-O Ra7 17.Be2 Nd7 18.Nd4 Qf8 19.Nxe6 fxe6 20.e4 d4 21.f4 Qe7 22.e5 Rb8 23.Bc4 Kh8 24.Qh3 Nf8 25.b3 a5 26.f5 exf5 27.Rxf5 Nh7 28.Rcf1 Qd8 29.Qg3 Re7 30.h4 Rbb7 31.e6 Rbc7 32.Qe5 Qe8 33.a4 Qd8 34.R1f2 Qe8 35.R2f3 Qd8 36.Bd3 Qe8 37.Qe4 Nf6 38.Rxf6 gxf6 39.Rxf6 Kg8 40.Bc4 Kh8 41.Qf4 1-0

This game highlights the importance of positional play and the creation of simple but effective plans.

Intermediate exercises

As students progress, the exercises become more complex. These exercises often involve tactical themes that require careful analysis and precise calculation. For example, in the diagram below, White must calculate a sequence of moves, which could involve up to eight or nine moves to deliver victory.

1.Qxg6 Kd8 (1...Nxd6 2.Rf7+ Kd8 3.Rd7#)
2.Rxe5 dxe5 3.Bg5+ hxg5 4.Qxg5+ Be7 5.Rd1+
Qd6 6.Rxd6+ Kc7 7.Rd7+ Kb8 8.Rxe7 Rxe7
9.Qxe7 1-0



Teaching strategies for inmates

The well-known quote, “Chess cannot be taught. Chess can only be learned,” attributed to the sixth World Chess Champion, Mikhail Botvinnik, highlights an essential principle of education: learning ultimately depends not only on the teacher but also, and perhaps primarily, on the learner. This perspective highlights the learner's role in mastering complex skills, in this case, chess. To bring the best material, educators need to understand the specific needs, motivations, and cognitive characteristics of their learners, and deliver material in a way that is both meaningful and accessible.

To design effective teaching strategies for inmates, it is essential first to recognise the factors that often contribute to imprisonment. It is known that low levels of education, economic difficulties, and challenges related to migration are among the main risk factors leading to incarceration (Council of Europe, n.d.). A significant proportion of convictions are related to drug offences, which represent nearly 19% of all cases (Aebi & Cocco, 2024). Substance use disorders are especially prevalent in prison populations: approximately one in four inmates struggles with alcohol use disorders, while drug use disorders are even more widespread (Fazel, Yoon, & Hayes, 2017). The impact of drug and alcohol misuse on cognitive skills is well studied:

- Stimulants disrupt the dopamine system, reducing decision-making abilities (London, 2016).

- Depressants impair memory and learning capacity (Oscar-Berman & Marinković, 2007).
- Other substances can contribute to attention problems (Curran, 1991).

In addition to substance abuse, many prisoners face psychological and cognitive challenges. Data shows that almost 33% of inmates in Europe suffer from a mental health disorder (World Health Organisation [WHO], 2023). These cognitive difficulties make learning in prison more challenging, but also underscore the value of carefully structured educational activities.

The good news is that chess offers a unique opportunity to address many of the challenges outlined above. The game stimulates decision-making, planning, concentration, and boosts memory — all skills that are often weakened by substance misuse, mental health disorders or limited education. In this sense, chess can be seen as a comprehensive tool for cognitive development. Currently, there is no widely adopted methodology specifically designed for teaching chess to inmates or as a self-education tool for them. However, general strategies for teaching chess can be applied by making necessary adjustments based on the data mentioned earlier. Widely used teaching methods, such as practical play, problem-solving through chess puzzles, the study of illustrative games, and interactive group activities, can be effectively adapted for prison education.



That said, methodology alone is not enough. The regularity of lessons, their length and intensity, and especially the involvement and understanding, may play an even greater role in the early stages of learning than the specific teaching materials used.

When introducing chess in prison settings, the teaching approach should strike a balance between educational goals and the specific needs of the learners. The following principles can serve as a foundation:

- Create a safe and welcoming environment. Many inmates may have had limited or negative experiences with formal education. To reduce resistance, it is recommended to present chess primarily as a game, using elements of playfulness and gamification. This lowers barriers and makes learning feel less formal or intimidating.
- Promote the right mindset. Chess is a competitive sport, but in prison education, the focus should be on learning, not winning. Encourage the view that losing a game is simply part of the learning process. Minor adjustments in language — for example, using the word “partner” instead of “opponent” — can reinforce a more supportive atmosphere.
- Highlight real-life benefits. Rather than focusing only on chess performance, emphasise how chess develops transferable skills, such as logical thinking, concentration, patience, and decision-making. These abilities can support rehabilitation and prepare inmates for challenges beyond prison life.

- Adapt timing and intensity. Chess mastery is highly complex (in fact, there are fewer chess grandmasters in the world than people who have climbed Mount Everest). To maintain attention and motivation, adjust lesson length and intensity to match the learners’ cognitive capacity and concentration span. Shorter, focused sessions are usually more effective than long lectures.
- Support self-directed learning. One of the educator’s most important roles is to inspire motivation during educational sessions. Once interest has been sparked, provide learners with opportunities for independent practice — such as chess puzzles, annotated games, or access to books — so they can continue their learning on their own as well.

FOSTERING PERSONAL AND INDIVIDUAL DEVELOPMENT

Chess is an individual sport, and personal growth is essential to progress in it. For inmates, chess can be a powerful tool to support individual development — strengthening not only chess skills but also broader cognitive and emotional abilities. These include decision-making, problem solving, attention and concentration, memory, and emotional regulation (e.g., anger control).

Decision-Making.

Chess is a game of open information — everything on the board is visible, and each move requires a decision. This makes it a natural



Gamification is particularly effective here: moving from theory to practice by encouraging active play increases the number of decisions learners must make. One effective method is the use of mini-games — simplified chess scenarios played with fewer pieces (e.g., rook vs. bishop, two rooks vs. two bishops, etc.). These mini-games are excellent for practising specific ideas without overwhelming learners with the full complexity of chess. Even at later stages, mini-games remain useful by shifting the focus. For example, instead of playing until checkmate, students can play until the first check. This changes the objective and encourages flexible, creative thinking.

(Recommended free resource: Acorn Chess – a collection of over 150 mini-games)

Problem-Solving.

Problem-solving is at the heart of chess. In fact, there is even a separate discipline — chess composition and solving — where participants compete in solving chess puzzles rather than playing games. Chess puzzles are highly varied, often focusing on specific tactical or strategic themes. They support pattern recognition and improve logical thinking. For beginners, the primary advantage of puzzles is that the goal is clear (e.g., checkmate in two moves), making the task straightforward and motivating. The key is choosing puzzles at the right level: For learners with shorter attention spans, start with simple puzzles that can be solved in a few minutes. Gradually increase the difficulty to extend focus and develop persistence — a principle similar to progressive overload in physical training.

(Recommended free resource: Lichess – a constantly updated collection of puzzles).

Memory Development

Memory is less directly emphasised in chess, but it still plays a critical role. Much of chess learning involves unconscious memorisation — absorbing patterns through solving many puzzles and playing games. Modern education emphasises understanding over rote memorisation. In chess, players do not simply remember move sequences — they remember ideas, strategies, and plans. This deeper form of memory facilitates the transfer of knowledge across positions. Special memory-enhancement exercises can be used. For example: Present two similar puzzles and ask learners to identify the differences. Please encourage them to reconstruct positions after seeing them briefly. These activities train memory while also reinforcing analytical thinking.

Emotional Regulation.

Emotions are an integral part of the decision-making process. In chess, however, success depends on making choices based on objective information rather than emotions such as fear or excitement. Each game, therefore, provides an opportunity to practice emotional self-control. Even in educational chess (rather than strictly competitive chess), the game still has a winner and a loser. This can trigger strong emotions. Anger, in particular, is a typical response to losing — and if unmanaged, it can be destructive. The educator's role is to help learners: recognise their emotions. Identify the source (e.g., Why did this loss feel painful?).



Reflect on whether the reaction is reasonable. Through this process, students learn to observe their emotions more objectively. Over time, chess can become a form of self-therapy, supporting emotional resilience and better mental health.

DEVELOPING SOCIAL SKILLS

Chess naturally fosters interaction. Although players are technically opponents, the game is built on principles of mutual respect, fairness, and etiquette. By its written and unwritten rules,

chess encourages good manners, appropriate behaviour, and respectful relationships — values that can help normalise interactions among inmates. However, chess is primarily an individual activity. To maximise its educational benefits in developing social skills, educators should organise learning sessions in pairs or groups. This not only emphasises cooperation and communication but also strengthens interpersonal relationships and supports the development of empathy.



Etiquette and Rules.

The rules of chess regulate not only the movement of pieces but also the behaviour of players, such as shaking hands before and after a game, or respecting the opponent's right to think without disturbance. For inmates, who are often incarcerated due to breaking societal rules, this structured framework can be especially valuable. Educators can build on the official chess rules by introducing classroom rules or additional rules that promote respect. For example, it could be rules for mini-games and contests, agreements about respectful communication, and clear expectations for behaviour during lessons.

However, rules must match the learners' level of understanding. Learners must not only grasp what the rule is but also understand why it exists and what the consequences are for breaking it. This process helps inmates recognise that every environment — whether a classroom, a chess game, or society at large — has rules that ensure fairness and cooperation. As learners progress, educators may adapt or expand the rules to meet their needs. Consistency is key: rules should always be applied fairly and transparently, which builds trust and reinforces social learning.

Communication and Cooperation.

Around the world, chess is increasingly used to support vulnerable groups in building social skills. However, the game itself is individual, and in its modern online form, it can even reduce in-person interaction. For this reason,

in prison education, it is strongly recommended to integrate group activities that encourage teamwork, solidarity, and cooperation. This could involve group contests, where the educator divides students into teams to solve puzzles or work on strategies together. Alternatively, it could be pair or team matches – playing chess collaboratively helps build listening, communication, and shared decision-making skills. Below are examples of social chess variants.

- Chess in Pairs: Two players form a team on one board, taking turns to make moves.
- Hand and Brain – Two players form a team. The “brain” announces which type of piece to move, while the “hand” decides the specific move.
- Bughouse – Played on two boards by four players (two teams). Captured pieces on one board can be passed to the teammate for use on the other board.
- Honest Chess – Usually played between a stronger and weaker player. The stronger player announces intentions and threats out loud (e.g., “I am threatening to capture your rook”). This variant supports learning and encourages open communication.

Games take place in a social context: students interact with each other, share emotions, and create experiences together. In this process, interpersonal relationships grow and strengthen. For inmates, this



creates a rich environment for pedagogical intervention, where chess serves not only as a leisure but as a structured way to practice respect, cooperation, and communication — all vital skills for reintegration into society.

EXPERIENCES IN PARTNER'S COUNTRIES

The use of chess as a social tool in prisons began to develop internationally in the late 2000s and early 2010s. Initially, these initiatives were primarily driven by individual enthusiasts and were limited to specific regions and a few select prisons. However, by

the 2020s, chess in prisons had gained recognition in several countries as a credible and effective educational and rehabilitative activity. A significant milestone came in May 2021, when the International Chess Federation (FIDE), through its Social Commission, partnered with the Cook County Sheriff's Office (Chicago, USA) to launch the global project Chess for Freedom. The program offers international visibility and legitimacy to the concept of utilising chess as a rehabilitation tool in correctional facilities (FIDE, n.d.).



ITALY

Italy introduced chess in prisons in 2015, starting with the maximum-security prison of Spoleto. There, chess was offered as part of the project Sport in carcere (“Sport in Prison”), which aimed to support rehabilitation through sport (Trasciatti, 2017). Remarkably, the initiative quickly moved beyond lessons and included official tournaments for inmates. In 2016, the Italian National Olympic Committee supported the first-ever FIDE-rated rapid tournament held inside a prison. Later, in 2019, Italy hosted the first FIDE-rated classical tournament in a correctional facility (Trasciatti, 2019). These events highlight how chess in Italy has been recognised not only as an educational tool but also as a legitimate part of competitive sports.

SPAIN

Spain was the first partner country of the Erasmus ICARUS project to introduce chess in prisons. The initiative began in 2009, led by Club Magic Extremadura Deportivo-Social, with the program “Nuestro ajedrez reinserta” (“Our Chess Reintegrates”). The program was implemented in two prisons in the Extremadura region and has continued ever since. Each year, over nine months, two weekly workshops are held, and more than 1,200 inmates have participated since the program began. The program forms part of Spain’s official prison treatment activities, aimed at social reintegration. Its focus is on developing cognitive skills — such as attention, memory, and reasoning — and on applying chess strategies to everyday life situations. The importance of the program has been formally



recognised: in 2012, it was awarded the Silver Medal for Social Merit in Prisons by the Spanish Ministry of the Interior (Montero, 2021).

LATVIA

Unlike Italy and Spain, Latvia launched its prison chess initiative much later, in 2022, directly under the umbrella of the Chess for Freedom project. Currently, regular chess sessions are held in three different prisons across three cities (FIDE, 2022). Although the initiative remains volunteer-driven mainly, it has begun to garner governmental recognition. In late 2023, the program’s leader — who had been coaching inmates since the beginning of the project — received the “Person to Person” Award from the Latvian Ministry of Justice for his contribution to correctional education (Ministry of Justice of Latvia, 2023)



GUIDELINES FOR THE USE OF ICARUS MODULES BY CHESS TRAINERS AND COACHES

"You never win a game by giving up" (GM S. Tartakower)



Methodology

Prepare for a training journey that goes beyond the ordinary. Our unique methodology combines the power of metacognitive skill development within Emotional Intelligence (EI) with the strategic depth and multifaceted advantages of chess. This comprehensive programme is built upon the combined expertise of our AE partners and dedicated chess partners, offering a truly holistic learning experience.

Building on a solid foundation of five identified best practices, our AE partners have designed six engaging training modules (a blend of theoretical understanding and practical application). These modules target crucial metacognitive skills within the key areas of EI: mindfulness, self-control, motivation, empathy, and social skills, brought to you by:

- Centre for Education and Innovation Research: Illuminating the path to Metacognitive Skills.
- Skill Up: Empowering you with essential Soft Skills and Emotional Intelligence.
- INDEPCIE: Guiding you through effective Coaching in Training and Education.

Our chess partners further enrich this programme with three specialized training modules, each exploring the impactful role of chess in unique contexts, including its application in prisons and its fascinating relationship with psychology:

- Latvian Chess Federation: Providing a comprehensive Introduction to the Game of Chess.
- UniChess S.S.D.R.L.: Sharing expert strategies for Teaching Chess to Adults.
- Club Magic: Unveiling the Positive Effects of Chess in Prison.

OBJECTIVES

Overall/General Objective:

- To enhance adult trainers' teaching practice focused on the development of metacognitive skills of chess players.
- To equip educators of all levels and fields, including chess trainers and players, with an introduction to the meaning and importance of "soft-skills" in various contexts.
- To help chess players reach their full potential both on and off the chessboard.
- To create a dynamic and engaging learning environment that promotes skill development, ethical awareness, and personal growth among inmates within the prison system.

Enabling Objectives (related to metacognitive skills for trainers):

To develop adult teachers' knowledge about metacognitive skills: their notion, structure, and elements as well as metacognitive competencies.



- To update adult trainers' skills to organise a relevant and appropriate teaching practice with the use of tools for the measurement of metacognitive skills of chess players.
- To increase adult trainers' attitude to teaching practices focused on the development of metacognitive skills of chess players.

Enabling Objectives (related to soft skills for educators and players):

- To develop soft skills essential for success in chess and teaching.
- To improve chess performance.
- To prepare chess players to become effective instructors.
- To foster a community of learning and support.

Enabling Objectives (related to chess in the prison system):

- To present the game of chess as a very healthy recreational and educational alternative to spend time in prison.
- To promote especially recommended values through the practice of chess: respect for rules and rivals, stimulation of the desire to improve, promotion of self-responsibility, improvement of self-esteem and self-control, and promotion of self-criticism.
- To induce in prisoners a more strategic way of focusing their lives through chess, emphasizing the consequences of actions and the benefits of planning and strategic thinking.

- To promote rehabilitation by developing cognitive skills, problem-solving abilities, and strategic thinking.
- To enhance critical thinking, concentration, decision-making, and planning.
- To encourage positive behavioural changes, fostering discipline, patience, and respect among inmates.
- To build a sense of community through tournaments, group play, and chess clubs, promoting camaraderie and teamwork.
- To learn the basics of chess.

ACTIVITIES

Embark on a journey to elevate your chess prowess and personal growth with this collection of engaging activities. Developed by experienced EDA trainers and insightful chess partners, these modules offer a diverse range of approaches designed to enhance your strategic thinking, emotional intelligence, and overall understanding of the game, both on and off the board. Prepare to delve into metacognitive awareness, ethical considerations, learning styles, and practical chess techniques, all aimed at unlocking your full potential.

- **Metacognitive Awareness Inventory:** Take a revealing survey to understand your own thinking processes during chess. Analyze the results to gain valuable insights into how you learn and strategize on the board.
- **Text skimming and scanning:** Practice powerful reading techniques specifically tailored for chess. Learn to quickly identify



key information and analyze critical aspects of the game.

- Solving ethical dilemmas in chess playing: Engage in thought-provoking scenarios that explore ethical challenges in chess. Develop your analytical skills while fostering a strong sense of fair play.
- York- Bark Method: Experience a learning approach where the trainer acts as a facilitator, guiding your reflections and accompanying you on your path to chess mastery.
- Achieving Flow Through Chess: Discover the incredible feeling of being completely absorbed in chess, losing track of time and external distractions. Unlock heightened well-being and satisfaction through focused engagement.
- Bitter Coffee- Managing Anger: Learn effective strategies to understand and manage anger in the context of chess. Develop self-control and maintain a balanced emotional state, even in challenging situations.
- Learning Style Test: Identify your preferred learning style through an engaging questionnaire. Tailor your training to maximize your understanding and progress in chess.
- The wheel of life: Implement the "Wheel of Life" activity to gain a holistic view of different areas in your life and identify where improvements can support your chess goals.
- The goal map: Define clear and achievable SMART objectives for your chess development. Create a concrete action plan to turn your aspirations into reality.
- ECAM Method: Experience a training approach that emphasizes success and builds self-efficacy. Progress gradually through tailored tasks, fostering motivation and a positive learning environment.
- Control questions/situation analysis of each chess piece. Analyze the function and strategic importance of every chess piece through targeted questions and real-game scenarios.
- Chess puzzles of each chess piece movements. Solve engaging puzzles focused on the unique movements and tactical possibilities of each chess piece.
- Circle time: Participate in practical exercises and simulations that mirror real-life chess situations. Role-play different positions and analyze famous games to sharpen your analytical and decision-making skills.
- Operative training tools: Explore seemingly simple positions that conceal intricate tactical possibilities. Develop a keen eye for detail and learn to identify hidden resources on the chessboard.

EVALUATION

To effectively evaluate the impact and value of these training activities, we can employ a multi-faceted approach focusing on several key areas:

1. Participant Engagement and Experience:

- Methods: Observe the level of active participation and interaction during each activity. Collect feedback through post-activity questionnaires or surveys to gauge

- participant satisfaction, perceived relevance, and enjoyment. Facilitate group discussions to gather qualitative insights into their learning experiences.
- **Focus:** How engaged were the participants? Did they find the activities stimulating and relevant to their development? What were their overall impressions and takeaways?

2. Knowledge and Skill Development:

- **Methods:** Where applicable, utilize pre- and post-activity assessments (e.g., short quizzes, problem-solving tasks) to measure any demonstrable gains in knowledge or skills related to metacognition, soft skills, or chess strategy. Analyze the quality of participant work produced during the activities (e.g., reflections, solutions to dilemmas, goal maps).
- **Focus:** Did the activities contribute to an increased understanding of the targeted concepts? Did participants develop new skills or improve existing ones?

3. Application of Learning:

- **Methods:** Encourage participants to reflect on how they can apply the insights and skills gained from the activities in their chess practice, teaching (if applicable), and even broader life contexts. Follow-up surveys or discussions can explore actual application over time.
- **Focus:** Can participants identify concrete ways to use what they learned? Do they anticipate changes in their approach to chess or teaching as a result of these activities?

4. Achievement of Objectives:

- **Methods:** Review the stated objectives for each activity and the overall training program. Analyze the data collected through engagement observations, assessments, and feedback to determine the extent to which these objectives were met.
- **Focus:** Were the intended learning outcomes achieved? Did the activities effectively address the development of metacognitive skills, soft skills, and strategic thinking?

5. Facilitator Effectiveness:

- **Methods:** Gather feedback from participants on the clarity of instructions, the effectiveness of the facilitation techniques used, and the overall support provided by the trainers and chess partners.
- **Focus:** Were the facilitators knowledgeable and engaging? Did they create a supportive and conducive learning environment?

6. Program Impact and Value:

- **Methods:** Consider the overall impact of the entire set of activities on the participants' development. This can be assessed through longitudinal surveys, testimonials, or by tracking progress in their chess performance or teaching effectiveness over a longer period.
- **Focus:** What is the overall value and impact of this training program? Did it contribute to the participants' growth as chess players, trainers, and individuals?

By employing these general evaluation principles and adapting specific methods to each activity's



- participant satisfaction, perceived relevance, and enjoyment. Facilitate group discussions to gather qualitative insights into their learning experiences.
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GUIDELINES FOR THE USE OF ICARUS SELF-IMPROVEMENT TRAINING MODULES

'Chess isn't like life... it has rules!' (Mark Pasternak, writer)

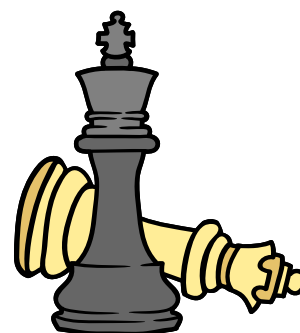


Methodology

ICARUS self-improvement training is made of two parts:

- Soft skills and
- Chess game training skills.

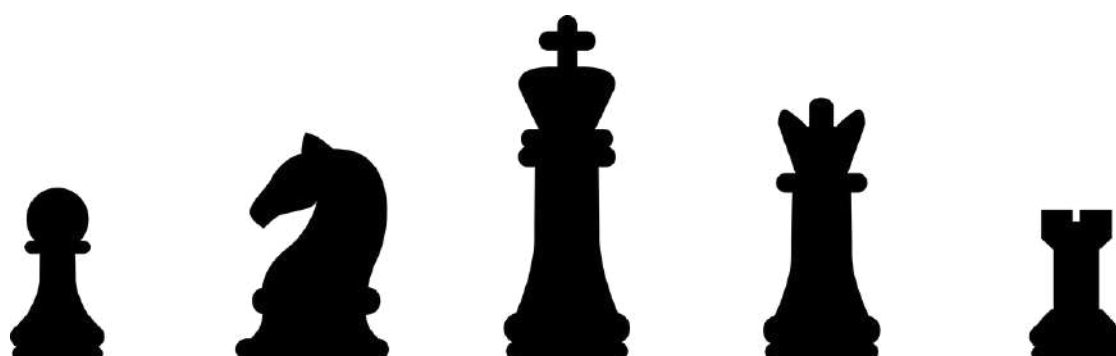
Table 4 shows the methodology of training of soft skills and chess game skills.



ICARUS self-improvement training skills	Sub-skills	Sub-skills' description	Good practice
Soft skills	Emotional Intelligence	<ol style="list-style-type: none"> 1. Self-awareness 2. Self-control 3. Motivation 4. Empathy 5. Social skills 	<ol style="list-style-type: none"> 1. Philosophical practice in Rebibbia Prison 2. Emotions at Work – prisoners and psychiatric patients tell their stories 3. TAG Project – A Whole Different Justice 4. NAUSICAA PROJECT5. Programme 2121
	Metacognitive skills or learning to learn	<ol style="list-style-type: none"> 1. Problem solving 2. Developing learning strategies 3. Critical judgement 4. Divergent thinking 	<ol style="list-style-type: none"> 1. Metacognitive Skills Project 2. Chess in Prisons programme in Latvia 3. Chess for Freedom Programme 4. Chess in Prison Programme by European Chess Union
	Coaching in Training and Education	<ol style="list-style-type: none"> 1. Effective communication 2. Problem solving 3. Time management 4. Teamwork 5. Self-awareness 6. Self-confidence 7. Resilience 8. Empathy 9. Leadership 10. Critical thinking 11. Creativity 	<ol style="list-style-type: none"> 1. Soft Skills Project 2. Youth Guarantee 3. Enterprise Europe Network 4. “Actívate” Initiative

Chess game skills	Teaching Chess to Adults	<ol style="list-style-type: none"> 1. Skill enhancement 2. Basic skill improvement 3. Career development 4. Personal enrichment 5. Work-related 	<ol style="list-style-type: none"> 1. Thinking before your move 2. Chess behind bars is not a bar to chess (There is a dream behind every door) 3. Build relationship 4. Live new experiences (and create new opportunities!) 5. Build mental and emotional discipline
	Introduction to the game of chess	<ol style="list-style-type: none"> 1. What is chess; 2. What is the history of chess; 3. Getting to know the chess table and chess pieces; 4. Important chess terms; 5. Chess game strategy: beginning, middle game, end game; 6. Moves of chess piece. 7. Chess clock and key time controls in chess. 	<ol style="list-style-type: none"> 1. Tournaments: Qualification tournament, pair tournament, hands-brain tournament 2. Sparring Team Matches 3. Media coverage 4. Chess library creation and solving chess puzzles as self-motivation to learn and improve 5. Breaking the ice. And inmates hierarchy
	Self-Development	<ol style="list-style-type: none"> 1. Physical care 2. Mental health 3. Formal / non-formal education 4. Good personal relationship 	<ol style="list-style-type: none"> 1. Our Chess Reintegrates 2. Keep a Cool Head 3. The Best Move 4. Quatre Camins 5. Cognitive Rehabilitation in Black and White

Table 4 Description of the methodology of training of soft skills and chess game skills



Modular structure: objectives, activities, evaluation

ICARUS self-improvement training is based on a modular structure.

Each module has been described and scheduled for implementation has been provided.

Each module has objectives, activities, and evaluation.

Table 5 summarises tools to be used for training of soft skills and chess game skills.

ICARUS self-improvement training skills	Sub-skills	Tools	Self-Evaluation Tool
Soft skills	Emotional Intelligence	<ol style="list-style-type: none"> 1. Achieving Flow Through Chess 2. Managing Anger 3. Implementing Active Listening 	<ol style="list-style-type: none"> 1. First phase: look back 2. Second phase: think in depth 3. Third step: learn more about yourself 4. Step four: Plan your next steps
	Metacognitive skills or learning to learn	<ol style="list-style-type: none"> 1. Metacognitive Awareness Inventory 2. Text skimming and scanning 3. Solving ethical dilemma in chess playing 4. Homophones in English Language 	
	Coaching in Training and Education	<ol style="list-style-type: none"> 1. Learning Styles Test 2. The Wheel of Life 3. The Goal Map / Vision Board 	

Table 5 Tools for training of soft skills and chess game skills



Table 6 presents training modules to be implemented with prison inmates prepared jointly by the training institution and chess organization.

Country	Focus	Tools
Italy	Intrapersonal skills	<ol style="list-style-type: none"> 1. Guess who I am 2. The Hen and the Fox 3. Together 4. What chess piece are you?
Latvia	Civic values	<ol style="list-style-type: none"> 1. Civic values and Chess Play 2. Respect of Rules 3. Morality and ethics in respect of rules 4. Etiquette in Chess 5. Chess as a Metaphor of Life 6. Life Lessons from Chess
Spain	The "Other" area	<ol style="list-style-type: none"> 1. Communication / Non-violent communication 2. Knowing how to listen and participate 3. Communication and Reflection: Strategic Language

Table 6 Training modules for prison inmates





GUIDELINES FOR THE USE OF THE ICARUS SELF- ASSESSMENT INSTRUMENT

*'In chess, as in life, the best move is always
the one you make' (Dr. Siegbert Tarrasch)*



Methodology

The ICARUS self-assessment tool was developed to guide participants through an active reflection process on themselves and their transversal competencies. The chosen approach is metacognitive and adult-centered, relying on participatory and self-reflective methodology. The tool is particularly suitable for complex educational settings, such as prisons, where fostering awareness, responsibility, and personal development is essential (York-Barr et al., 2001). The methodological structure draws on the four-phase model of reflective practice:

1. Look back: reviewing and reworking the experience.
2. Think in depth: critical analysis of behaviors, emotions, decisions.
3. Learn more about yourself: awareness of personal thinking patterns and behaviors.
4. Plan your next steps: defining future goals.

This model, based on the work of York-Barr and colleagues, was the subject of a specific research phase within WP2, documented in the "2.3 Research Report on Self-Assessment Tools". The report outlines the entire process of selecting and adapting the tool, starting from a systematic review of existing methods (e.g., Metacognitive Awareness Inventory – Schraw & Dennison, 1994; Learning and Study Strategies Inventory – LASSI), to the final selection of the York-Barr method for its flexibility and strong adherence to the principles of transformative education.

The report also emphasizes the coherence between the selected model and the educational goals of the ICARUS project, particularly regarding the development of soft skills in complex contexts. It includes practical examples of guiding questions, pilot experiences, and implementation methods, which were incorporated into the final version of the tool available in the "Self-Assessment Tool.pdf".

STRUCTURE AND USE OF THE SELF-EVALUATION TOOL (WP2 – TASK 2.3)

The development of the tool was preceded by an in-depth mapping of existing practices. The results of this investigation, presented in the "2.3 Research Report", highlight how tools such as reflective journals, peer assessment, and descriptive rubrics are central to fostering metacognition and self-efficacy among adult learners.

The tool developed by ICARUS is structured into four sections, each with guiding questions and space for personal reflection. These sections, based on the York-Barr model, were adapted to include explicit references to the soft skills promoted by the project (e.g., communication, teamwork, emotional self-regulation). WP2 materials show how the use of open-ended questions and narrative structures supports personal appropriation of learning.



Suggested Activities and Evaluation Elements

Recommended activities:

- Individual reflective journal, aligned with the four phases, with prompt questions drawn directly from the “Self-Assessment Tool.pdf”.
- Facilitated debriefings, including circle time formats, to share experiences and insights gained through reflection.
- Simulations, such as real-life scenarios, to be analyzed afterwards using the tool.

Evaluation elements:

- Self-assessment rubrics developed based on examples in the WP2 report.
- Administration of the tool at three different stages: beginning, midpoint, and end of the course.
- Discussion of results with a facilitator/peer-to-peer session.

EVALUATION TOOLS FOR THE PILOTING PHASE (WP3 – TASK 3.3)

During the piloting of training activities, the project implemented three integrated internal evaluation tools, as outlined in Task 3.3.1 of the application form:

1. Individual Self-Assessment Sheet

Includes Likert scales, closed-ended questions, and open sections. Captures perceived improvement in soft skills and effectiveness of the activities. It aligns with the self-reflective approach developed in WP2.

2. Individual Observation Sheet

Used by trainers to systematically collect observable data on behavioral and social dynamics

3. General Observation Sheet

Focuses on the overall progress of the group, quality of interactions, and response to the methodology.

Suggested Activities and Evaluation Elements

Recommended Activities:

- Analysis of collected data within the educational team.
- Triangulated feedback among participant self-assessments, trainer observations, and group-level observations.
- Feedback sessions with participants, when possible, to promote transparency and accountability.

Evaluation elements:

- Integrated analysis of the three tools to provide a multi-level view of the learning process.
- Concept map construction to track progress.
- Drafting of both qualitative and quantitative reports.

Methodological Note

The adoption of the York-Barr method, confirmed and emphasized in WP2 as described in the “Research Report on Self-Assessment Tools,” made the ICARUS tool consistent with the transformative aims of prison education. Its integration with observations and feedback from the piloting phase (WP3) completes an evaluation cycle that is not only about measurement but also about metacognitive learning. In this way, each evaluation moment becomes an opportunity to strengthen participants’ self-efficacy and awareness.



CONCLUSIONS AND SUSTAINABILITY OF THE ICARUS PROJECT

'Chess is Life' (GM Bobby Fischer)



Sustainability

The ICARUS project represents an innovative model of soft skills training for prison environments, integrating chess as a tool for learning and personal development. Throughout the manual, guidelines and strategies for the effective implementation of this approach have been presented.

To ensure the continuity and expansion of the ICARUS model, it is recommended:

- Establish alliances with penitentiary institutions and educational bodies to facilitate the implementation of the programme.
- Train new chess teachers and trainers in the use of the methodologies presented in this manual.
- Adapt the contents and activities to different cultural and educational contexts.
- Develop additional materials to enable self-training and autonomous learning.

The sustainability of the ICARUS project also depends on the consolidation of a community of practice in which adult education teachers, chess trainers and other professionals can exchange experiences, resources and strategies. It is recommended:

- The creation of online discussion forums and working groups.
- The organisation of regular training meetings and seminars.

- The establishment of cooperation agreements between educational institutions and chess associations.

Future lines of research and development

The success of the ICARUS model opens the door to further research on the impact of chess on the development of socio-emotional competences. It raises the possibility of:

- Explore new chess variants, such as cooperative chess, to encourage teamwork.
- Integrate digital technologies, such as online chess platforms with educational modules and self-assessment systems.
- Apply active methodologies, such as problem-based learning (PBL), to encourage the resolution of real situations through chess.

Considering the expansion of the program to other vulnerable groups, the ICARUS Self-Development Manual not only seeks to have an impact on the participating prisons, but also aspires to become an educational reference at European and global level, promoting the use of chess as a tool for social transformation.

Thus, regarding the potential adaptation to other areas, ICARUS is perfectly aligned with the horizontal priorities and actions of the European Union, in relation to the fields of school education, training, youth and sport.

ICARUS implements a training methodology for adults, applying the development of soft skills and Emotional Intelligence to promote key social and civic competences (LifeComp). This is transversal to primary, secondary, vocational and university education and youth. Thus, more specifically, our project can generate synergies in the following fields:

SCHOOL: The practice of chess in the school environment offers multiple applications for the cognitive development of students. As a game that requires concentration, planning and analysis, it promotes the improvement of sustained attention and the ability to solve complex problems. Chess exercises memory by requiring players to remember moves and strategies, and stimulates logical thinking and strategic decision-making, skills that are transferable to various academic areas such as mathematics and reading comprehension. It also promotes creativity by encouraging players to seek innovative solutions and emotional intelligence by teaching them to manage frustration in the face of defeat and to persevere. Incorporating chess into the school curriculum can therefore significantly enrich the development of cognitive skills essential for students' academic and personal success. Therapeutic applications for children and adolescents at risk of social exclusion, addressing their cognitive, emotional and social needs:

- Interventions for ADHD and behavioural problems: Chess can improve attention and impulse control.
- Social inclusion programmes: Facilitates the integration of young people from diverse backgrounds.

- Support for trauma victims: Offers a focus on strategy and control in a safe environment.
- Promoting resilience in poverty-stricken environments: Develops skills to overcome challenges.

ELDERLY PEOPLE WITH COGNITIVE IMPAIRMENT:

Chess is a valuable tool for the cognitive development of older people, offering comprehensive mental stimulation that can help maintain brain sharpness and health as they age. Regular chess practice exercises memory by remembering rules, moves and strategies, strengthens attention and concentration by requiring sustained focus during games, and stimulates logical thinking and problem-solving skills by analysing complex situations and planning moves. In addition, it encourages creativity by seeking novel solutions on the board and promotes metacognition by reflecting on one's own games to identify mistakes and improve. Even visuospatial skills benefit from visualising moves and board configurations.

ADULTS WITH ADDICTIONS: Playing chess can offer significant support for adults struggling with addiction by providing a mentally stimulating activity that can divert attention from addictive urges and occupy time in a constructive way. The focus and concentration required to play can help improve attention span and self-control, skills that are often compromised by addiction. In addition, chess encourages the development of long-term thinking strategies and anticipation of consequences, skills that can be transferable to recovery planning and relapse prevention.



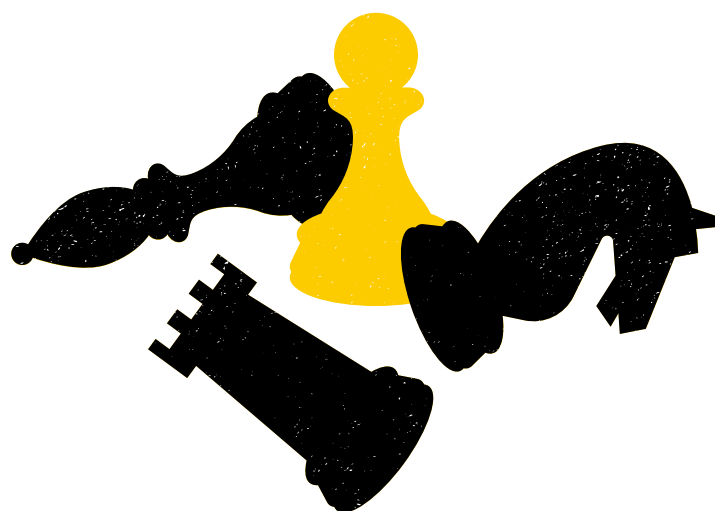
The sense of achievement and gradual improvement in play can also increase self-esteem and confidence in one's abilities, counteracting the feelings of worthlessness that often accompany addiction. In group therapy settings or rehabilitation programmes, chess can facilitate positive social interaction and provide a space for practising social skills in a non-threatening context.

ADULTS AT RISK OF SOCIAL EXCLUSION: Chess can promote social inclusion, provide a safe space for interaction, and develop social and cognitive skills that can be transferred to everyday life. This includes young people in disadvantaged neighbourhoods, immigrants, homeless people, and prisoners.

ADULTS WITH AUTISM SPECTRUM DISORDER (ASD) AND ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD): Chess can improve attention, concentration, impulse control, and planning,

providing a structured and predictable environment that can be beneficial for these individuals.

MIGRANTS AND REFUGEES. Chess is a useful tool for integrating immigrants because it transcends linguistic and cultural barriers, offering a universal language of strategy and logic that facilitates interaction and builds bridges between people from different backgrounds. Participating in chess clubs or tournaments provides a safe and neutral space where immigrants can connect with the local community, share a common activity, and develop social ties without the pressure of initial fluent verbal communication. The game fosters mutual respect, sportsmanship and equal opportunities, creating a sense of belonging and facilitating adaptation to a new society. In addition, learning and improving at chess can increase self-esteem and confidence, which are crucial for the integration and empowerment of newcomers.





Bibliography

- Aebi, M. F., & Cocco, E. (2024). Prisons and prisoners in Europe 2023: Key findings of the SPACE I survey. University of Lausanne. [Ahrens, A., Zaščerinska, J. \(2014\). Students' Attitude to Interdisciplinary Research. Society, Integration, Education. Proceedings of the International Scientific Conference. Volume I: Higher E](#)
- Ahrens, A., Castellani, A., Di Francesco, M. C., Zascierinska, J., Zascierinskis, M., Bikova, A., Abjalkiene, I., Gukovica, O., & Aleksejeva, L. (2024). Chess as an Educational Tool for Social Inclusion and Employment. Journal of Regional Economic and Social Development, 16, 8-20. [Ahrens, A., Zaščerinska, J. \(2014\). Students' Attitude to Interdisciplinary Research. Society, Integration, Education. Proceedings of the International Scientific Conference. Volume I: Higher E](#)
- Ahrens, A., Zaščerinska, J. (2014). Students' Attitude to Interdisciplinary Research. Society, Integration, Education. Proceedings of the International Scientific Conference. Volume I: Higher Education Institutions Pedagogy, School Pedagogy, Pre-School Pedagogy. May, 23th-24th, 2014, pp. 13-23. – Rēzekne: Rēzeknes Augstskolas Izdevniecība, 2014. – p 616. ISSN 1691-5887 ISBN 978-9984-44-140-5. Retrieved from [Ahrens, A., Zaščerinska, J. \(2014\). Students' Attitude to Interdisciplinary Research. Society, Integration, Education. Proceedings of the International Scientific Conference. Volume I: Higher E](#)
- Ahrens, A., Zascierinska, J., Bikova, A., Aleksejeva, L., Zascierinskis, M., Gukovica, O., & Abjalkiene, I. (2024). Chess Play as a Means Of Improving Inclusiveness of Disadvantaged Groups. Education. Innovation. Diversity, 1(8), 134 - 142. DOI: [Ahrens, A., Zaščerinska, J. \(2014\). Students' Attitude to Interdisciplinary Research. Society, Integration, Education. Proceedings of the International Scientific Conference. Volume I: Higher E](#)
- Antonelli, F. y Salvini, A. (1982). Psicología del deporte. Ed. Miñón SA. Barcelona.
- Azuaga, M. Cuentos, jaques y leyendas. Editorial Renacimiento, 2021.
- Butorac, K., Gracin, D., & Stanić, N. (2017). The Challenges in Reducing Criminal Recidivism. Public Security and Public Order (18). [Ahrens, A., Zaščerinska, J. \(2014\). Students' Attitude to Interdisciplinary Research. Society, Integration, Education. Proceedings of the International Scientific Conference. Volume I: Higher E](#)
- Cimatti, B. (2016). Definition, development, assessment of soft skills and their role for the quality of organizations and enterprises. [International Journal for Quality Research, 10\(1\), 97-130.](#)
- Consejo Superior de Deportes (2009). Estudios sobre Ciencias del Deporte. Serie de Investigación. Icd nº 39. Deporte y reinserción penitenciaria. Madrid. Librería del BOE.
- Council of Europe. (n.d.). Health in prisons: A WHO guide to the essentials in prison health. https://www.coe.int/T/DG3/Health/Prisonsreport_en.asp



- Curran, H. V. (1991). Benzodiazepines, memory and mood: A review. *Psychological Medicine*, 21(3), 633–652. <https://doi.org/10.1017/S0033291700022340>
- Čehlovs, M. (2008) Humanitarian Bases for the Personality Self-Determination of Senior Secondary School Students. Synopsis of Ph. D Thesis. University of Latvia
- Decety, J., & Jackson, P. L. (2004). The Functional Architecture of Human Empathy. *Behavioral and Cognitive Neuroscience Reviews*, 3(2), 71–100.
- Deutsch, M. (2006). Cooperation and conflict: A personal perspective on the history of the social psychological study of conflict resolution. In M. Deutsch, P. T. Coleman, & E. C. Marcus (Eds.), *The Handbook of Conflict Resolution: Theory and Practice* (pp. 21–42). Jossey-Bass.
- Education Council and European Commission (2006) Modernising education and training: a vital contribution to prosperity and social cohesion in Europe joint interim 1. report of the council and of the commission on progress under the 'education & training 2010' work programme. Brussels: Education Council and European Commission.
- Eurydice (2002) Key competencies: A developing concept in general compulsory education. Brussels: Eurydice/European Commission.
- Facione, P. A. (2011). *Critical Thinking: What It Is and Why It Counts*. Insight Assessment.
- Farquharson, C., McNally, S. & Tahir, I. (2022). Education inequalities. IFS Deaton Review of Inequalities.
- Fazel, S., Yoon, I. A., & Hayes, A. J. (2017). Substance use disorders in prisoners: An updated systematic review and meta-regression analysis in recently incarcerated men and women. *Addiction*, 112(10), 1725–1739. <https://doi.org/10.1111/add.13888>
- United Nations Office on Drugs and Crime /UN. (2018). *Introductory Handbook on the Prevention of Recidivism and the Social Reintegration of Offenders*. Criminal Justice Handbook Series. Vienn
- Feerick, S. (2007) New Professional Roles and Key Competences for Teachers in Europe. 116th European Workshop Pestalozzi Programme Donaueschingen-DE 25-29th June 2007
- FIDE. (2022). Introducing "Chess for Freedom" in Latvia. Facebook. <https://www.facebook.com/ChessFIDE/posts/introducing-chess-for-freedom-in-latvia-since-2022-the-latvian-prison-administra/1664902597537504/>
- FIDE. (n.d.). Chess for Freedom project. International Chess Federation. <https://chessforfreedom.fide.com/>
- Foley, K., Farrell, M., Webster, R., & Walter, J. (2018). Reducing Recidivism and Increasing Opportunity: Benefits and Costs of the RecycleForce Enhanced Transitional Jobs Program. MDRC, MEF Associates.
- García, L. Ajedrez y ciencia, pasiones mezcladas. Drakontos, 2013.
- Gerhardt, S., Montero, J. A., et al. (2022) Effects of chess-based cognitive remediation training as therapy add-on in alcohol and tobacco use disorders.
- Goleman, D. (1995). *Emotional Intelligence*. Bantam Books.



- Heckman, J. J., & Kautz, T. (2012). Hard Evidence on Soft Skills. NBER Working Paper No. 18121.
- Hill, A. (2015). Education Reduces Recidivism. EDUCATION, LAW AND POLICY | SPRING 2015.
- Hoskins, B. & Fredriksson, U. (2008). Learning to Learn: What is it and can it be measured? European Commission: Joint Research Centre Institute for the Protection and Security of the Citizen Centre for Research on Lifelong Learning (CRELL). DOI: 10.2788/83908
- Kaufman, M. & Kaufman S. (2013). Education Law, Policy and Practice: Cases and Materials (3d Edition Aspen 2013). Publisher: Wolters Kluwer Law & Business. ISBN 10: 1454825081 ISBN 13: 9781454825081
- Latessa, E.J., Johnson, S., & Koetzle, D. (2020). What Works (and Doesn't) in Reducing Recidivism (2nd ed.). Routledge.
- London, E. D. (2016). Impulsivity, stimulant abuse, and dopamine receptor signalling. In R. Schwarcz (Ed.), Advances in pharmacology (Vol. 76, pp. 67-84). Academic Press. <https://doi.org/10.1016/bs.apha.2016.01.002>
- Lūka, I. (2008) Development of Students' ESP Competence and Educator's Professional Activity in Tertiary Level Tourism Studies. ATEE Spring University Conference Teacher of the 21st Century: Quality Education for Quality Teaching University of Latvia, May 2-3, 2008;
- Maslo, E. (2007) Transformative Learning Space for Life-Long Foreign Languages Learning. International Nordic-Baltic Region Conference of FIPLV Innovations in Language Teaching and Learning in the Multicultural Context 15-16th June, 2007, Riga, Latvia
- Mayer, J. D., Salovey, P., & Caruso, D. R. (2008). Emotional Intelligence: New ability or eclectic traits? American Psychologist, 63(6), 503-517.
- Ministry of Justice of Latvia. (2023). Awards of the Ministry of Justice were presented to volunteers in correctional services. <https://www.tm.gov.lv/lv/jaunums/pasniegti-tieslietu-ministrijas-apbalvojumi-brivpratiga-darba-veicejiem-korekcijas-dienestos>
- Montero, J. A. (2021). Chess in Spanish prisons. ChessBase. <https://en.chessbase.com/post/chess-in-spanish-prisons-2021>
- Novus (2025). Soft Skills e Reinserimento Sociale: esperienze educative nelle carceri europee. Report Erasmus+.
- OECD (2024), Social and Emotional Skills for Better Lives: Findings from the OECD Survey on Social and Emotional Skills 2023, OECD Publishing, Paris, xx.
- Oscar-Berman, M., & Marinković, K. (2007). Alcohol: Effects on neurobehavioral functions and the brain. Neuropsychology Review, 17(3), 239-257. <https://doi.org/10.1007/s11065-007-9038-6>
- Pena Barbeito, R. Ajedrez social y terapéutico: Una nueva mirada desde las ciencias sociales. Universidade da Coruña, 2021.



- Pérez Candelario, M., Montero, J. A. Ajedrez a tu alcance: de cero a cien años. Asociación Extremeña para el estudio del ajedrez, 2008.
- Pittaro, M. (2024). Using Soft Skills Training to Reduce Recidivism. American Military University Research Brief.
- Romanenko, Y.N., Stepanova, M. & Maksimenko, N. (2024). Soft skills: students and employers crave. Humanit Soc Sci Commun 11, 931 (2024).
- Rychen, D. S., & Salganik, L. H. (Eds.). (2003). Key Competencies for a Successful Life and a Well-Functioning Society. Hogrefe & Huber.
- Salas, E., Sims, D. E., & Burke, C. S. (2005). Is there a "Big Five" in Teamwork? Small Group Research, 36(5), 555–599.
- Spitzberg, B. H., & Cupach, W. R. (2011). Interpersonal Communication Competence. SAGE Publications.
- Trasciatti, M. (2017). How chess transformed the lives of prison inmates. ChessBase. [ddd](#)
- Trasciatti, M. (2019). Inside an Italian prison — first FIDE-rated classical tournament. ChessBase. [ddd](#)
- United Nations Office on Drugs and Crime /UN. (2018). Introductory Handbook on the Prevention of Recidivism and the Social Reintegration of Offenders. Criminal Justice Handbook Series. Vienna: United Nations.
- White, J. (2012). Education and Well-being. In Susan David, Ilona Boniwell, and Amanda Conley Ayers (Eds.), The Oxford Handbook of Happiness, Section 6: Positive Education Chapter 41: Education and well-being. Publisher: Oxford University Press.
- World Health Organisation. (2023). One third of people in prison in Europe suffer from mental health disorders.
- Zaščerinska, J. (2009). Role of Teacher in the Era of e-Learning. In: A. Ahrens & C. Lange (Ed.), First Asian Conference on e-Business and Telecommunications, pp. 73-81. Berlin: Mensch & Buch, Germany. ISBN: 978-3-86664-538-7.
- Žogla, I. (2007) Sociālais konstruktīvisms. Latvijas Universitātes Pedagoģijas un psiholoģijas fakultātes „Augstskolu didaktika: mūsdienu teorija un prakse” kursa lekcija 2007. gada 12. februārī
- Žogla, I. (2008) Didaktiska pētījuma būtība. Latvijas Universitātes Pedagoģijas un psiholoģijas fakultātes Doktora studiju programmas lekcija 2008. gada 22. maijā







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*"At the end of the game,
kings and pawns all end
up in the same box"*

Italian proverb

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