INTERNATIONAL PARTNERSHIPS FOR KNOWLEDGE BUILDING COMMUNITIES: AN EMERGING MODEL FOR TEACHER DEVELOPMENT

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1 PRECEDENT

The Association for Teacher Education in Europe, ATEE, and the European Commission have been pioneers in promoting the networks of teacher educators. The ATEE is itself an association of institutions of initial and continuous teacher training from its creation in 1976, before the Commission, 14 years later, created its first network with the ATEE support and expertise.

Sixteen years ago, in 1990, the European Commission enhanced the creation of a network of teacher training institutions (RIF) that soon had more than 170 member institutions. Francine Vanniscotte, one of our former presidents, was the promoter. Between 1988 and 1992 the ATEE had an important participation in it, organizing four Summer Universities for teacher training, supported by the European Union. That gave birth to multilateral, multidisciplinary and plurilingual educational networks, and they favoured cooperation among teacher training institutions and among schools in Europe, and were the source of many pedagogical innovations at different levels. These partnerships are in the origins of the different actions of the European Programme Socrates, which has been valid till today and it is the base of the new European educational programme LifeLong Learning, applicable from 2007.

More specifically, from the 31 annual conferences that have taken place at the ATEE up to now, three of them have been on the theme of collaborative partnership.

In Glasgow 1996, the Conference organized by James McCall and Ronald M. Mackay was on the theme “Partnership and Co-operation”. In that Conference the emphasis was on the cooperation for the improvement of the school, on how to make it more efficient and sustainable, the creation of systems of collaboration with inter-professional involvement, the associations among teachers to share cultures and how to move from a local partnership to an international dimension.

In Barcelona 2000, Josefina Cambra and myself proposed a Conference on “Teacher Education and Global Cooperation, A Way for Life-long Learning”. At that moment, the emphasis was on encouraging teachers and teacher trainers to develop interactive learning communities, both presentational and on-line. That is, finding appropriate space so that teachers can learn along their life, researching different placements and getting equipped with flexible typologies that allow themselves a more professional and adequate development.

The ATEE itself, besides implementing a European partnership that is richer and wider, is promoting cooperation with other associations all over the world. That shows the interest of our association for the development of European and International partnerships, which is not a new thing but one of our main worries.

It is just natural that in 2006 our organizing institutions in the Slovenian Conference, the National School for Leadership in Education and the College of Education at the University of Ljubljana, and also the International Scientific Committee, have proposed the cooperative partnerships in teacher education as the main theme. This is an emerging model in teacher education, dealt by some of the Research and Development Centres (HUCs), permanent working groups in the ATEE, that add the international dimension to this cooperation.

When these international networks of professional development reach an authentic level of cooperation, the objective is the collective development of new pedagogical knowledge. An emergent model is one that, from the cooperation among different institutions and organizations of teacher education, is able to launch a shared project based in the concept of learning community and collective knowledge building.
2  INTERNATIONAL PARTNERSHIPS FOR KNOWLEDGE BUILDING : AN EMERGING MODEL

In 2000 work started with the University of Laval, in Quebec, and with the Ontario Institute of Sciences of Education (OISE) in the University of Toronto, that had created and developed the concept of social knowledge building. This concept has proved to be a powerful vision to enhance the lessons today.

In 2001, an International Symposium on learning communities1 was celebrated in Barcelona, and in 2004 a space of international collaboration to develop both concepts, from concrete experiences, was created. The idea of a learning community, difficult to be defined because it allows many different approaches, is also a vision that interests the educational world because it foresees the potential of innovation that will be introduced by the participation of different actors in a community with shared objectives. Each one of them plays their role: primary and secondary school pupils, teachers, school directors, parents, families, pedagogical resource centres in their corresponding area, university students future teachers, universities, as also the educational administrations. The educational world widens, sometimes, to social services, enterprises, NGOs, trade unions, employers’ organizations, media and citizens in general, because they have different but important roles for the growth of the community (innovation at different levels).

Knowledge building2 has struck the imagination of educational and social leaders because they foresee its power in order to prepare the workers and citizens of the XXIst century, making them innovate through the effective use of new technologies in the classroom. This is why the teacher educators must prepare teachers in the adequate use of ICT, with the tools provided by computers and that make communications easier. For this reason we have chosen the Knowledge Building as a series of tools that make communication easier among participants (technological innovation) for the social building of knowledge (social innovation), so that the individual and collective efforts produced in the classroom are registered and can be used to progress in the curriculum innovation.

The composition of learning communities allows many varieties that expect more investigation. We are focusing the idea from the point of view of the dynamics generated when we include the pedagogical principles and cognitive scaffolds that the application of the tools that Knowledge Forum involves and we have called them knowledge communities.

2 Marelene Scardamalia and Carl Bereiter are the promoters of these concepts. You can find their research in: www.ikit.org

The 12 principles of co-elaboration of knowledge established by Marelene Scardamalia:

1. Community of knowledge, collective responsibility
2. Constructive use of authority sources
3. Simultaneous, rooted and transformative evaluation
4. Democratization of knowledge
5. Epistemological behaviour
6. Diversity of ideas
7. Perfectible ideas
8. Ubiquity in the elaboration of knowledge
9. Real ideas, authentic problems
10. Integration of ideas discussed and emerging of new ideas
11. Transformative discourse
12. Symmetrical advance of knowledge

“Scaffold” is defined as a temporary structure that helps punctually in the learning processes and that allows pupils to reach knowledge they would not without complementary help.

The scaffolds used by pupils in this project are the following:
My theory
I need to understand
New information
This theory can not explain...
I have a better theory
A rise above
These knowledge communities incorporate ways of speaking, speech systems that help the learning of knowledge and make distributed cognition easier. All this by means of mainly intellectual practice, including the social and emotional practice at the same time, designed for the building and distribution of knowledge and promoting participation and creation altogether. Simultaneously, they bring into practice systems of values and believes, especially in what concerns learning and the relation with knowledge in a democratic frame, aware of human rights.

These learning communities must be “cared”, so that eventually they become knowledge communities, and with that aim some necessary elements to be observed in the behaviour of these communities have been identified: An active commitment, a clear responsibility for each one own mental activities; an appropriate reflection on the meaning of the events that influence the participation in the community; collaboration that allows the distribution of personal resources, that is, competences, capacities, knowledge, and the technical knowledge of the people involved in the teaching and learning activities, a culture, that means a way of thinking and living that can be built, negotiated, institutionalized, and finally, it is defined as your own thing.

This conception of knowledge community implies some dynamics that bring innovation to the classroom and also to the local and international community, and that we are going to present now. Afterwards, we are going to present a study case that illustrates the practical application of the dynamics that can constitute the basis of an emergent model transferable to the teachers’ education.

3 Four dynamics generated by knowledge communities

From analyzing the results of different case studies, one of which we have especially gone in depth (COMconèixer project), we can draw a conceptual framework to explain the dynamizing elements from an organizational perspective that favours the teachers’ professional development.

We are going to underline four dynamics generated by knowledge communities:

1. Knowledge building as a shared vision
2. Diversity of expert participants
3. Local/global participation
4. Innovation at different levels

We adequate the formative activities proposed to the teachers in order to find innovative solutions to classroom problems, using new technologies with a cognitive orientation.

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3.1 Knowledge building as a shared vision

The development of a shared vision of how to improve lessons can be considered as a new school frame with a new organization for researchers and teachers.

Literature about partnerships stresses the importance of visions and strategies coming to a meeting point, and when these visions are shared authentically, the partnerships get stronger and are able to mobilize the efforts of educators belonging to different institutions and countries. Social building of knowledge applied to primary and secondary schools is a shared vision that develop the people in charge in the different institutions participating in the community through a process of interaction.

The Knowledge Society Network (KSN) is a net of Knowledge Building (KB) nets. Educational researchers and professionals come together from different cultures in order to collaborate and share knowledge building experience and practice. The aim is that of improving practice in the classroom by means of transforming them into a community of knowledge building.

Through this community you can develop some technological tools of support that are the object of permanent clarifying and improvement, among which we should stress the programme KnowledgeForum, that provides a collaborative space integrating some of the epistemological, pedagogical and technological elements necessary to build knowledge in the classroom. In that space, a shared vision is generated, and it is disseminated internationally through concrete projects.

All this process entails a dynamic permanent negotiation among the different actors in order to reach consensus in that common vision. The negotiation in itself is already collective knowledge building.

3.2 Diversity of expert participants

Fostering the transformation of a learning community into a knowledge community demands a strong organizational structure, coordination of human resources with plurality of experts and economical support, both at local and international level. This is why the support of the different educational institutions and administrations is necessary: school and leading teams, local governments, municipalities, universities.

Diverse knowledge and skills are necessary in order to create communities of knowledge building: From teachers, experts in technology, in curricular development, in internal and external evaluation, cognitive sciences, experts in communication and, of course, pupils and students considered as co-researchers. The pupils are also experts: Each one has a specific function within his/her group: The different tasks are distributed according to each one’s competence to reach the common objectives.

Each community member can be consulted by the others concerning his/her specific knowledge. For example, it could be that a student, future teacher, knows Knowledge Building well and explains it to his/her university professor, or that a secondary school pupil who knows well the principles of knowledge building explains them to a replacement teacher, or that a teacher leads another teacher who is starting the experience, or that a university granted student helps analyzing data generated by the Knowledge Forum, or that a group of secondary school pupils with experience in Knowledge Building observe and analyze what some primary school pupils who are starting do, or an expert in cognitive sciences or in other fields of knowledge, who are consulted by their collaborators in a concrete project of knowledge building.

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5 Lefèvre, T., Bracewell, R., Breux, A., Erickson, G., Lanom, M., Owston, R., “Teacher education in the networked classroom”. Laval University, Quebec City, 2005.

6 [http://nntf.org/kbn.html](http://nntf.org/kbn.html)

7 [http://www.knowledgeforum.com](http://www.knowledgeforum.com)
It is different knowledge that is complemented and transferred, so that pupils become coresearchers in the classroom, together with their teachers, and the teachers become coresearchers together with the university researchers, and all of them together decide when their results are interesting enough to be disseminated and published. The diversity and transferability of knowledge is one of the most dynamic elements to achieve a successful knowledge community. Diversity of expertise seems to be the key to this emergent model of partnership.

3.3 Local/global participation

Another organizational dynamic which demands great effort from all participants is rooting the communities locally, and at the same time participating in discussions on-line, in local, international or global nets.

Commitment of all actors to transform a class into a knowledge community has to be made easier. It is a long process that includes activities at local level, rooted to the participants’ reality, and also exchange actions at global level that allow local conclusions to be shared, contrasted and situated in a wider context in order to advance in the authentic questions and help find solutions to the different methodological challenges. This is why there exists the dynamics of direct interaction between local reality and global dissemination generated by the process of knowledge co-elaboration in networks.

Communication among the different communities takes place today with the help of all possible communication tools available: e-mail, video-conferencing, virtual meetings, etc.; Taking into account that also presential meetings are necessary to create permanent links among participants. That implies easy mobility for participants to attend local training meetings or international seminars for training or to exchange experiences.

International communication finds often difficulties in the use and understanding of the different languages. To solve these problems some people are required to act as “bridges” by helping with translations, by using all sorts of resources or non-verbal languages, especially images, drawings, cartoons, gestual language, as also by using on-line translators, more perfect and available each day, to help understand the messages. As far as international communication is concerned, one of the objectives is that of allowing synchrony of respective activities, as also definition of exchange modalities and methodologies that will be used for knowledge building, according to the characteristics and possibilities of each one. All these communication tools have the aim not only of sharing the ideas, but also improving them.

Participation in local and international networks demands teacher training integrated in the dynamics of creation of knowledge communities. This task is done through collective presential meetings, contributions on-line, or training in each of the schools, with the support of universities, Institutes of Educational Sciences, pedagogical resource centres, or the experts necessary for each project, at technological, methodological or epistemological level.

Individual or collective contributions from teachers, directors, inspectors and evaluators, together with those from researchers, contribute to the results presented in the Knowledge Society Network (KSN) and are the object of publications, as the ones which will be presented in November 2006 in Barcelona on the experience of the project COMconèixer. Thus the teachers’ work and the research results can be known and used by the other members, beginners or more experienced. It is also a good means to value and diffuse work done so that it can be known by people from other nets.
3.4 Multi-level innovation

The fourth organisational dimension of knowledge co-elaboration is the plurality of levels where innovations happen: In class and in class networks, in the school and in school networks, in the university and university networks, in the educational administrations and in the nets of educational administrations, because all of them participate in the knowledge community and in the net of knowledge communities.

The main innovations produced in this plurality of levels respond in general to three tipologies:

- Technocognitive innovation,
- Social innovation and
- Curricular innovation

Innovation at these different levels has its basis in the classroom with the pupils and their teachers, and the dynamics of the knowledge community guarantees communication and transferability between levels, taking it back to the classroom in order to improve it. Communities of knowledge building start in the classroom and expand to the school. This is why collaboration among school directors is necessary, so that they can give organisational, technical and administrative support.

The school leading teams are a key element to achieve innovative processes, because they have to take into account project teachers’ and coordinators’ timetables, they have to provide room so that the project can be presented to the local community and receive the teams of international participants, coordinate communication actions and participate in the strategies of motivation and evaluation.

In the following levels – local, regional and national governments - the different educational administrations give their support to this sort of projects, because they are interested in knowing which can be the most effective uses of ICT in schools, now that some countries are already well equipped from the technological point of view, but maybe they still need to stress the use of technology as more didactic, more oriented towards cognitive pedagogy. This is why the texts of political education from the different administrations, from the European Union Council to each of the national, regional or local governments underline the importance of the use of new technologies and enhance research oriented towards a better practice.

Here lies the technocognitive innovation of this model. Sometimes, even in classrooms with computers connected to the internet, pupils find it easier to use them than teachers, who find difficulties in offering necessary opportunities to their pupils so that they can learn with ICT. Pupils use of ICT during lessons is still quite low. The teachers’ constructivist orientation is an element that raises the time devoted to the internet during lessons.

As far as social innovation is concerned, the activity of collaboration in the net offers new modalities of interpersonal and collective communication, with the objective of solving an authentic problem in a determined collectivity or community, from which new ideas can be drawn, that have democratic consensus and because of that they are legitimate and transferable from one community to another. The knowledge community shows to be socially innovative, linking the school with the world.

The curricular innovation that the model brings forward is based in the improvement of fundamental basic capacities: Reading and writing mastered through written and oral interaction produced by the practice of coelaboration of knowledge. Evaluation instruments give evidence of the significative increase of vocabulary used by pupils. It is also possible to measure individual and collective efforts produced in the classroom because they are registered and show the pupils’ curricular progress. The four dynamic axes that we have associated to international cooperation belong, as we have seen, to social innovation with technologies oriented to cognition in the classroom on line. We are going to present now a case study that makes a description of how these four dynamics have been generated. We propose to identify them as the constitutive elements of an emergent model. It is an ambitious model explored afterwards through the experience of COMconèixer.
4 A Case Study: COMconèixer Project

4.1 Methodology

The ministries of Quebec and Catalonia agreed in 2004 to design a common project with representatives from both cultures who wanted to collaborate in a shared experience. There collaborate university professors, teacher educators and researchers about the teachers’ professional development, together with primary and secondary schools interested in educational and technological innovation, in collaborative research, and with the experience of having participated in other international programmes.

It was decided that we would use technology oriented towards cognitive development and that we would work with authentic problems shared by participants. They had to be real problems originated from real life in the classroom, from local context, and making sure that pupils used research to solve them. The technology of KnowledgeForum (KF) was chosen as most adequate, and for two years the teachers have become familiar with the tools offered by KF and have used them with their pupils in the classroom. The technical instructions of KF, as the principles and scaffolds were translated and adapted into Catalan. Reflective practice was used on the use of KF and on the problems of knowledge communities.

4.2 Participants

In Catalonia the project is known as COMconèixer (COMmunication, COMmunity and knowledge). There are participating in the project 10 primary, secondary and adult schools, 300 pupils, 60 teachers, 7 university professors from the Universitat de Barcelona and from Universitat Autònoma de Barcelona, and 7 technical advisors from the educational administration of Catalonia. This international project of cooperation is developed with the active collaboration and methodological and technical support of the University of Laval in Quebec, the University of Toronto, and with the participation of pupils and teachers from different schools in Canada, actors in the project L’Ecole éloignée en réseau8.

5 The Four Dynamic Elements in the Construction of Knowledge Communities Applied to the International Project COMconèixer

5.1 The construction of knowledge as a shared vision

The project was designed on the basis of conversations about the new technologies and their contribution to education. The frameworks of the KF were presented as a new generation of technology with a cognitive orientation, and the KB construction of knowledge bases as the pedagogy to be developed, in talks and videoconferences with Thérèse Laferrière (Université Laval, in the city of Quebec) and Marlene Scardamalia and Mary Lamon (University of Toronto). The initiative was supported by two universities in Catalonia: the Universitat de Barcelona (Begoña Gros) and the Universitat Autònoma de Barcelona (Mercè Bernaus). The Office of Educational and Scientific Cooperation of the Ministry of Education of the government of Catalonia selected the schools, and the project got under way.

8 http://www.eer.qc.ca
5.2 Diversity of experts

By way of the Office of Educational and Scientific Cooperation, experts were looked for among school teachers and principals with experience of collaborative projects, especially with the European Union (Comenius and Grundtvig).

Each participant decided what their tasks had to be in the project. For example, one of principals described her own tasks in the project had been:

- To facilitate the needed resources...
- To organize schedules, roles, mentors and leadership tasks.
- To settle different sessions for presenting the project.
- To organize support sessions to welcome the international staff and the administration team.
- To coordinate the video session for including parents, teachers, pupils performance...
- To participate in the evaluation strategies.

Other experts interested in the partnership between classes and the construction of knowledge communities began to provide support to the schools in their chosen areas of cultural diversity and sustainability. The Department (Ministry) of Education of Catalonia made available its own experts in networks, in languages, and in evaluation. The Inspection of Education Office and the Higher Council for Evaluation of the Education System of Catalonia took on the process of follow-up and evaluation.

5.3 Local/global participation

Monthly meetings in person, videoconferences with Quebec and Toronto, and on-line sessions were the means of explaining and sharing practices for the social construction of knowledge. The construction of knowledge bases and the frameworks were translated into Catalan. Thérèse Laferrière, Professor of Pedagogy at the Université Laval, came to give in-person training to the participating schools in Catalonia.

The Catalan teachers have illustrated these principles and frameworks with different metaphorical examples in order to apply them in class. And the students have created various artefacts to explain them to their fellow students.

Spaces were created for the professional development of the teaching staff taking part where they could discuss their practices with other professionals. Video has been used as a training tool, and the videos have been dubbed into English and French. A short 12-minute version has been made, which you will see now, and also a longer 45-minute version for the training of the new participating teachers. The results of the first year and the second year have been presented at the IKIT summer schools and to the OISE of the University of Toronto (August 2005 and August 2006), in which a Catalan delegation made up of representatives of the different levels of participants and experts took part. We are currently preparing for the presentation of the project at a Euromediterranean Seminar to be held in Barcelona in November-December 2006, at which there will be representatives of the 25 (twenty-five) countries of the European Union and the 10 (ten) of the Southern Mediterranean, as well as a significant Canadian presence.

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\(^9\) Contribution by Manuela Rubio, Headteacher at Pau Romeva School.
5.4 Innovation at different levels

The construction of knowledge communities, based in the class and in the local and international networks, has been assessed as an experience that brings innovations at different levels and offers a new way of integrating the ICTs in the schools.

6 Results for the emerging model

6.1 Analysis of the data obtained and evaluation

University research groups, the educational inspectorate and the Higher Council for Evaluation of the Education System of Catalonia have been responsible for the follow-up and evaluation of the project over these two years. In doing so they have made use of ethnographic methods, including interviews, questionnaires, and observation of the participants, video recordings, and on-line data on the KF. Here, then, are the data obtained.

6.2 Overall evaluation

In an overview of the processes and the results achieved during the project, it is important to note that the various groups have found a way to improve in those fields that are usually most critical. This is a real strength of the project, and is a motivating tool in the professional development of teachers and in the process of learning of the students.

In a globalized world in continual transformation, in which the management of change comes to the schools by way of innovation for improvement, a project such as COMconèixer, in which the different segments of the educational community come together for joint planning and the sharing of decision-making and for the research and evaluation of classroom procedures and school processes, measures its success in the form and in the orientations of the approach, in its flexible development and in the critical and rational appraisal of the results.

The strong points are the factors that have intervened in the context, the process and the results for innovation. These are:

1. The trasversality of the curriculum and of the integrated management of knowledges in the classroom, in different organizational models (variable credits, back-up groups, special groupings or the individual participation of the students).

2. The unified involvement of different levels of education and research (primary, secondary, adults, student teachers/future teachers on teaching practice, university teachers, managers of the Education System and international experts).

3. The simultaneous focus on reflection on education (the reflective practice of the students in their collaborative learning, the reflection on their practice undertaken by the teachers, university research, the evaluation of the system from an external viewpoint).

4. The well-founded utilization of Information and Communications Technologies in a project informed by ethical principles and values for the management of knowledge.

5. The use of communicative frameworks for the students (scaffolds) that help with the organized elaboration of the discourse and of the illustrated research in academic areas and settings in which the major role of transmitter and referent of knowledge is usually exercised by the teacher (classroom, school).

6. The autonomy of the school in the organization and management of the project, within the collective debate and the shared construction of the global learning community.

10 A team of experts in evaluation have elaborated the survey, coordinated by Carme Amorós (COSAVAL), Neus Lorenzo (Inspector of education) and Begoña Gros (University of Barcelona)
Among the points to be improved are those concrete aspects that each school has identified as incomplete, weak or under-exploited practices. It is worth bearing in mind the diverse and often contradictory conditions in the different schools, which reflect the different organizational and/or methodological practices in each school:

1. The organization for internal coordination (timetables, meetings, delegation of functions).
2. The support for group working and the opportunity for shared reflection (involvement of the rest of the teaching staff, expansion of the working group, maintenance and general extension of agreements made).
3. The dissemination of the work done and the external presentation of the results (to the families, to fellow teachers, to other schools).
4. The regularization of international contacts (calendars and rates of actuation and intervention in the virtual communication forums).

With regard to overall assessment, special note should be given to the positive perception of the various agents involved: The management teams: they express a high degree of satisfaction with the school processes and with the participation of the teaching staff, one of the traditional grounds of complaint that have been more than resolved in the project, with a very good perception on the part of all those involved.

The teaching staff manifest a high degree of satisfaction with the methodology, the strategies and the classroom procedures, the learning results of the students, the motivation and work of the group. The good practices of a number of participants have been made public and shared for the purposes of reflection, debate and professional development with and for the profession as a whole.

The students are clearly satisfied with the work done, with the attitude of their fellow students and with the project, with a motivation so high as to situato expectaotions even higher than the actual possibilities, in an excellent environment for improvement and reflection on their own learning and the collective construction of knowledge.

The families reveal an in-depth knowledge of the work done in class by their children, in an information context very much better than usual.

The agents providing support for training, support for research and support for evaluation have had various fields of work and investigation (the progress of the students in the classroom, the professional development of the teaching staff in the training sessions and in the KF, the evolution of the project itself over two years in an innovative sequence of identifiable consolidation on the basis of the minutes of the meetings, the videos of the different schools, and the messages communicated in the KF.

6.3 Conclusions

In conclusion, it is important to note that the process of planning, implantation and consolidation of the COMconèixer has in general been accompanied by the features identified as good practices for the development of projects:

- Initial awareness, involvement and acceptance of the challenge
- The outlining of objectives, consensus on specific actuations, distribution of tasks and functions, and initial agreements for elaborating a common context.
- The diversified and autonomous work of the schools, flexible implementation in the classroom, the discretionary involvement of the different agents taking part, with shared criteria.
- The sharing of problems and solutions, of procedural strategies, and of situational proposals, in an open, formative, ongoing and collectively constructed debate.
• The consolidation of good practices, the identification of strengths and weaknesses, the evaluation of results and specific proposals for improvement within each school.

• The generation of new needs, the identification of new challenges, and the framing of new perspectives of improvement and innovation.

The constructive criticism of the participants, in a synthesis of evaluation oriented at airing reflection with a view to improvement in the schools and suggestions of quality for the system: this has been especially enriching and will, without doubt, be a good starting point for the subsequent development of other projects of international collaboration.

With these conclusions, we consider that the four organizational dynamics proposed have proved to be valid and could be transferred to other nets. Sustainability of this emergent model depends on the commitment and contributions from each participant. These four components are the foundation that holds the structures of some nets strongly structured and organized, that allows on the other hand many collaborative relations in constant change, and responds this way to the changing characteristics and dynamics of our present knowledge society.

Strategies for innovation involve the concept of trying, trying, trying once and over again, and the trials include failure, of course. The same model is dynamic because it has to be re-imagined according to the opportunities that emerge within the knowledge communities themselves, and these innovations are extremely difficult to foresee. But one thing is true: Giving power and being proud of thinking to all members of the knowledge communities is our main commitment.

I’m sure that some of you are working in similar projects. We would like to invite you to attend the RDC Global Cooperation that will start at 16h30 this afternoon. Also, you can contribute to the discussion asynchronously through the virtual collaborative space for ATEE international collaboration KnowledgeForum, hosted in the server of the Ministry of Education of Catalonia.

\[^{11}\text{www.xtec.cat/kforum}\]