PYCIPEDIA: Supporting Local and Remote Collaboration between Social Workers

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ABSTRACT

PYCIPEDIA is a web-based collaborative tool for social workers that support parents with intellectual disabilities taking care of their small children. These particular social workers have been certified in providing parenting-skills training and support for parents with intellectual disabilities or with learning difficulties. As only a relatively small number of social workers are certified in providing the relevant support, there may be few colleagues to discuss with and learn from, even in larger municipalities with many social workers. To support social workers in providing the best possible support, the web-based collaborative tool PYCIPEDIA has been co-designed with social workers from two Swedish municipalities. The tool allows social workers to log in, and independent from what municipality they work in, create, browse, edit and share material (e.g. text, images and video) that can support the parents. They can discuss cases, rate online material, and access a forum.

KEYWORDS

Web platform; Social worker; Collaboration; Distributed; Parents
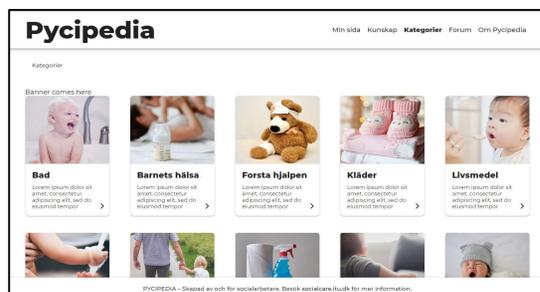

Figure 1: PYCIPEDIA web interface. Material is accessible and sorted in categories, like Bath, First Aid, and Food. Each category has some sub-categories and here material can be accessed, created and edited. There is also a forum and other functions.

Table 1: List of co-designed PYCIPEDIA requirements.

REQUIREMENT DESCRIPTION
Create a safe and professional collaborative online space for a dedicated work group.
Create a community of PYC-trained social workers across Sweden.
Allow browsing of pre-made, template-style materials.
Support personalization of training materials to fit the needs of individual families.
Create, store and share materials, e.g. new training materials, with the community.
Collaboratively discuss and edit existing materials.
Rate and bookmark resources.
Allow for professional discussions in a forum.

INTRODUCTION

Parenting, and parenthood, is not always easy. Especially for first-time parents, there are many lifestyle-adjustments to be made and much that must be learned. For parents with intellectual disabilities or that have severe learning difficulties it may be extra challenging parenting young or small children. Everyday life-challenges for these parents may include difficulties in grasping how to bath a newborn child and what the water-temperature should be, how to speak with the child, or what clothes are suitable for a kindergarten fieldtrip during the year's different seasons. To support both parents and their children a home-based support and training program exists called Parenting Young Children (PYC) [6].

As only a minority of the social workers in Sweden have been PYC certified, it is not uncommon that these workers are alone with this particular education even in larger municipalities. While guides and training material exists, much work is based on creating, adapting and personalizing training-material for each family according to their needs while finding out how to best communicate with the families and what works for them in each situation. The combination of such creative and skill-based work depends on experience and can benefit from collegial input and to build on, and reuse, the work of others that may have developed a good tool or method. As part of a longer strategic collaboration on research and co-design between two universities and a group of Swedish municipalities an open-ended co-design project was established to look into the innovation-potential within social care for families with PYC-support. As an outcome of this work, and to strengthen the PYC-certified social workers in their professional role, the web-bases collaborative tool PYCIPEDIA was developed (see Fig. 1). PYCIPEDIA will be described in more detail below, but is one of few technological tools purposefully developed to support this professional care activity and allows the establishment of a community among PYC social workers by implementing eight requirements (see Table 1). The requirements were selected in the co-design process as being the most important in order to create a useful tool. These requirements position PYCIPEDIA within the CSCW domain, as a system that support collaborative work between both local and remote colleagues. Fundamental CSCW concepts [5], like articulation work and distribution of labor within the professional network of social workers, can support our understanding of PYCIPEDIA. The materials to support the family-based interventions can be co-created, shared, edited and discussed among the social workers. The authors, and the social workers involved in the project, are not aware of a system with similar functionality and wiki-based system implementation within the social care sector.

What will now follow is a brief description of the method and overall co-design process applied developing PYCIPEDIA. A more detailed description of the PYCIPEDIA technical platform and the possible user interactions will follow. The paper will conclude with a brief discussion.

Figure 2: PYCIPEDIA wireframe example

Figure 3: PYCIPEDIA sub-category examples.

METHOD AND CO-DESIGN PROCESS

As mentioned, PYCIPEDIA is one of the results from a larger collaboration between two universities and a group of Swedish municipalities. The project was initiated through a dialogue between two researchers (one from each university) and a representative for the municipalities. It was decided to initiate a project exploring the innovation-potential for social workers engaged in PYC-work with families requiring some extra support in their parenting. The project-idea was presented and agreed upon with both municipality representatives and the social workers that were invited to participate. Social workers from two municipalities participated together with three educators running the PYC training program at a national level in Sweden. As these two municipalities had invested in the PYC program, 10 social workers participated in the project and its co-design work. The beginning of the project focused on creating a shared understanding (between social workers and researchers, but also between the social workers themselves) of both challenges and possibilities in the day-to-day work with the parents. Focus-groups, moderated discussions and co-design workshops (e.g. Future Workshops [1]) were used in this work. The process provided the researchers with an understanding of PYC and how it's implemented, and the social workers could through the process see new aspects of their work, challenging their existing views and ideas of how they work. Later in the co-design process technology possibilities were introduced and this was where the requirements in Table 1 emerged. At one of our creative workshops with the social workers four concepts were drafted, and PYCIPEDIA was one of the concepts. Another idea was an app for the parents to support their day-to-day activities. At the end of the workshop, the staff rated the different concepts and PYCIPEDIA was voted to be the main concept to develop further. The remaining co-design process led to the development of a wireframe and later the actual coding of the web-tool PYCIPEDIA, version 1.

PYCIPEDIA

PYCIPEDIA is a web-based tool reached by the users via their Internet browsers (Fig. 1). The current version of PYCIPEDIA works as a full stack javascript application using React.js [4] on the frontend, Node.js [2] on the backend and PostgreSQL [3] as a database management system. The backend connects to the frontend using a REST-based API. The overall system design-brief, co-designed with the social workers, contained the eight requirements listed in Table 1. The research design team developed a wireframe based on these requirements (See Fig. 2) and discussed it with the social workers. After some feedback a first version of PYCIPEDIA was implemented (see Fig. 3). The design-goal was to develop a minimal system that would sustain a test of 6 months with social workers from two municipalities. The next version of the system will include a smart phone app the parents can use to visualize materials shared with them via PYCIPEDIA.

When logged in, the user come to their landing page. From there they can see their bookmarked pages and navigate the platform, write in the forum, etc. If the user selects 'Categories', they can
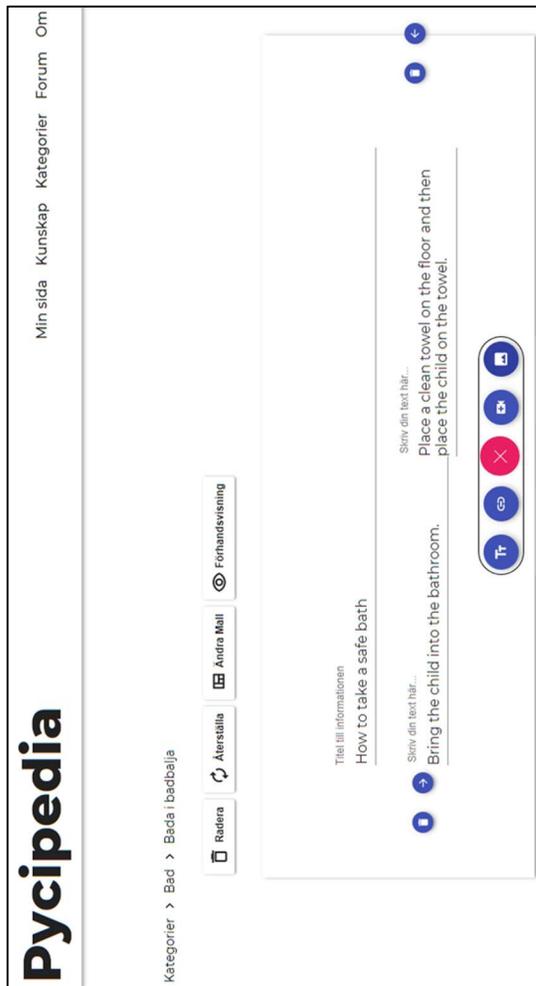
Figure 4: A user create content to share with other PYC trained social workers. The content can later be edited and viewed.

browse the available topics, including Bathing, Cleaning and Children's health. Each category has sub-categories. Under each sub-category, one can browse available materials such as pictogram-based descriptions of activities like 'how to shower your child' or 'What food can I send with the child for fieldtrip'. Here users can comment on existing materials, bookmark and rate them and add new content. If the user decides to add new content, two options are provided - either a single or double column page can be created. The user provides a title and then start adding material for each column (Fig. 4). A column can for example contain text or an image. When done, the page can be shared, saved to the computer or printed directly from the platform. The material can later be edited.

DISCUSSION

One problem with a social intervention method like PYC, targeting a specialized and limited segment of the population, is the fact that just a limited group of people is trained in, and uses, the method. Not only in a municipality but all over the country. As a result, the social workers have very few opportunities to discuss progress or difficulties with peers. The municipalities are generally not trained or equipped to work in a virtual environment where the participants are sitting in distant geographic areas. It takes training and supportive solutions to achieve a positive outcome working in this way. After their PYC-training, the social workers normally get back to their municipalities but maybe with just a few 'PYC-families' to practice their new skills on. It means that the well-educated social worker might have to wait for the newly acquired skills to be utilized. The need for peer support is therefore crucial. Both for the outcome of the intervention but also for building a strong sustainable intervention method. All social intervention methods need to be sustained by empirical results from the field. Especially when it is a method that is seldom used because the cases in the municipalities are not so frequent. Almost all social work is about supporting vulnerable individuals or families, but the parents with cognitive impairment are especially vulnerable and the prospect for a successful outcome of an intervention from the municipality is based on well trained and well-supported social workers. PYCIPEDIA, being co-designed with social workers specialized in working with intellectual disabled parents, provide some of that support by sustaining a peer-based network and addressing the requirements outlined in Table 1. In doing so, PYCIPEDIA allows a sharing of best practice. The professional network of peers enables, through articulation work, a distribution of labor both among local and remote colleagues. The collaborative creation of material supported by PYCIPEDIA, and to use and build on top of other co-workers' knowledge can strengthen the professional role and care outcomes.

ACKNOWLEDGMENTS

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