



The CASTLE project

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CASTLE

- C.A.S.T.L.E. : a Chess curriculum to Advance Students' Thinking and Learning skills in primary Education.
- Years: 2014/2017
- Evaluation points: 100/100
- Awards: «Best practice» by Italian Erasmus Agency (2017)
 «Success Story» by European Commission (2018)

https://www.youtube.com/watch?v=agDHCnDYkoA





The essential idea

- Train teachers on school chess teaching (45 primary school classes in Italy, Spain and Germany)
- Put them in a position to bring the activities into the classroom independently (900 pupils)
- Evaluating the impact of activities on pupils' learning (Turin University)
- Evaluate if there has been a usefulness (at the end of the three years of project), also under the professional profile of teachers (Ministries of Education in Italy and Spain)





Partners

- Alfiere Bianco Società Sportiva (coordinator Italy)
- Deutsche Schulschachstiftung (Munich)
- Club Deportivo Elemental 64 Villalba (Madrid)
- Regional School Office for Piedmont (Turin)
- Turin University (Turin)
- Dirección General de Mejora de la Calidad de la Enseñanza (Madrid)
- Istituto Comprensivo «Bartolomeo Muzzone» (Racconigi)
- Grundschule Gärtnerplatz (Monaco di Baviera)
- CEIP San Miguel Arcangel (Villalba Madrid)







- FIDE
- Piedmont Regional Committee of the Italian Chess Federation
- Ten more schools in the three countries









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Educational tools

- Psychomotricity on giant chessboard in the gym (first and second classes) + video course (only for teachers - visible free on eys.fide.com)
- Chess «on desk» (third, fourth and fifth classes)
- The WEB platform «Victor's chess house» (levels 1 and 2)





Experimentation

- o 2014/2015 15 first classes, 15 second classes, 15 third classes
- 2015/2016 15 secondary classes, 15 third classes, 15 fourth classes
- 2016/2017 15 third classes, 15 fourth classes, 10 fifth classes (in Germany the primary ends in fourth)
- Every year, through the reports of each lesson provided by the teachers and the meetings in the working groups, the teaching has been reviewed, modified and proposed to the new incoming classes.





Teacher training

- From November to the end of January each year (also online)
- Every 15 days, during the school year (working groups)
- Class tutoring (2/6 hours per class, on request)
- On average, they received 14 hours of in presence training + 8 hours online each year





Activities and research

- For each class, during each school year, 15 hours of activity
- Pre test and post test in all classes (also in the control classes) before and after the activities

or

• Observation grids for pupils (first and second classes only) before and after activities (also in the control classes)





Research and evaluation

- Turin University (Prof. Roberto Trinchero, Prof.Daniela Robasto, Dr. Alessio Tomassone)
 Analysis of 4,800 tests and 2,400 observation grids
- USR Piedmont and USR Madrid (Dr. Paola Damiani and Dr. Maria Angeles Heras Lazaro)
 Evaluation of questionnaires for teachers (1,813 answers)

More than 9.000 evaluation tools analyzed in 3 years





Transnational meetings, final conferences and intellectual outputs

- A meeting every year between the main partners
- Three final conferences: Turin, Madrid and Monaco
- Two psychomotricity on giant chessboard manuals (in four languages)
- A manual of "Chess on desk" of 45 lessons (three languages)
- The second level of "Victor's chess house" (three languages)
- The final report produced by UNITO, USR Piemonte and USR Madrid (three languages)





Research abstract

KNOWLEDGE PROBLEM: Does chess improve cognitive, metacognitive and psychomotor enhancement?

ASSUMPTIONS:

- The game of chess improves logical-mathematical skills (aged 8-10 years)
- Chess improves metacognitive skills (aged 8-10 years)
- The activities on giant chessboard improve the psychomotor skills of children (aged 5-7 years)

POPULATION: The Italian and Spanish elementary schools SAMPLE: Not probabilistic to representative elements. 50 Classes I, II III, IV, V of primary school:





Observation grids for psychomotricity

An analysis of the observation grids was performed, by statistical analysis of the before-after differences.

Faced with some child skills, the observer could report:

- 1 Absent (ability not present);
- 2 Base (ability present if the child is guided);
- 3 Intermediate (present ability and autonomous response from the child);

4 - Advanced (present ability, autonomous response and manifested with particular mastery).

The first 5 questions allow the identification of personal data. The grid fields from question 6 to question 14 were compiled to the external observer, observing a specific route taken in the gym.

The questions from question 15 to question 25 have been compiled by the class teacher: these data concern the skills and abilities that the child demonstrates in the classroom.





Some results in psychomotricity

IN A MIXED ROUTE HE/SHE IS ORIENTED IN THE SPACE Experimental classes 26.40% - Control classes 23.40%

MOVES IN A COORDINATED WAY Experimental classes 35.40% - Control classes 28.60%

KNOW HOW TO USE THE BODY AND MOTOR LANGUAGE IN A PERSONAL WAY TO EXPRESS AND COMMUNICATE HIS/HER SOUTH STATES, EMOTIONS AND FEELINGS Experimental classes 45.80% - Control classes 22.10%

CAN COUNT OBJECTS OR EVENTS, WITH THE VOICE AND MENTALLY, IN A PROGRESSIVE AND REGRELTIVE SENSE AND FOR JUMPS OF TWO, THREE Experimental classes 26.80% - Control classes 13.60%

CAN USE THE TERMS CORRECTLY TO INDICATE AN OBJECT IN A DETERMINED POSITION Experimental classes 43.10% - Control classes 15%

CAN PROVIDE CORRECT INDICATIONS TO ANOTHER PERSON TO PERFORM A SIMPLE ROUTE Experimental classes 45.10% - Control classes 26.60%





Some results in chess

HYPOTHETIC REASONING AND SUBTRACTION (THIRD CLASSES) Experimental classes 27.90% - Control classes 13.90%

CALCULATE DISTANCES - DIVISION (THIRD CLASSES) Experimental classes 17.60% - Control classes 12.80%

CALCULATE NECESSARY BOXES FOR PAINTING - DIVISION (THIRD CLASSES) Experimental classes 28% - Control classes 20.20%

LOGIC REASONING ON THE SPACE AVAILABLE IN A SHEET (FOURTH CLASSES) Experimental classes 26.20% - Control classes 13.80%

YOU SHOULD CHOOSE THE SHORTEST RAILWAY ROUTE BY CONSULTING TIME WITH DIFFERENT ALTERNATIVES Experimental classes 34.40% - Control classes 16%





Synthesis of experimentation

The children in the experimental group improved their psychomotor skills to a greater extent than the control group on all items detected with an external observer.

In the logical-mathematical and metacognitive field there are encouraging results but with a gap between experimental and control that is not always so evident.

If you isolate 1 section of 1 school (I.C. Caramagna), you can see how in this section the results of the experiments are clearly higher in all areas.





The working group

- Roberto Trinchero
- Daniela Robasto
- Davide Della Rina
- Alessio Tommassone
- Maria Grazia Bergamo
- Fabiola Cantore
- Alessandro Dominici





Evaluation of Education Ministries

IDEA THAT THE PRACTICE OF THE ACTIVITIES PROVIDED BY THE CASTLE PROJECT CAN PROMOTE THE LEARNING AND PARTICIPATION OF ALL THE STUDENTS, EVEN THOSE WITH BES (international literature)

MODIFYING AND IMPROVING THE QUALITY OF THE LEARNING ENVIRONMENT

ALLOWING THE VALORISATION - TRANSFERABILITY OF THE INCLUSIVE POTENTIALS OF THE CONTEXT (AT LEVEL OF ALL SCHOOLS AND OTHER SCHOOLS)





Self-report questionnaire for teachers (nameless)



Elaborato dall'USR in relazione alle indicazioni di Alfiere Bianco

DATI SUL GRADIMENTO DELL'ATTIVITA' SU PUNTI DI FORZA E CRITICITA' Readiness come formatori



Adattamento dell'USR del Questionario Bocci, Travaglini, 2015 (Univ. Roma Tre)

Item

16-49

AUTOVALUTAZIONE PROCESSI INCLUSIVI A LIVELLO DI SCUOLA E CLASSE

IN OTTICA «AMPIA»



Self-report questionnaire for teachers

The questionnaire provided for each question to be answered by choosing between

1 = Fully (in blue on the graphs)
2 = Partially (in orange on the graphs)
3 = Sufficiently (in gray on the graphs)
4 = Not enough (in yellow in the graphs)

Some questions also contained the possibility of providing an open answer. The questionnaires were administered in the three countries, the data refer to 37 teachers.





Perceived liking / utility of the CASTLE project

Q4 Have the proposed activities been interesting for you?



Perceived liking / utility of the CASTLE project

Q7 Did the training strategies of the trainers have been effective?



Perceived liking / utility of the CASTLE project

| 5. How much do you feel motivated to repeat the experience? | Lev 1: 20 Lev 2 : 12 Lev 3: 4 Lev 4: 1 |
|---|---|
| 6. Have the training activities for the teachers been adequate? | Lev 1: 19 Lev 2 : 14 Lev 3: 4 Lev 4: 0 |
| 8. Do you feel capable of being a trainer of your colleagues in the future? | Lev 1: 8 Lev 2 : 16 Lev 3: 9 Lev 4: 4 |





Inclusive dimensions: the look on the student – Holistic vision

d16. Ritieni che l'attività svolta abbia favorito la visione olistica delle competenze da sviluppare?







Inclusive dimensions: the look on the student – A personal plan for inclusion

D 17 Ritieni che l'attività svolta abbia contribuito a fornire adeguate/arricchite informazioni (sull'alunno, sul percorso didattico della classe) per elaborare un piano personale che favorisca l'inclusione (PEI; PDP)?





•1 •2 •3 •4



Inclusive dimensions: the look on the student - Questions between students

d33 Gli allievi si pongono reciproche domande tra loro per aiutarsi nell'apprendimento







■1 ■2 ■3 ■4 Inclusive dimensions: the look on the student – Collaboration between students

d35 Gli allievi con rendimento differente collaborano tra di loro







Inclusive dimensions: the look on the student – All students partecipated in

d42 Tutti gli allievi, a prescindere dal grado di abilità o disabilità, partecipano alle attività promosse







Inclusive dimensions: the look on the student – Class climate

d44 Le attività effettuate con gli allievi hanno contribuito rendere positivo il clima di classe?





■1 ■2 ■3 ■4 Inclusive dimensions: the look on the student – Trasversal skills improvement

d48 Le attività effettuate con gli allievi hanno favorito lo sviluppo di competenze trasversali?



Attitude of the teachers – Involving of support teachers

d41 Gli insegnanti di sostegno sono coinvolti sistematicamente nella progettazione e nella verifica delle attività di apprendimento







Attitude of the teachers – Improving inclusion processes

D 45. Le attività effettuate con gli allievi hanno contribuito a migliorare i processi di inclusione nella tua scuola?





• 1 • 2 • 3 • 4



Attitude of the teachers – Personal well being

Le attività effettuate hanno contribuito al benessere dei docenti a scuola?



• 1 • 2 • 3 • 4





Conclusions

Complete satisfaction for the CASTLE Project activities was highlighted. The adequacy of the teachers in transferring the skills acquired to their colleagues (in 88% of cases) and, above all, the perception of an "advantage" for the students, related to the following dimensions, have been highlighted : class climate; peer collaboration; participation and involvement of all students, even those with difficulties.





The working group

Franco Calcagno Paola Damiani Maria Angeles Heras Lazaro Vicente Alcaniz Alessandro Dominici





CASTLE: WHAT IS IN CONCLUSION

- A close "cultural" exchange between chess instructors and teachers
- A complete educational tool, useful for the five years of Primary school, to be used by Teachers and Instructors (also for teacher training)
- Project teachers can, if they wish, keep the project alive for years to come
- The possibility of transferring information and experience, within the school, from Teachers to other Teachers
- In a school where Teachers have adopted "Chess", the Instructors have the door wide open (tutoring, training, extra time activities, activities at the chess club, growth of the youth sector)
- A model applicable in many European countries





THANKS FOR YOUR ATTENTION!





Useful links

- <u>http://ec.europa.eu/programmes/erasmus-plus/projects/</u>
- <u>http://eys.fide.com/en/index.php</u>
- <u>http://castleproject.eu</u>
- <u>http://www.europechesspromotion.org/home-english.htm</u>
- <u>https://chessplus.usi8.list-</u> manage.com/subscribe?u=575f7b5cofc8647661b141947&id=483e865a9c
- https://www.youtube.com/watch?v=yedw6htRWzc