

## **Progetto di ricerca correlato all'assegno**

Learning Math in Prison (LeMP) has been funded by the Ministry of University as PRIN project (PRIN2022\_MAFFIA - Learning math in prison: educational design in context of multi-complexity - 20223F9SRE - CUP: J53D23011160001) and the University of Bologna is one of the partners. It is an interventionist “educational design research” (McKenney & Reeves, 2018) project. Its aim is twofold, both theoretical and practical. LeMP responds to the needs expressed by mathematics teachers in prison to have adequate training and to have teaching materials suitable for the context in which they are working.

Education is one of the main general problematic issues in prison, although the right to study is clearly present in the Italian Constitution (art. 34, art. 33 Cost.), in Universal Declaration of Human Rights (art. 26 UDHR) and it is also explicitly recognized by the Penitentiary Law (art. 15, art. 19 O.P.). Ministerial data describe a critical level of schooling among detained people in prison for adults in Italy.

Among the subjects studied in prison, mathematics plays a particular role being both a form of personal enjoyment and a gatekeeper for future studies or job positions (Ahl & Helenius, 2021). Thus, the learning of mathematics appears particularly important, but there is a gap in research literature on this topic.

Teachers in prison are crucial “agents of change” (Zizioli, 2014), able to introduce the student to new individual and relational knowledge. However, at the moment, there is no specific training for Italian teachers in prison. Specific skills are gained “on the field”, by direct experience, and mathematics teachers in prison schools express a need for professional development and dedicated teaching materials.

A response to such needs requires theoretical elaboration since research about the teaching/learning of mathematics in prison is very scarce at the international level and almost nonexistent in Italy. First, descriptive research is needed to frame the specificity of the development of mathematical literacy within the context of Italian prisons. Then, design principles and didactical recommendations still need to be developed and tested on the field.

Within LeMP, organized sets of mathematical tasks (to which we refer as learning units) are co-constructed by researchers and teachers (from at least three prison schools in different Italian regions) collaborating together. Researchers will inform teachers about possible solutions available in literature (e.g. Universal Design for Learning); teachers will contribute with their experience of teaching mathematics in the specific context of prisons. Along the process of design, the researchers will develop design principles (van den Akker, 1999) to be used for the production of further materials and for teachers training.

The aim of the Learning Math in Prison (LeMP) project is twofold, pertaining both to theory and practice. This research project wants to respond to the needs expressed by mathematics teachers in prison to have adequate training and to have teaching materials suitable for the multi-complexity of the context in which they are working.

A response to such needs requires theoretical elaboration since research about the teaching/learning of mathematics in prison is scarce. First, descriptive research is needed to frame the specificity of the development of mathematical literacy within the context of Italian prisons. Then, design principles and didactical recommendations still need to be developed and tested on the field.

LeMP is an “educational design research” (McKenney & Reeves, 2018) project aimed at developing teaching materials (in the form of organized sets of mathematical tasks to which we refer as learning units) co-constructed by researchers and teachers, working together in close collaboration. Along the process of

design, the researchers will develop design principles (in the sense of van den Akker, 1999) to be used for the production of further materials and/or for teachers training. More in general, LeMP aims at contributing to the growing body of literature on critical mathematics education (e.g. Skovsmose & Greer, 2012). "Critical" should be interpreted here referring to the epistemological sense of "critique" as "judging and deciding" as described by Skovsmose (2005).

Research on "critical agency" (e.g. Skovsmose & Greer, 2012), drawing on Freire's pedagogy (e.g. Freire, 1997), has theorized the dialectics between reflection and action, and such theories have been tested in different contexts of mathematical education for marginalized students, addressing the issue of equity. However, those theories have never been contrasted to a context as peculiar as prison is. Then, we expect to contribute to the theoretical literature by testing if the theoretical assumptions are still valid in LeMP and possibly by suggesting adaptations of the theory.

### **Composizione dei membri della commissione dell'eventuale Bando**

La valutazione comparativa dei candidati sarà effettuata da una Commissione giudicatrice formata da:

Prof.ssa / Prof. Andrea Maffia (Presidente)

Prof.ssa / Prof. Luca Decembrotto (segretario verbalizzante)

Prof.ssa / Prof. George Santi (componente)

Prof.ssa / Prof. Chiara Giberti (eventuale membro supplente).

### **Requisiti di ammissione**

Alle selezioni sono ammessi a partecipare i candidati, anche cittadini di Paesi non appartenenti alla Unione Europea, in possesso di adeguato e coerente curriculum scientifico professionale e di:

- Laurea magistrale/specialistica o vecchio ordinamento o titolo equivalente con adeguato curriculum scientifico-professionale.
- Dottorato di ricerca in Matematica, Scienze Pedagogiche o titolo equivalente anche in settori affini corredato da un'adeguata produzione scientifica conseguito in Italia o all'estero;
- è previsto un colloquio;
- in caso di colloquio indicare la modalità: online
- è prevista una valutazione di competenza della lingua inglese;