

PARTICIPATORY ACTION-RESEARCH IN A SYSTEMIC FRAMEWORK FOR IMPROVING SOCIAL INNOVATION. THE CASE STUDY OF CENTRO AUDIOVISUAL DON BOSCO (UPS-ECUADOR)

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This paper stems from the need to respond to currently underway processes of knowledge management in the UPS. Knowledge management could be understood in terms of relationships between research and innovation. Research and innovation in their development processes produce tacit knowledge aimed at cultivating competences and capabilities into UPS community. A research-intervention project aims to define a model of social innovation supported by improving the nexus between research-teaching supported by ICT's.

To this scope, it's necessary to get involved the stakeholders in a process of

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PAR-s. PAR-s is aimed at developing competences and capabilities into UPS community for responding to the growing social demand of innovation in education also supported by ICT's. PAR-s is aimed to facilitate and monitor, through participative evaluation/planning methods and techniques, some innovative organizational/management processes in the Centro Audiovisual Don Bosco. This capacity for self-organization in UPS is embodied in organizational, managerial, improvement and in services aimed at matching the emerging educational challenges of the complexity in the social context. These processes are aimed at enhancing the supply and quality of services linking scientific production and multimedia from the consistency with the social needs and the demands of education. In this direction, the social problem identified, has been re-configured as a research problem useful for planning the project of intervention.

1 Introduction

The relationship between the university (institution university) and the knowledge society (understood as society using knowledge as the basis of its development, but also as a *mobilizer* of social transformation) is the reason of the existence of the same university. Knowledge lies in these societies and evolves with the development of dynamics of knowledge's management.

The university community cannot escape this logic. Both the refusal of the assumption that society can be controlled by anyone and the conception of modernity as a process of self-perpetuating, self-dissolution, self-endangerment, self-transformation of functional differentiation (Beck, 2000), require an answer to this new educational challenge. If knowledge is therefore a modeler for societies: Under which conditions the university manages knowledge and not just information? On the other hand, if the knowledge society requires no other mediations of power or control what kind of knowledge management should develop an University?

Knowledge management, therefore passes through managing relationships between people exchanging information and expertise. In this direction university plays a key role. It ensures the ecosystem in which knowledge production is a fertile ground for answering to social problems. In this sense, university has to escape the logic of self-referential because it belong to the same validated society (Carayannis & Campbell, 2010).

Taking in account subjectivity and complexity, university can find ways to create an ecosystem capable of extracting and cultivating capabilities (Ellerani, 2013). University, as a social organization, should aim to expand the freedom of self-promotion and self-realization of people. The capabilities are themselves substantial freedoms; a set of opportunities for choosing and acting (Nussbaum, 2011) that a person can put in place through alternative combinations of operations which is able to realize (Sen, 1993, p.79).

Capability approach (Sen, *op. cit.*), regarding the development of the quality of higher education, seems aside the "metrics of results obtained by policy

makers”. It considers more relevant the added value produced by the students as students capable to live and act in their contexts. University, as well as nature, takes inert and inorganic elements such as information to create thriving ecosystems of living organization whose interactions produce knowledge and skills validated by society. For promoting knowledge management, university has to discard certain beliefs assumed by classical economics where the system is more productive and is better controlled while having improved inputs (labor, land, capital, technology, etc). In our case we think it’s necessary to break the system making it so subjective that, people who interact in, have the opportunity to experiment and find new ways of development. Similarly our approach contradicts traditional economic logic that the rational pursuit guarantees the productivity. We think it’s necessary to trust each other, to complement our potential and find synergies. Knowledge management is far from trying to control and it’s true that the objectives leading many university actions are clear. Yet the result built by university community is somewhat uncertain.

A key aspect is the educational innovation for managing relations between the academic community and transfer of knowledge. This kind of social innovation for didactic and research (I+D+i) can influence the larger community and society and it promotes both a culture of freedom and a moral judgment as a guarantee of responsible citizenship.

2 Transforming a publishing company in a Scientific Editor

Centro Audiovisual Don Bosco (CADB) is a company dedicated to inform, educate and evangelize through paper production and hypermedia. All products are based on the pedagogical thinking of his patron San Juan Bosco. The main target of their production are the Salesian who share the same patron saint and his principles (Edibosco, 2015). In strategic partnership with the Salesian University, we can delineate some research-interventions activities for supporting its pedagogical-didactic production. Thus, ones of the most relevant products are those multimedia. These multimedia resources conforms to the pedagogical-didactic principle called “Renewable Learning Object” (hereinafter ORA). The ORA are developed in accordance with the objectives of specific subjects and with different presentation (ppt, video, images, animations, articles, sketches, essays, etc). They are developed by the teacher under definition of its Area of Knowledge (UPS, 2011) and moreover they could be produced by the students too. Technological strength forces within the educational spaces the actual constructivist thinking, not just from the real or physical practices, but also involving learning in virtual environments. The blended learning with multimedia production represents a major breakthrough in the production of ORA. Anyway, according to Hodgins there isn’t an agreement on the definitions of

the term, of its composition and educational use (Hodgins, 1994).

2.1 Aspects to be taken into account in the development of ORA

On the issue of the ORA, the Salesian University, shall take into account the convergence of approaches and design criteria addressed by various organizations in the world. One of them is the Advanced Distributed Learning (ADL), the SCORM model (Sharable Content Object Reference) as standard in the development of educational content based on the ORA. These models have been used since 2011 by the Salesian University of Ecuador (UPS). These models are based on the reuse of digital objects to be capitalized in a repository (WIKI-UPS) for common use of the academic community (Borghet, 2003). It's also considered the use of: Learning Management System (SCORM model with greater flexibility), also those freely available (open source), and Moodle, already used in the UPS and also known as the Environment Tools for Cooperative Learning (AVAC). The multimedia production capitalized in the WIKI-UPS should be consider some aspects related to intellectual property, referring to its feature of "reusable or renewable". From this point of view, ORA's publication should be under license of use and reproduction, except for commercial purposes. In this first stage, it'll be necessary to evaluate and optimize both the use of *blended learning environments* and the production of ORA also taking into account the cost for processing, reusing and republishing of ORA. It's important to highlight the experience leded by UPS during these last six years in order to move towards the development of educational models that promote reasoning, cooperation, questioning attitude and above all, the culture of research aimed at the empowering of competencies and capacities for the whole academic community and the social context.

2.2 The methodological strategies of pedagogical support in the Hypermedial production

Starting from the complexity of the new modalities of learning, teachers should be aligned to a pedagogical bearing consistent with the educational model of the institution where they work. In our case, we mean the Salesian style, the critical pedagogy, the constructivism and the cooperative learning, student-centered learning. From our point of view, education doesn't only depend on the intentional collaboration between the educational will of the teacher and the educability of the students, but is determined by the deweyan social environment. Similarly, the cognitive and social constructivism approach offers a useful coincidence with the educational proposal of Don Bosco. Bruner, defining a *theory of education*, offers the essential characteristics of the educational

process: a) Specify the conditions aimed at stimulating the predisposition of the subject to learn; b) Define the optimal structure of a body of knowledge/abilities to achieve a faster and more effective learning; c) Evaluate the learning process taking into account significant learning (Fariñas, 2001). In accordance with the educational system of Don Bosco, the prevention (*preventividad*) gives centrality to the students in their learning processes. The assessment is inspired by an educational principle of Don Bosco, called *accompaniment*.

It's therefore necessary to consider both the mandate of the social pedagogy and the innovation requested in research activities, in line with the Salesian culture. The hypermedia production undoubtedly contributes to give students, indispensable tools for dealing with authentic situations as: constant questioning on problem based learning tied up to, customs, contextual cultures, institutional and normative system. These tools give students a based-research method, as a method for learning to think and act in the complexity.

3 Methodologies and forthcoming results

3.1 *The context and the mandate of the customer for the researcher*

The mandate of the (Vice-Rector for Research) comes within of the post-doc research fellowship (M/Ped-04) with the title (participatory evaluation/planning model) that I hold at the University of Salento¹. This mandate, consistent with the post-doc research project, concerns the opportunity of managing a research-intervention process at the UPS in Ecuador, as Visiting Professor.

In particular, as required by the customer: "Design-implement-evaluate a macro-model of PAR-s (social and institutional capability) aimed to promote an ecosystem of social innovation supported by ICT's in the UPS" (I+D+i). This process of social innovation is thought as an opportunity for integrating academic/extra-academic (product) through a PAR-s aimed at facilitating/monitoring the improvement of Education-Research (process) with reference to consistency to society (*vinculación*). Research project is focused on planning/implementing/evaluating both of PAR-s macro-model and of 2 PAR-s micro-models.

3.2 *Overall objective*

Referring to one of the two micro-models presented in this article, the aim is to define a "Model of PAR-s for facilitating and monitoring, through participative evaluation/planning methods and techniques, relevant and innovative organizational/management processes in *Centro Audiovisual Don Bosco*. These

¹ Programma Operativo Nazionale Ricerca e Competitività 2007-2013 - Smart Cities and Communities and Social Innovation: Asse II - Azioni integrate per lo sviluppo sostenibile: OB - Smart Education - "EDOC@WORK3.0: EDUCATION AND WORK ON THE CLOUD".

processes are aimed at enhancing the supply and quality of services linking scientific production and multimedia from the consistency with social needs and the demands of education.

3.3 Field of research

The field of research is the Universidad Politécnica Salesiana in its 3 locations (Cuenca, Quito, Guayaquil) with particular reference to *Centro Audiovisual Don Bosco*. The action-research project started October 20, 2015 and will end December 20, 2016.

3.4 Social problem

The definition of the social problem and its re-configuration in terms of the research problem is based on ex-ante evaluation carried out by:

1. Análisis Desk: Documento compartido “Aporte y buenas Prácticas”: producido en el Congreso de Investigación y Producción Científica y Editorial Universitaria (Cuenca, 28-30 October, 2015). Good practices of UPS for developing paths of challenge in the medium-long term:
 - Relación entre Investigación y Desarrollo
 - Relación entre la Producción Científica e la Multimedialidad
 - Relación entre Sistema de Comunicación Científica, Índices e Repositorios
 - Relación entre el Libro e las Publicaciones Científicas
2. Desk Analysis: Quaderno de reflexión universitaria n° 14 “Hacia una comunidad academica que investiga” *Bases estructurales para el cambio en la UPS*
3. Swot-r: Report edited by prof. P. Ellerani “*Bases estructurales para el cambio en la UPS*” (2011/14)
4. Customer Analysis: (Vice-Rector of Research and Centro Audiovisual Don Bosco).
5. Customer analysis: Ethnographic notes, focused interviews, Range of Priorities (Scala Priorità Obbligate).

3.5 Research problem

Research problem was drawn from data emerged during the ex-ante evaluation, specified in the preceding paragraph.

Results for Centro Audiovisual Don Bosco (CADB): Difficulty of CADB in implementing innovative organizational/management processes for the purpose of strengthening the supply and quality of its educational services. These ones

connect the scientific production with respect to the multimedia and their bound and consistency (*vinculación*) with local needs and educational demand of the wider society. Compared to the ex-ante evaluation carried out, it's useful to share a model of PAR-s able to re-configure the problems and emergencies of CADB both in the short term and to enable the CADB to grow and strengthen itself in the medium-long term with reference to organization/management/diversification of educational services offered. PAR-s aims at promoting an improvement process of self-organization in CADB in order to make it able to respond to emerging social needs 'cause of the lack of a working group for supporting these change processes in CADB. In this sense, organizational difficulties are revisable in the professional resources of CADB, distracted into tactical aspect, in order to response to continuing operational problems (digital content production, RLOs, etc.). This aspect is connected with the difficulty to imagine the organization and the management of CADB in terms of didactic/research/innovation leading to services offered in the training and education market. Nevertheless, CADB shows some operative difficulties in producing a lot of multimedia resources. These ones could be overtaken if CADB could facilitate/validate the RLOs (reusable learning object) produced by teachers/students under a *teaching-learning relationship for promoting competences and authentic evaluations*. At last, the RLOs often are not designed, tested, validated, starting from a contextualization of international standards. Some difficulties are also revisable in diversification of services for matching educational social demands and Ecuadorian training context (Continuing Professional Development; CPD).

3.6 Participatory Action Research (phases)

Consistent with the literature and meta-analysis on PAR, the Participatory Action Research in a systemic framework is structured into the following phases:

- Social demand and mandate by the customer: preliminary information
- Identification and involvement of stakeholders in the process of PAR-s
- Profiling stakeholders and restitution for the constitution of PAR-s Group (GPAR-s)
- Activities of mutual training useful for an ontological, epistemological and methodological alignment of GPAR-s, supported by WikiUPS
- Gathering of preliminary information on the social problem by GPAR-s in order to re-configure it firstly as a result of research and evaluation secondly as research/intervention problem
- Determination strategy/goals to be achieved through the action plan
- Implement intervention model

- Continuous reflective process of adjustment of the strategies/activities taking into account the feedback sent by the social context
- Collecting, analyzing data post research-intervention activities
- Meta-evaluation of the PAR-s process and evaluation products/outputs
- Results restitution and dissemination activities

3.7 Theoretical framework

From the problem to the project: Towards Social Innovations

The participatory emergence of social needs expressed by new actors breaks in everyday discourses and practices of common sense (educational, social, cultural, political, economic emergencies) (Morin, 1993). These actors ask to participate into the definition of policies, programs, projects, services for make them more effective and successful respect on these emergences (Torcal & Montero, 2006). The feedback produced by these social emergencies arise some research questions (in this case for the CADB), that can be dealt with the adoption of a reflective posture as a self-organization process (Varela, 1979; Maturana & Varela, 1985), in terms of: organization, management, services, in order to meet the challenges posed by emerging social needs under the complexity (Senge & Sterman, 1992; Steiner & Stewart, 2009).

Spiral: (social problems) social needs / (research problems) education needs / (intervention projects) social needs.

In summary, social needs can be re-configured in a reflective/evaluative key as some training needs to be dealt with the development of competences (Wenger, 2006; Archer, 2006; Le Boterf, 1986). These competences aimed at re-design self-organizational models, can connect the social, cultural, political, economic and educational challenges expressed by the context. Otherwise answering in terms of better quality of organization, management, production of services for meeting those needs.

Self-organization and Learning Organization

In fact, not only people, but a Learning Organization (LO) too, is able to establish some adequate learning devices to cope both with the changes coming from external perturbations and with the feedback coming from the environment (Argyris & Schön, 1998). A LO is dynamic and flexible 'cause of using self-regulating devices aimed to reflect and enhance their organizational/operational models and mechanisms in response to the context. Learning processes are defined in terms of co-construction of knowledge-decisions-actions making available to the members the information and experiences about a certain topic for developing joint decisions and actions.

The participatory action-research in a systemic-constructivist framework (PAR-s)

PAR-s is able to involve stakeholders in a process of analysis, review, improvement of models and professional practices (Burns, 2007; Ander-Egg, 1990). PAR-s gives centrality to people and groups as bearers of needs and skills. Through PAR-s, they can both achieve a process of empowerment and agency (Ibrahim & Alkire, 2008; Friedmann, 1992) and develop awareness in learning processes and in practices of change. This is understood in terms of capacity building and competences to improve their self-organization (autonomy) in relation to the emergencies of social context (interdependence) (Freire, 1973; Fals-Borda, 1991). Beyond of a dialectical perspective, the PAR-s aims at the mediation (facilitate/monitor) the intra/inter-systemic relationships (Bergua, 2004).

Participatory Evaluation/Planning: Evaluation for planning

Evaluation is thus participatory, since it involves stakeholders in a process of negotiation of viewpoints, representations, interests aimed at defining a common vision from which to plan, in a participatory way, processes of improvement of practices, services (Guba & Lincoln, 1989).

3.8 Evaluation Plan

- Meta evaluation: JCSEE Program evaluation standards
- Participatory evaluation-planning Model: Guidelines and Checklist for Constructivist Evaluation (a.k.a Fourth Generation)
- PAR-s: Criteria from Meta-analysis IAP-RAP-PAR, Systemic PAR
- Teaching: Standard on Uni-Ranking
- Quality of teaching-learning: JCSEE Student evaluation Standards -CCSSO InTASC 2015 Standard
- Research (students-teachers-researchers): Standard on Uni- Ranking
- Knowledge transfer: Standard on Uni-Ranking
- International outlook: Standard on Uni-Ranking
- Regional Engagement: Standard on Uni-Ranking
- Engagement University & ICT: Criteria from Meta-analysis on LROs standard/ E-Portfolio/ Blended courses for CDP

Conclusions

UPS could be fertile if it aims at cultivating and maintenance the relationship between instrumental reason (the transformation of the world, knowledge-based and oriented by the research of efficiency and rationality) and critic reason

(meaning, justification, questioning).

In a “constructivist” matrix, *empowerment evaluation* (Fetterman, 1994) has the main function to promote awareness among stakeholders involved in a project of changes and innovations, encouraging and supporting them in a reflection process compared to professional practices and their improvement for matching the social and educational needs in the emerging context (Colazzo, 2008). In this context, evaluation could promote and enhance the results of the Ecosystem and it should not choose a pernicious way for exercising control, being punitive. Anyway, evaluation can accommodate research results as the classic papers, patents, spin-off, startups, etc, but improvement of quality responding at constructivist criteria. In this direction, we think it is essential both to provide more tools to the university community for strengthening the scientific productivity and for managing the volume of information in a complex ecosystem as related results of good practices for building competencies and capabilities. Such practices are seen as tools both for hiring a conscious attitude of the problems to be addressed and for defining the solutions as a stimulus to the definition and ongoing review of the project for which they work (Patton, 2000). The CADB project has a multiple challenge. On the one hand the need to respond to the new educational context and on the other the need to innovate the organization (processes-products) in tune with the consortium of printers and Salesian audiovisual production in Ecuador. This renewal is of utmost importance in UPS because only new educational modalities/contents may be according to a capacitating ecosystem in UPS.

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