

A meaningful ICT approach to learning in contexts of multilingualism and great cultural diversity

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This presentation describes a methodological approach to learning inclusive and innovative practices in contexts of great diversity proposed by JP-inspiring knowledge. The particularity of an educational framework – the ik-Model – that aims at the reinforcement of educational systemic cultures in a demanding context of heterogeneity – the Plurinational State of Bolivia – is the main focus of this analysis. In 2014 an inter-ministerial process, involving national and international stakeholders, developed a Masters Training for local Educational Agents within an ICT innovative learning approach. One of the crucial challenges for the Bolivian education system, emphasised in the Socio-Community Productive Educational Model, was the adoption of new technologies in the new curriculum, taking into account the Bolivian multilingual, intercultural and intracultural education. The ik-Model was used as a methodological strategy to approach ICT in this challenging context of cultural identity reinforcement. During the training phase, participants had to design their meaningful ICT activities always bearing in mind socio-communitarian productive goals and the demand for a collaborative and inclusive learning environment that reinforces cultural roots and diversity. A particular meaningful learning plan is highlighted here, in terms of the critical elements that make it a token of the most meaningful practices in education and development for all throughout the life span.

In the Context of Learning through SocioCommunitarian Interactions

Bolivia is going over a deep process of transformation to build a relevant project to its reality, according to the goals established for this Plurinational State country society. This also involves essential changes in education, where the criteria and ways of educating come from their own historical project. The problems and limitations verified in the previous educational models were that: “...Education...only repeated and memorized contents; Education doesn’t consider local singularities; Lack of knowledge and wisdom of indigenous peoples; Education has not allowed to leave the country’s structural problems” (M.E., 2014a, p.5). In the Article 4 of The Bolivian Education law (M.E., 2010), it is stated that one of the Education goals is to “strengthen the development of the intraculturality, interculturality and multilingualism in education and the full realization of Bolivians, for a society of Living Well” (p.6). The consolidation and strengthening of a cultural identity of nations and native indigenous peoples, from science, technology, arts and proprietary technologies, in complementarity with universal knowledge is one fundamental aim. The Article 7 (p.10) mentions that education should begin in the mother tongue and its use is a pedagogical need in all aspects of the teaching-learning process.

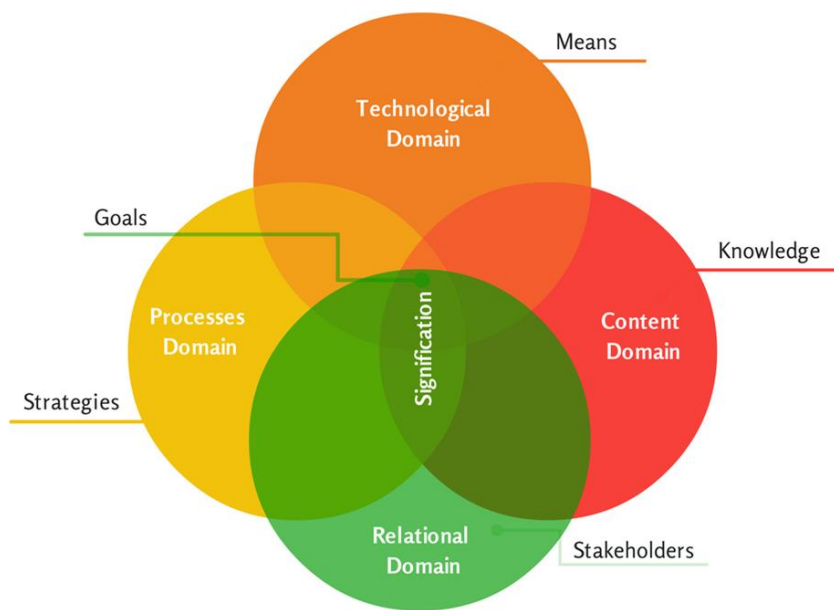
The Socio-Community Productive Educational Model – Modelo Educativo Sociocomunitario Productivo (MESCP) – aims at transforming Bolivia into the desired reality through education (M.E., 2014a). The MESCP fosters an education based on four pillars (M.E., 2013, p.4-5): decolonization, community, multilingual-intercultural-intracultural and productive. Decolonization considers that education should be “liberating, revolutionary, anti-imperialist and transformative”, legitimizing the knowledge, skills and values of native indigenous peoples and intercultural and Afro-Bolivian communities, as well as the interaction with other cultures. Considering that education contributes to the social, cultural, political and economic transformation, it reinforces the building of a society free of discrimination and exclusion. Community refers to a “democratic, participatory and consensual” education; for the coexistence of human beings, the educational processes proposed to students incorporate socio-communitarian and coexistence practices. Generating equity and participatory opportunities for decision making, and stimulating the exercise of rights and the performance of duties is targeted by this community perspective. Intracultural education aims at the promotion of self-affirmation, knowledge and community values, contributing to the cultural identities strengthening. Intercultural is conceived as an encounter between cultures to overcome inequities from colonialism. The multilingual education process is supported in the native language and

Castilian and a foreign language as a communication tool. Education should be territorial, productive, scientific, technical and technological to develop skills and abilities for the production and intellectual creation in line with the potential of its regions, territory and territoriality. In order to achieve this, processes of research and technological innovation have to be improved. The articulating pillars are a key component of the curriculum structure. In the new Model, education enhances students' capabilities and qualities in order to enable them to transform their reality. Therefore, education supports a more comprehensive and complex way of living, i.e., it does not reduce learning to cognitive processes, but to a process that incorporates several dimensions of the student's reality (M.E., 2014b). With all these new education challenges, teachers are supposed to be part of a renewed education model that answers the challenge of promoting indigenous languages.

In 2010 there were 130.000 teachers, but only 10.000 were trained to work with indigenous languages (IEAL, 2010, p.27). In 2014, 24387 teachers, 14984 women and 9403 men, received their graduation degree as a culmination of four semesters of study and the effort given in PROFOCOM (teachers' training Program Complementary in Exercise), preparing teachers to implement the Socio-Community Productive Educational Model (M.E., 2014c, p.5-6). Also, one of the crucial challenges for the Bolivian education system is that the new curriculum raises the need to adopt new technologies. The curriculum states that the aim of this linchpin is to develop inventive socio-productive vocations, with relevance and social permeability, to fully train students through community educational practices, articulating knowledge – traditional knowledge, production practices and technological knowledge. Training teachers in the application and use of ICT through initial and continuing training has been a particular relevant issue for the Bolivian education authorities, especially since the last decade (Colque, 2006; IICD, 2007; Vaillant, 2013; M.E., 2014a). The objectives of this training are aligned with knowledge, educational research enhancement and traditional teaching practices transformation. The challenge remains in making current and future teachers reflect, investigate and understand how students are learning with the daily presence of technologies.

The ik-Model: a *glocal* framework

At first, JP-inspiring knowledge (JP-ik) was involved in this Bolivian Educational Project as an ICT solution provider, but soon its experience in transforming users into real beneficiaries was recognized through an educational proposal, where its vision for Education and Learning was clearly presented. JP-ik not only recommended a training program focused on the technological resources that could be provided to the learning formal spaces, but also proposed a methodological structure to integrate all the local values, concepts and strategies of the MESCP in a meaningful and sustainable way. This means that technologies should assist and even give potential to the existing scenarios in terms of the conditions given to a full achievement of the educational goals for this Plurinational State. Using the ik-Model framework it was possible to support the process of educational ICT integration since its very beginning. In fact, this model was created in order to congregate all the phases of a meaningful ICT integration project in education, conceiving its iterative "action-reflection" life cycle. It is used in the 1) design, development and implementation of a project, either at a macro level or considering a specific learning environment; 2) training – capacity building or even empowerment – of different stakeholders, including elements from the Ministry of Education, Pedagogical Coordinators, Teachers, Parents and/or Students; and 3) monitoring and evaluation of the project, revealing its capacity to produce specific gains and enabling to recognize the particular conditions in which they are produced.



Source: Mouta, A., Paulino, A., Ferreira, J. & Couto, F. (2015)

Figure 1 - The ik-Model: a framework for ICT meaningful integration in learning scenarios

This organic framework goes beyond the TPACK (Koehler & Mishra, 2005) in various ways. First of all, it considers all the components of ICT integration in learning scenarios as a Pedagogical option. In fact, it presents Pedagogy as a *techné* where all these components are integrated and configure an intentional decision that must be taken under a pedagogical procedure and its related competencies; it also gives place to a Processes Domain seen as fundamental as it is the axis that enables goals accomplishment through accurate and targeted actions. This framework also includes a Relational component which intentionally addresses stakeholders, implementers and users. The experience in conceiving this domain as a Model axis has shown the relevance of recognising each participant as a beneficiary of the process; only when each intervenient is conceived as a beneficiary of a developmental process may we accomplish the will of having given instruments for decision participation to all. Finally, this conceptual proposal intentionally puts Signification at the intersection of all the mentioned components. In this context, this word means Appropriation and Meaning that can only work through differentiation and integration, which are main keys to Identity production. Other noteworthy aspect of this model has to do with its capacity to cover different phases of an entire project, including monitoring and evaluation. On the one hand, it turns the process simpler in terms of its structuration into phases; on the other hand, it enables participants to become progressively more capable of accurately using means to systematically implement and consolidate a project. Such a flexible and holistic structure had created the conditions to integrate Bolivian educational proposes in terms of socio-communitarian values and goals. To put Signification at the heart of this process is acting within the principles of contextual meaning and not using a previous heuristic for learning and acting.

A Socio-Communitarian product of an ik-Model Training

In July 2014, the JP-inspiring knowledge Pedagogical Team trained ninety educational agents, with different roles – elements from the Ministry of Education, Technological and Pedagogical Coordinators, Teachers and Educational Sciences/Didactics Students – in the process of ICT integration in the Educational System of Bolivia. The opportunity to fully rethink Pedagogy through the challenge of introducing new

technological resources did also created the circumstance to experiment, consolidate and integrate the main premises of the MESCP. As a product of the training experience, a portfolio of learning activities was started. These activities were done in small groups, showed in role-playing and evaluated by trainers and peers. This work enabled assessment and it also consolidated regular practices of relevant sharing within the community of peers. In this paper, JP-ik presents a product of this training experience, as it seems to be exemplar in what concerns the operationalization of each item of the ik-Model and its capacity to integrate a particular educational paradigm that works towards inclusion within an experience where diversity is paramount.

1. La Leyenda de la papa (The Potato Legend)

The activity plan was designed following the principles of the Class Plans used in all public schools of the Plurinational State of Bolivia. It integrated a bunch of digital resources that were explored during the JP-ik training in a manner that beneficiates curricular and generative goals accomplishment. Those goals were posed in terms of holistic objectives that address different communitarian agents, in a direct or non-direct way.

The learning activity plan – La Leyenda de la papa – was created by a group of five teachers, working in different regions of Bolivia and teaching different subjects. They have defined intergenerational learning as a critical piece of cultural heritage and focused all their work on establishing an open scenario for learning, as well as multiple means to be in relation with the world and learn in context. To preserve culture through language acknowledgment was central to the plan that is presented here.

Learning Session Plan

Educational Unit

Level: Secondary School

Grade: First Grade of the Secondary Productive Communitarian Education

Area: Community and Society

Subject: Communication and Language

Theme: Analysis of the sociocultural, natural and productive processes of Abya Yala.

Socio-Community Productive Educational Model

Holistic Objective: To develop attitudes and to practice socio-communitarian values through myths and legends that express harmony between the human beings and nature, analyzing and interpreting explicit content and implicit messages that preserve and foster culture legacy.

Content and Articulation Axes: Folk Cosmo Visions within Regional Texts

- Myths, Legends and Tales
- Community Relevant People
- Stories, TV series and socio-communitarian values

Learning Session Plan (*cont.*)

Methodological Orientations:

- **Practice:** to know about the literature that is produced in our region; to talk about the literary production through Indian Peasant Folk oral tradition and written word (interviews); to interview recognized older people from the community on myths, legends and tales.
- **Theory:** to socialize within communitarian groups that will tell us about myths, legends and tales of our people; to synthesize those legends, myths and tales, taking into account textual structure, coherence and cohesion; to publish those texts to all community in Edmodo.
- **Valuation:** to reflect on the work done within groups through Edmodo educational platform; to reflect on what we have learned in terms of content and ICT's management.
- **Production:** to create educational audiovisual resources in order to reinforce socio-communitarian values.

Materials/Media:

- Interview guide sheets; Blank paper sheets; Pens; Computers;
- Word; Media Camera; Internet; Edmodo.

Evaluation:

- **To Be:** practice of Communitarian Values (collaboration and autonomy) within learning processes.
- **To Know:** characteristics determination of different literary texts; grammar functions acknowledgment; ICT use of literary text production resources.
- **To Do:** to write texts that show correction, coherence, cohesion and respect in terms of its linguistic origin; to demonstrate digital literacy when using ICT's.
- **To Decide:** to produce texts in original language and Spanish language where the principles of Living Well are shown.

Product: Oral and written texts where digital resources were used.

References: Program and Plans for the Secondary Level.

Final Presentation:

<https://drive.google.com/open?id=0B5sG0tidiuULWFJCT2stTHhhSUK&authuser=0>

2. Signification as a Product of Inclusive Lifelong Learning

The capacity of this activity to foster affective-cognitive learning processes, which rely on shared knowledge and cultural roots, is quite clear when seeing the audiovisual production shown above (*cf.* <https://drive.google.com/open?id=0B5sG0tidiuULWFJCT2stTHhhSUK&authuser=0>). In fact, such a learning product reflects media literacy; it presents a complex convergence of media that clearly demonstrates the capacity of growth in knowledge through the usage of multiple *old* and *new* means that are accurately articulated towards a meaningful end. This component shows us how the ik-Model Technological Domain and Content Domain – where holistic goals are considered –, should converge in order to produce a meaningful achievement for personal and social development. This activity is also particularly rich in what concerns the Processes Domain. The students are asked to meet legends and tales

exploring the conditions of their own realities. Although they are using new technologies with educational software and connectivity, they receive the message that the source of knowledge for that assignment is someone older on their communities and that those are the gatekeepers of information that cannot be collected anywhere else. This preserves a sense of belonging and reinforces the role of older people within a community. This also enables to go beyond the idea of work productiveness as a major will for development, where only those that are connected to a web of interests through a paid employment are concerned to a process of decision making. At the same time, this task enables each student to find its own way of learning, using different means. This way, they value each *medium* as a particular resource for meaning and signification. They may use a recorder software to keep the trace of a generation that didn't manage such tools at all, making this a sharing moment of symbolic ways of conceiving and present a vision of the world. Such an approach will make a difference when drawing the stories heard – using pencils, painting resources and notebooks or a software for drawing, like *Artrage* – and will enhance the production of a collective imaginary based on singular ways of telling stories. In the classroom, students have the opportunity to share interpretations that grasp the fundamental values of those cultural tokens in a more up to date manner, participating in the process of signification through time. The perspective of Language as a critical identity legacy will be reinforced as the conditions are here created to perceive it as the exclusive medium through which specific *ways of Worldmaking* (Goodman, 1978) can persist.

The multiplicity of people that participate in several moments of this task enables to understand how the Relation Domain is critical to experience affective-cognitive psychological processes that enrich the acquisition of the *new*. As a matter of fact, students must find key elements on their communities through their families or more proximal references. This process also favours those proximal references to become aware and to recognize the relevance of other members from the community that are being requested to the learning process. Those people seen as a source of knowledge in terms of cultural heritage also become committed as learners, because the activities created make curiosity towards the new spring in a natural way.

Finally, the audiovisual products shared may deepen the collective consciousness of the multiplicity that characterizes Bolivia, enriching the vehicles for cultures dissemination. Preserving roots within an inter and intracultural participatory process that reactivates the conditions of its own production and signification through time contributes to a cartography of living that is embedded in a sense of diversity and belonging.

MESCP and ik-Model: conclusions to *Living Well*

The opportunity to integrate ICT in the momentum of the educational transformative project of Bolivia has created the conditions to explore its premises in the context of a wider availability of resources. A framework for a meaningful ICT integration in learning scenarios also gave structure to this encounter, enabling the organic procedures of blending the conceptual with the material world, in a way that respected and fostered the singularity of the Socio-Community Productive Educational Model. At the end of the JP-ik training, all the participants felt confident in terms of the further implementation of technological new resources on their schools, as they had an experience of use that was totally integrated on their educational values and pedagogical methodologies. We may see this training project as an opportunity in itself for the educational agents to develop in a *Living Well* model. Actually, this educational vision does not only concern students, but all learners throughout the lifespan and that is why each phase may be seen as part of that will. *Living Well* concerns a whole community, in its own heterogeneity and mechanisms of growth. Therefore, it matters to address each participant not only as a fundamental piece of cultural dissemination, but also as a crucial figure of attachment, who experiences processes of exploration and integration in a sheltered and inspiring environment.

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