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« Premiers Cris »: a Science & Design alliance for collaborative action-research projects in Early Childhood

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Premiers Cris is a research initiative that aims to rethink research practices in the field of early childhood, through a methodology combining Science & Design. Premiers Cris facilitates the implementation of collaborative action-research projects in places welcoming children aged 0 to 6. In this article, we present the collaborative action-research methodology developed by Premiers Cris and illustrate it through a case study. We also share initial thoughts on the key elements of our methodology that we believe could promote the success of collaborative action-research intervention programs in childcare contexts. We hope that the questions raised by this new methodology will highlight the value of promoting research approaches that combine science, design and civil society to reduce developmental inequalities in early childhood.

Mots-clés :
Design, Collaboration, Early Childhood, Action-research, Research practices

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1. Introduction

Acting from Early Childhood (defined here as the developmental period from 0 to 6 years) is a very effective way to reduce sociocultural and economic inequalities in the long term (De Bodman et al., 2017). In response, many childcare intervention programmes have been implemented around the world. Some of these programmes have been scientifically evaluated using the "Randomised Controlled Trial" (RCT) method. In France, two of them have been evaluated using RCT by the J-PAL[1] (*Abdul Latif Jameel Poverty Action Lab*): *Parler Bambin*[2] conducted in 94 nurseries over a period of 5 years and *1001 mots*[3] tested with 200 families. These programmes show positive effects on the educational practices of families and childcare professionals (De Chaisemartin, 2020; 2021).

However, these initiatives have not always been accepted by their primary stakeholders, i.e., childcare professionals. We can assume that their “top-down” approach - i.e., recommendations made by a small number of actors to be implemented by the majority - may have contributed to their negative image. One example is the controversy caused by the nationwide roll-out of the *Parler Bambin* programme (Ben Soussan & Rayna, 2019).

In addition to a lack of acceptability by the target audience, “top-down” approaches may suffer from (1) insufficient attention paid to the expertise of the practitioners when developing the guidelines, making the guidelines less rich than they could have been, and (2) a lack of recognition of childcare professionals, reducing them to implementers rather than stakeholders in Early Childhood Education.

Thus, there is a need to think about other types of intervention devices that could be complementary to the above-mentioned ones. To this end, we can draw inspiration from the action-research projects carried out in France by researchers such as Sylvie Rayna, Pierre Moisset and Marie-Paule Thollon-Behar (see e.g., Moisset, 2019 or Thollon-Behar, 2012). These action-research projects bring together researchers and childcare professionals around subjects related to field issues (e.g., Rayna, 2016 or Tcherkassof, 2021). Inspiration can also be found in medical research regarding the use of participatory approaches (Cornwall & Jewkes, 1995). These approaches are based on the experiential knowledge of patients (Blume, 2017) and include them in the various stages of the research process. Finally, another relevant source of inspiration can be found in social design studies (Vial, 2005). Conducted in the fields of health and education, they place users at the heart of the research process and provide results that are directly applicable in the field.

As a response to the above-mentioned issues, and drawing on these various sources of inspiration, Premiers Cris, a *researchcollaboratory*[4] hosted at the CRI (Université Paris Cité), has developed a Collaborative Action-Research (RAC, in French) methodology, combining research methods in Science and Design.

In this article, we will present the RAC methodology developed by Premiers Cris and illustrate it through a case study. Then, we will share some initial personal thoughts on the key elements of our methodology that we believe could promote the success of RAC intervention programs in childcare contexts.

2. The Premiers Cris collaborative action-research methodology

2.1. A Science & Design alliance…

Our RAC methodology combines research methods from two disciplinary fields, Science and Design (Fig. 1).

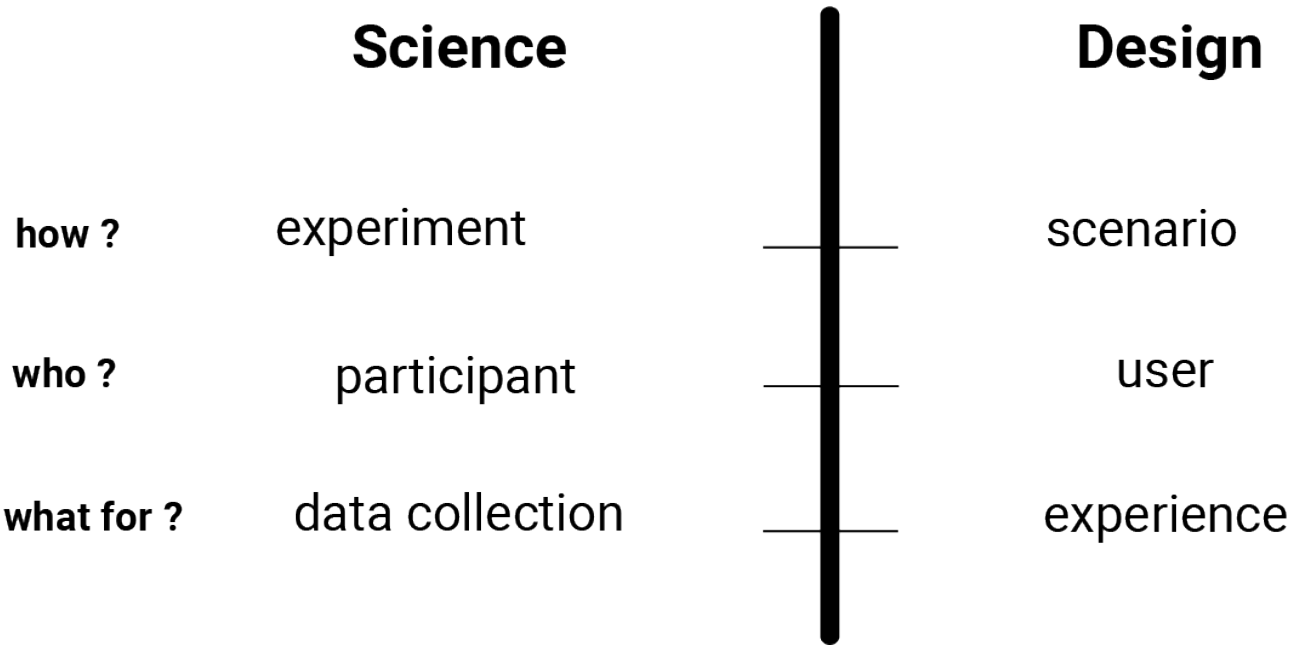


Figure 1: Science ≠ Design

The scientific method is evidence-based. Based on a large body of scientific literature, this method is aimed at defining a precise question and providing methodological tools (experimentation, data collection, etc.) to address it. In an action-research approach, it supports a rigorous evaluation of the actions implemented in the field (Pring & Thomas, 2004).

The design research method focuses on the user's experience. It is based on a review of existing projects, observations and field surveys, as well as individual or group interviews with users. As a result, new devices (material or not) are proposed, rapidly prototyped and implemented in the field, in order to be modified and adapted according to users' feedback and practices (Findeli, 2015).

The alliance of research methods in Science and Design provides a response to specific issues through actions adapted to users and their environment. These actions are then rigorously evaluated using both qualitative and quantitative data (mixed method), providing an objective point of view that takes into account the subjectivity of the people conducting the research.

2.2. … embodied in collaborative action research projects

Our RAC methodology is embodied in RAC projects, implemented in places welcoming children aged 0 to 6, such as nurseries, preschools or cultural centres[1]. Each RAC project is conducted by a collective of co-researchers including scientists, designers and childcare professionals. There are 8 stages in the development of a RAC project, as shown in Fig. 2.

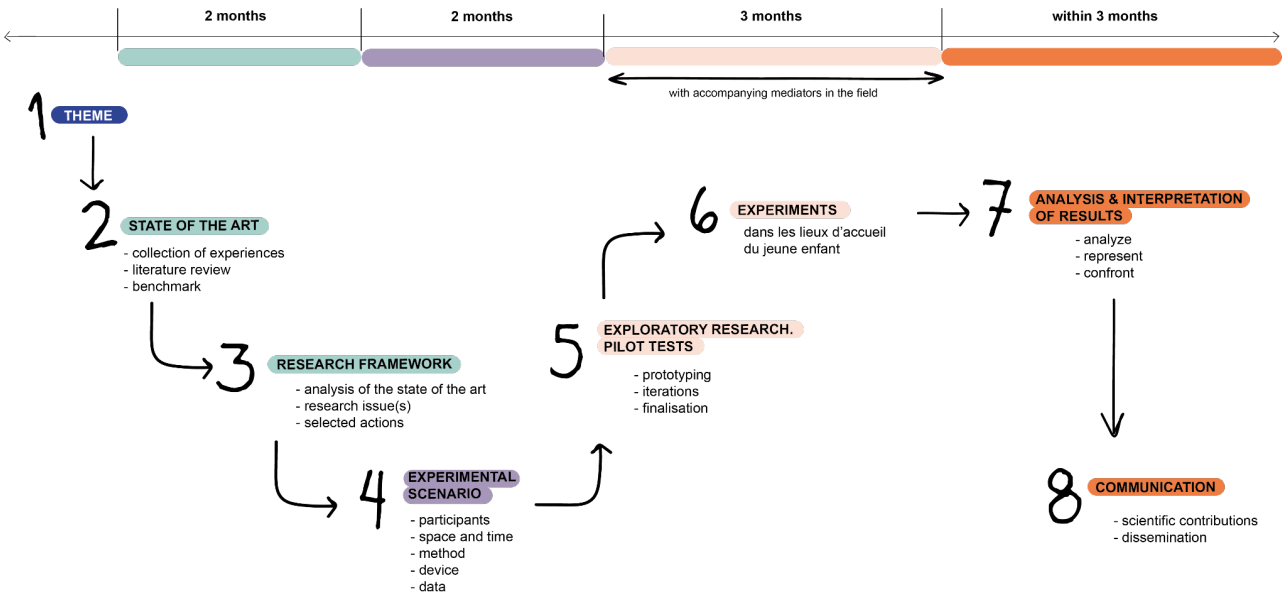


Figure 2: The 8 steps to carrying out a Collaborative Action-Research project

Throughout these 8 stages, five research meetings gathered all the co-researchers (scientists, designers and childcare professionals). During these meetings, the childcare professionals of each establishment involved in the project are represented by two referees (excluding management staff) democratically designated among the members of the establishment. It is worth noting that the research meetings take place during the paid working time of all the co-researchers.

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The implementation of a RAC project results in the production of:

- specific knowledge to each typology of co-researchers (science, design, practice), that will be valued, respectively through scientific communications, conception of experiential devices or implementation of new practices;

- a common and unique knowledge shared by all the co-researchers, based on the collaborative process put in place throughout the project (Fig. 3).

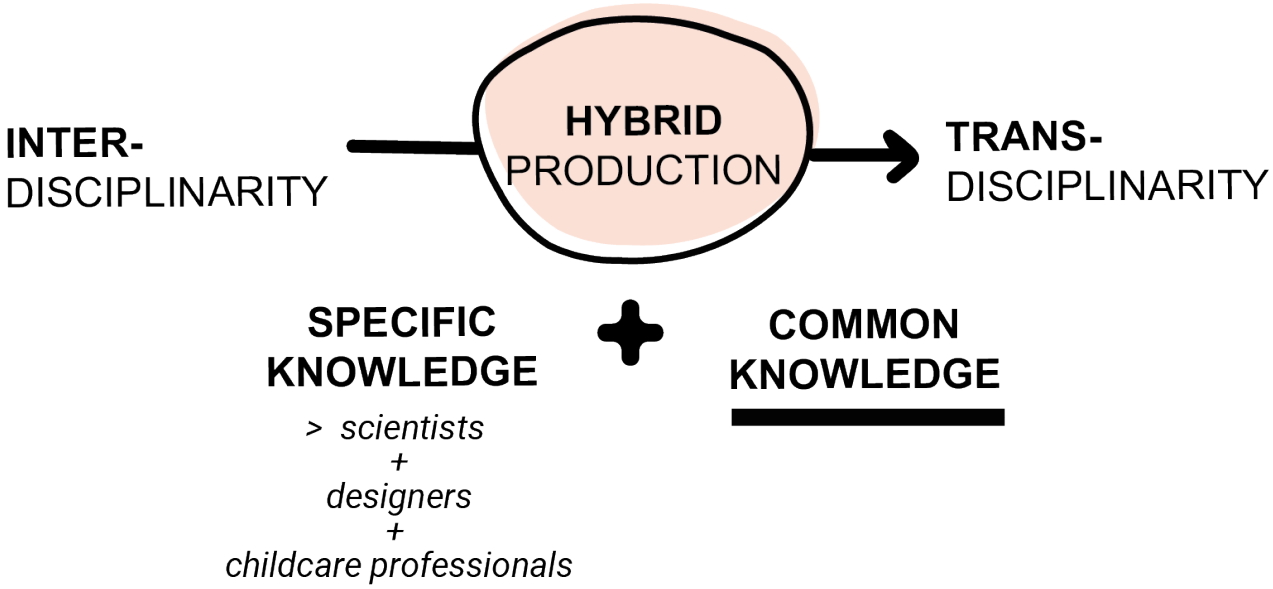


Figure 3: Specific knowledge and common knowledge

2.3. Impact assessment

We hypothesise that the participation of childcare professionals in a RAC project will have an impact on their well-being at work as well as their professional practices. To this end, we evaluate this impact using a mixed method, based on a Likert scale questionnaire (quantitative) and semi-structured interviews (qualitative).

The questionnaire was developed by our team in partnership with Cog'X, and then validated among 2,724 respondents working in nurseries or preschools (Dettling et al., 2021). The questionnaire measures well-being at work along 4 dimensions:

→ General satisfaction;

→ Valuation of professional practices (decision making, autonomy and feeling of competence);

→ Perceived work recognition (internal and external);

→ Closeness of relationships within the institution (with management staff and between teams).

The questionnaire is administered to all the childcare professionals at three key times: on the project kick-off meeting (pre-test), on the project wrap-up meeting (post-test) and 6 months after the project wrap-up meeting (post-test + 6 months). This administration schedule ensures that declared well-being can be compared between these different moments.

Semi-structured interviews of childcare professionals are carried out following the RAC project. They are based on the data collected in the questionnaires, according to a qualitative research approach that focuses on the respondents' experience (Dumez,

2013). The aim of these interviews is to identify the key elements of the methodology affecting well-being at work and professional practices, either positively or negatively.

3. Case study

The methodology developed by Premiers Cris has been implemented in two RAC projects: a first project conducted in Early Childhood Education Centres (ECECs)[1] and a second one carried out at *Mille formes*, an art initiation centre for 0–6-year-olds[2]. The first of these two RAC projects is presented in the following paragraphs.

The project was launched in September 2021 and will end in June 2022. It gathers the following co-researchers: Zoé Aegerter (designer), Emmanuel Devouche (lecturer in developmental psychology at the Université Paris Cité) and 5 ECECs in the Ile-de-France region (Rachel Lempereur and Les Bergerons in Pantin, Ménilmontant in Paris, Babilou Chancé Milly in Clichy and Babilou Berlioz in Bobigny - 85 staff members involved, including 2 referees per establishment). The general theme of this project, "Communication within ECEC", was chosen by the Premiers Cris team beforehand in order to facilitate the emergence of the research group.

During the first two research meetings, the co-researchers specified this thematic: first by choosing to focus on "Communication between professionals within ECEC" (meeting 1), then more precisely on "Facilitating the transmission of formal and informal information between childcare professionals during work time" (meeting 2). The project is still in progress. The co-researchers are currently working on finalising the fourth step, setting up the experimental scenario. This scenario was tested in a prototypical version starting in March 2022.

4. Reflecting on new research practices

Based on the first two RAC projects conducted, we can now hypothesise about the key elements of our methodology that support successful collaborative action-research intervention programs in Early Childhood. Beforehand, it is worth clarifying the methodology that allowed these thoughts to emerge: they are the result of the author's critical and reflexive analysis of the first two RAC projects as they were being conducted. This analysis is based on the observations and subjective experiences of the two authors, as well as on feedback from all the actors who have taken part in a RAC project - other permanent members of the Premiers Cris team, facilitators, scientists, designers and early childhood professionals - and on discussions with colleagues working in the field of early childhood.

4.1. Key elements to consider beforehand

. A collective of co-researchers: our methodology involves all co-researchers (scientists and non-scientists) at each stage of the project, from the choice of the precise theme to the dissemination of results (co-authorship of communications, whether scientific or not). A horizontality of knowledge and a mutual recognition of practices is introduced by the Premiers Cris team throughout the project, as we will explain below.

. A project-based approach: the team of co-researchers is involved in a specific project with predefined stages. This allows the stakeholders to be fully involved in specific activities. Throughout the project, the Premiers Cris team ensures that the project remains achievable within the given time and energy.

. An appropriate time frame: the schedule of our methodology is adapted to the field schedule, while maintaining sufficient time for research. The methodology was designed to be carried out over a French school year, from September to June. This schedule is used in most places that welcome young children, in terms of both pedagogical project and employment contract duration. The purpose of this one-year schedule is to avoid a change of team in the nurseries or of class in the schools.

Nevertheless, the timeline of our methodology is adaptable to each RAC project. This was the case for the project carried out in collaboration with *mille formes*, which was conducted over 5 months. The duration of each stage was shortened, while ensuring the necessary time for discussion, data collection and analysis.

. A common language: The RAC methodology developed by Premiers Cris proposes a terminology that is new for all co-researchers. Indeed, the vocabulary used is not exactly that of the scientific method, nor that of design research. In this way, this lexicon specific to our methodology is common to all the co-researchers. This seems to have a threefold impact:

- First, it ensures that everyone agrees on what they are talking about. By jointly discovering each stage of the methodology, the co-researchers take time to define it, thereby guaranteeing mutual agreement. The Premiers Cris team ensures that this step of vocabulary appropriation is smooth and effective for each co-researcher.

- Secondly, avoiding the use of certain words from the scientific vocabulary (research question, experimental procedure) allows scientists not to call upon pre-established concepts, which would lead them to apply a scientific research method to the project. The use of a new vocabulary helps everyone - and especially scientists for whom academic research is their job - to empower themselves to do research differently.

- Thirdly, the creation of a common and new lexicon ensures equality between the co-researchers, where the use of a vocabulary specific to science or design would have given the ascendancy to a part of the co-researchers. Indeed, the one who possesses the knowledge also possesses, to a certain extent, the power (see below). If (lexical) knowledge is shared then power is more likely to be shared, which is precisely what we are hoping for when implementing our methodology.

4.2. Key elements applied throughout the RAC projects

In order to implement a real collaboration[3] between the co-researchers within the RAC projects, it was essential to think of the conditions that would facilitate the emergence of this collaboration. To this end, we worked with the philosopher Théo Samain-Rimbaud to produce a report entitled *The horizontality of knowledge and the recognition of practices during the collaborative action-research projects of Premiers Cris* (Samain-Rimbaud & Premiers Cris, 2021). The main outcomes of this report are presented in the following paragraphs.

- A constructivist approach: the epistemology adopted in our methodology is a constructivist approach to research (neither deductive nor inductive) (Lyet, 2018). The specificity of the constructivist approach is to consider subjective moments (and more particularly those of childcare professionals), to make them explicit and to include them in a process of objectification. The constructivist approach calls for strengthening, confronting and accommodating points of view. This approach encourages the emergence of a "shared interpretative zone", the actual output of the collaboration between all the co-researchers.

- Designers' involvement: according to our analysis, one strength of our methodology is the specificity of involving designers. This is specific because the majority of previous action-research projects in Early Childhood have only involved scientists and practitioners. What is the contribution of design to our methodology? The designers' function is to embody the "shared interpretative zone" between the co-researchers through the concretisation of a device (material or not). This device is then experienced, criticised and above all appropriated by each one. Practices stimulated by this device are questioned by the designers in a dynamic and continuous way. As such, the designers' involvement is intended to ensure that both the research process and its outcomes are an enjoyable, useful and enriching experience for the first users, the childcare professionals.

- Addressing the “knowledge-power” relationship: the involvement of actors with different social status (scientists, designers and childcare professionals in our case) brings into play the "knowledge-power" relationship described by Foucault

(1975), which could be detrimental to the emergence of collaboration within the project. In order to address this issue, we propose not to deny these "knowledge-power" relationships but to make them explicit and to develop a collective awareness of them. Above all, it is a question of recognising and considering the status of each one. For example, when it comes to allocating speaking time and making decisions, we have to consider the less privileged social status of childcare professionals and their reduced practice of arguing (compared to scientists and designers).

- Distinction between status, role and responsibilities (Fig. 4): we encourage the distinction between the social status (childcare educator, designer or lecturer) and the role within the RAC, which includes several responsibilities (e.g., to be responsible for data collection or data analysis). This distinction is intended to leverage the knowledge and practices of each one. At each stage of the research process, the Premiers Cris team reminds the co-researchers of their roles and responsibilities:

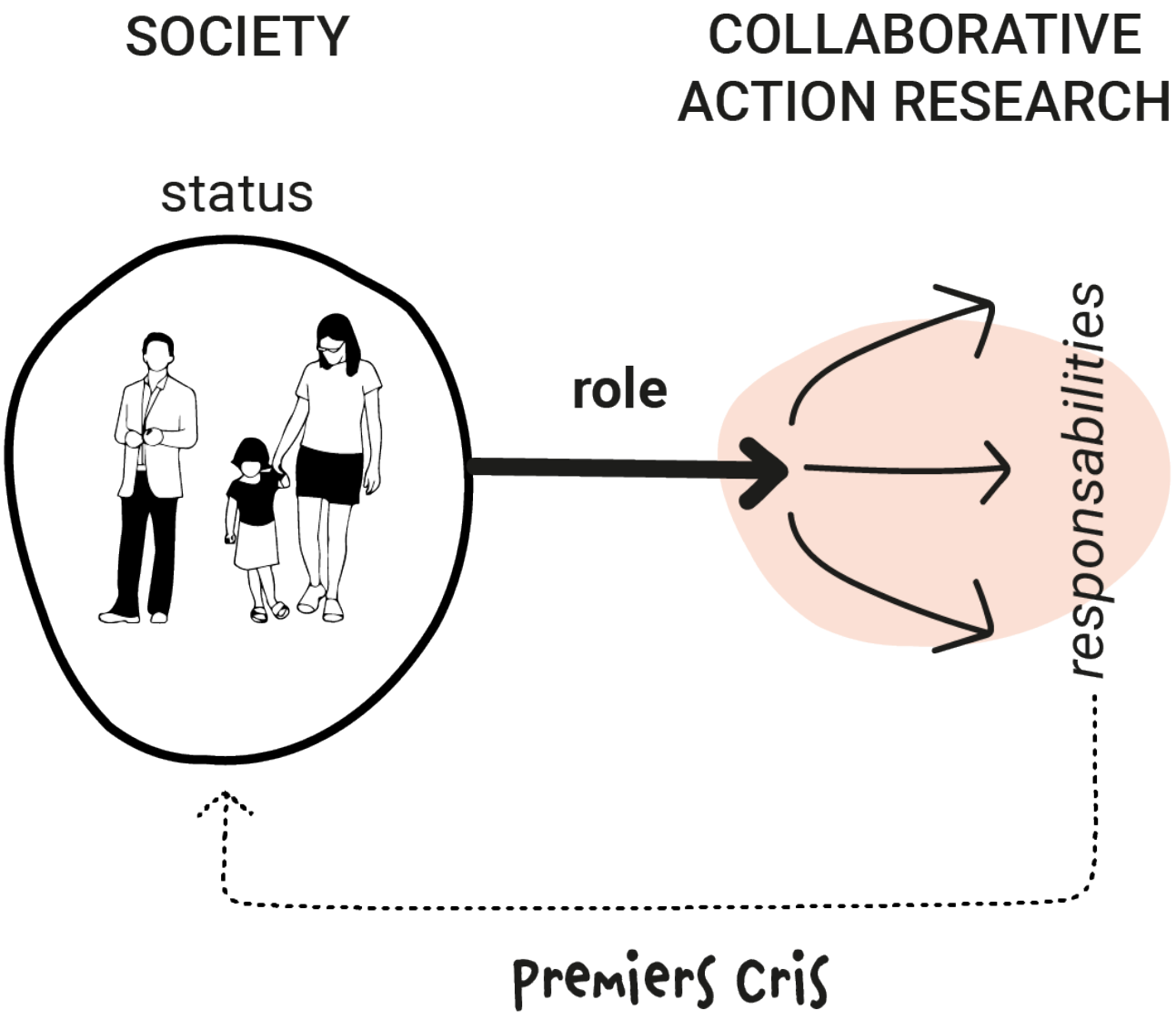


Figure 4: The distinction "Responsibilities > Role > Status", in the Collaborative Action-Research methodology developed by Premiers Cris

4.3. Overall key element: a supportive team

The supporting role of our team is essential to underpin the above-mentioned elements. It is worth noting that no member of our team is involved as a scientist or designer of the project. Nevertheless, our team has (and uses) the required skills to support the co-researchers in their work. This support is enhanced for childcare professionals during the experimental stage: “facilitators”, trained by Premiers Cris, are present on a weekly basis in the establishments, in order to help the professionals to adopt a reflective approach to their practices.

Our team provides a safe space for the co-researchers to exchange ideas. First, we welcome co-researchers in a comfortable space, which is located in a neutral place (our Research Institute) and not in the institution of one of the parties involved. Secondly, we provide a space for meaningful discussion: our team ensures that speaking time is fairly distributed during meetings, that everyone's point of view is listened to, that comments or opinions are tempered, and that the project corresponds as closely as possible to everyone's expectations.

In addition, we take care of the organisation and implementation of the RAC project: we ensure the recruitment of the project's stakeholders, the approval of the experiments by a Research Ethics Committee, the organisation of collective meetings and their moderation to facilitate discussion.

Finally, our team supports the continued involvement of the co-researchers through the moderation of an online discussion group and the presence of “facilitators” in the institutions during experimental stages.

5. Discussion and Perspectives

The methodology developed by Premiers Cris, combining action and collaboration, aims to address a twofold challenge currently faced by early childhood education policies (Fig. 5):

→ A scientific challenge on the one hand: to produce new knowledge enriched by the point of view of the main stakeholders and to develop professional practices that are adapted to their environment and whose relevance has been scientifically evaluated;

→ A societal challenge on the other hand: to improve the well-being of childcare professionals by encouraging collective decision-making and the renewal of practices within a logic of empowerment, and by enhancing these professions through the recognition of their expertise and skills.

The question now is to evaluate the extent to which our methodology addresses this twofold challenge. Such an evaluation is underway, and its results will support (or not) the interest of rolling out this new methodology.

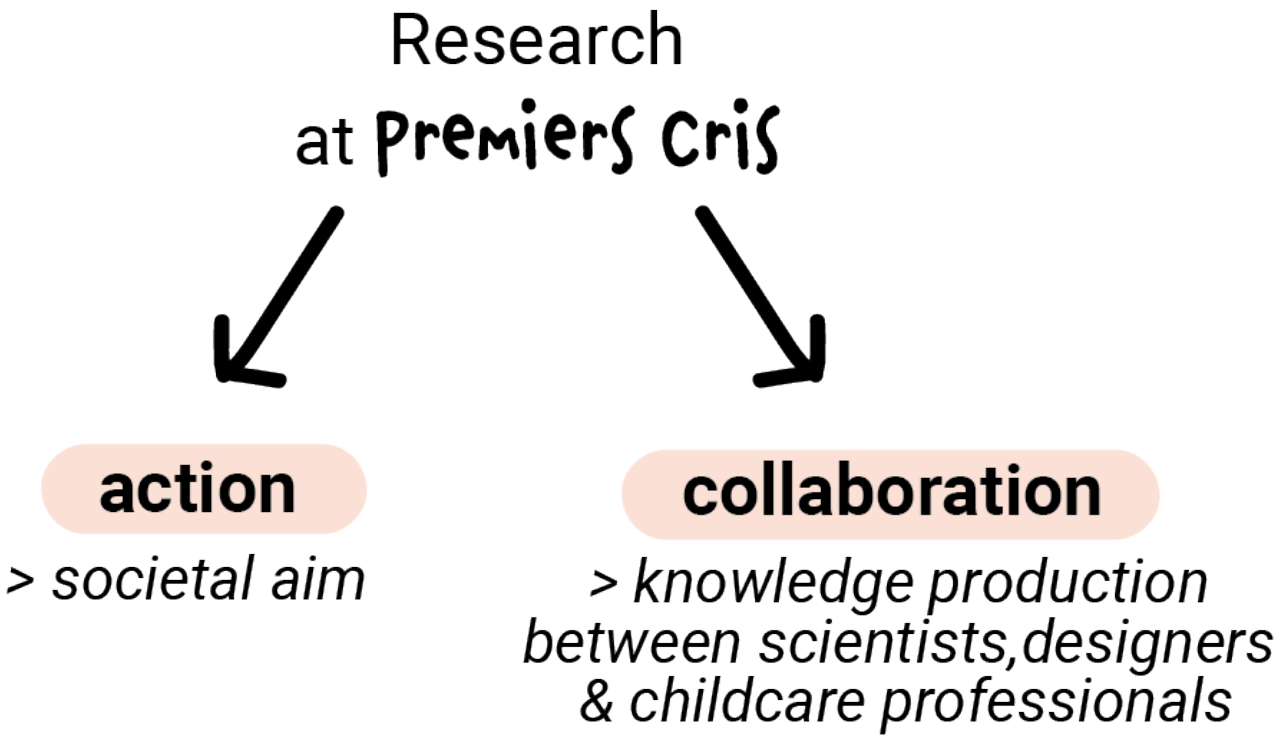


Figure 5: Two-fold impact of Premiers Cris' RAC projects

Assuming that the RAC methodology of Premiers Cris meets both these scientific and societal challenges, the question of scaling up must be addressed. A first answer is provided by the accessibility of this methodology on the Premiers Cris website. We hope that it can be adopted by other organisations: scientific laboratories, design studios or professional associations. In this dynamic of open access, we wish to create and disseminate an online training course offering everyone the opportunity to easily appropriate our methodology.

In the future, we hope that the specific features of the RAC methodology developed by Premiers Cris (e.g. Science & Design alliance, collective of co-researchers, supportive team) and its accessibility will pave the way for its application in various fields of research, and more particularly in other areas of care (e.g., in the field of disability or the care of the elderly).

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1 In France, the CAF (Caisse d'Allocation Familiale) defines the ECECs as establishments "intended for children under the age of 6. The ECECs include day care centres, micro-nurseries, drop-in centres, kindergartens and establishments providing multi-care facilities".

2 https://clermont-ferrand.fr/mille-formes

3 Here defined as "the action of participating in a work with others", according to the definition of the Larousse French dictionary.

1 Note that an agreement from the Research Ethics Committee of the Université Paris Cité has been obtained for the implementation of RAC projects by the Premiers Cris team.

1 https://www.povertyactionlab.org/

2 http://www.parlerbambin.fr/

3 https://1001mots.org/

4 We define a *research collaboratory* as an inclusive space in which people from different backgrounds collaborate through a research process to address complex challenges. More specifically about Premiers Cris: https://www.premierscris.cri-paris.net/