INTERACTIVE LEARNING INFLUENCING IN THE PROCESS OF INNOVATION GENERATION: STUDY IN A PRODUCTIVE CLUSTER

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This work has as its objective to identify the forms of inter-enterprise relations, as well as verifying the factors that limit companies of a Cluster to adhere to more solid relationships of interaction that are capable to develop innovation. The field research contemplated a universe of 36 micro and small companies who act in the lumber sector. A questionnaire with structuralized and written questions was used sequentially. It consists in a quantitative and qualitative research, of interpretative nature, using a survey. One of the main results, evidenced that although the advantages cited in literature, the Productive Cluster in study does not show itself as a facilitator mechanism of the joint process and interactive learning, taking advantage in the internal environment of the companies in mechanisms of learning by doing method, gotten by the accumulated experiences and acquired local abilities, making possible technological definition and adaptations and improvements. Although the study verifies that one significant parcel of the companies are worried about product, process or equipment innovation, a complete absence of activities of R&D technology is observed integrated next to technological centers of research and university of the type learning by interacting.

Palavras-chaves: Productive agglomerations; Interactive learning; Innovation; Clusters.
1. Introdução

One of the trends that are sprouting in the process of industrial reorganization is regarding the forms of relations between companies. In this direction, the cooperation relationships are developed aiming to reduce the difficulties that translate to “costs of transaction” for the companies, that is, the costs that go beyond production costs.

The flexibility of productive processes creates new development possibilities for companies and in this scene the possibilities also demand new abilities, as the capacity to establish inter-organization relations, to share forms of knowledge that stimulate interactions toward the processes of interactive learning.

Many are the authors who praise that the intensification of cooperative relations allows the growth of reliable bonds and the perception of the benefits of joint solutions, as much in the enterprise scope, as with respect the collectivity and regional development.

Lundvall & Johnson (2000) define the form of learning that appears from the relation of companies with other companies of learning by interacting. For these authors the establishment of relations of cooperation between companies can be an important instrument to stimulate the growth of these companies and of the regional economy, since this cooperation allows them to have scale profits and generate positive external results, these results minimize the common problems that affect them. By this form, they approach that the main advantage of these interactions is the construction of a tacit knowledge that is only possible due to the spatial proximity, and whose transference depends on the social context and the institutions established in this locality.

This presumable expansion of enterprise agglomerations that are part of the landscape of all countries independent of its stage of development implies the necessity of revision of the relative concepts to the forms of organization and cooperation between companies.

In this context the present article has as its objective to identify the forms of inter-organization relations, as well as verifying the factors that limit the companies of a Productive Agglomeration (Cluster) to adhere to a deeper relationship of interaction, capable to develop innovation.

2. Productive agglomeration of companies

Britto (2000) defines the local agglomeration or productive arrangements as geographic concentrations of similar economic activities and/or strong interrelated or interdependent. This economic agglomeration already formulated by Marshall in 1920, originally was characterized from the unfolding of the analysis of Industrial Districts.

Schmitz & Nadvi (1999) present a simple and operational definition to the term productive agglomeration (clusters), as being only a sectoral and spatial concentration of firms with emphasis in a vision of companies with concentration in local factors for the competition in global markets. With this affirmation, Amato Grandson (2000) complements that “clusters” can be considered as forms of a greater structuralized agglomeration of companies, also involving supplying of raw material and equipment, canals of distribution and assistance to its products.

For Haddad (2001) it does not make sense to speak of a productive accumulation (cluster), without contextualizing space. That is, a cluster in a region X is different from a cluster in
region Y. One of the reasons of this differentiation, the author points the organizational level of the products, the quality of the workforce, the logistic of transport, the pointers of sustainable development, raw materials, knowledge, etc.

It is verified that the great difference between what is defined by agglomeration or cluster is a simple grouping of companies in one same place, in respect to the devotion of the companies to the same line of products and the existence of synergy between them.

Not only to the recurrent benefits of the geographic proximity between customers and suppliers, Giansesi & Correa (1996) cite the optimization of the equipment use and raw materials through informal counseling by the same supplier, formal and informal training of employees, reduction of technical assistance time and greater personalized attendance. Another aspect considered by McCormick (1999 apud Debiasi, 2001) is that clusters facilitate the creation of specialized workforce in the region, since this specialized and experienced workforce brings a series of advantages for the workers for the companies.

According to Porter (1999) a very favorable characteristic of clusters is the access to information, therefore this information when used in correct way, can determine the success of companies, and therefore through this it is possible to increase productivity of the company, to speed up innovations, to speed up the transference of know-how between companies and to take better care and quickly the necessities of the customers.

Suzigan (2004) when mentioning agglomeration of companies as Local Productive Arrangement (LPA) considers cooperation as one of the basic principles of the functioning of an arrangement, whose success estimates the valuation of the social and cultural aspects of the region the availability of economic and technological support, however one must not forget to consider that the local companies have or do desire to compete for the expansion of more expressive positions in the market, that is one of the rules of the capitalist system where they are inserted.

Another considered aspect is that the concentration of similar companies in one determined region favors the collective marketing. This happens through not only advertising, but through fairs, specialized publications among others ways (PORTER, 1999). In the vision of the same author, a cluster will be, more complete the more it takes care of the characteristics previously mentioned. However, if incomplete, clusters present advantages in relation to companies competing separately.

3. Interactive learning and innovation

Clusters facilitate innovation, due to the close relationship with its partners and suppliers, the ease of monitoring the competition in the cluster, the great amount of information, the ease in observation of technological trends and the shift of habits or consumer needs.

Porter (1999) adds that the companies in a cluster acquire components and services more rapidity, facilitating innovation. These companies carry through experiments with the lowest costs, diminishing financial risks of innovation. On the other hand, the same author approaches two situations where innovation can be delayed in clusters: when the competition is reduced and when the innovations are radical to such a point that they can invalidate a part of the cluster or even the cluster as a whole, as it is the case of new products that cause the discontinuity of old products.

Cassiolato and Szapiro (2002) point out that the capacity to generate innovations has been identified as a factor key of success to companies, being that such capacity is obtained
through intense interdependence between the diverse actors, producers and users of goods, services and technologies, being facilitated by the specialization in common social economic environments. In the same line of thought Cassiolato (2000, p.22) defends that development politics without investment in technology is impossible.

Barquero (2002, p.21), comments that the introduction of innovations that are a collective result of the tacit cooperation between companies, increases the productivity and the competitiveness of the local economies.

In the conception of Campos et al. (2002) learning can be considered as a basic process for the construction of new abilities and attainment of competitive advantages, which through the search of new sources of information and other mechanisms enable firms technologically and stimulate its productive and innovative activities. By this form, the accumulation contributes for the collective learning, diffusion of knowledge and of technology, being an environment where integration and sharing are shared for the development of solutions and answer.

In the vision of Lemos (2003) the process of generation of knowledge and of innovation imply: in the development of scientific, technological and organizational qualifications and substantial efforts of learning with one’s own experience, in the process of production (learning-by-doing), commercialization and use (learning-by-using), in the incessant search of new solutions techniques in the units of research and development or in less formal instances (learning-by-searching); and in the interaction with external sources, as supplying of raw material, components and equipment, customers, users, consultants, partners, research institutes, governmental of research, agencies and laboratories (learning-by-interacting); in specific interactions for sub contracting of raw materials, components or products (learning-by-subcontracting); or in the processes of copping competitors (learning-by-imitation).

Lundvall and Johnson (2000) praise that the flow of tacit knowledge and local accumulative develops the economies of learning in two ways:

1. From internal sources - learning by doing, that is, proper experiences in the production process. Learning occurs in the internal level of the firm when new ways to make things or to carry through new services result in the sprouting of things that until now were inexistent. Advances occur, improvements appear, increments appear that are incorporated to products and to existing processes; learning by using, where learning from the use of the product generate conditions for continuous changes. Through the use limits are known, problems, qualities etc. of the products, allowing, through the information system, the perfecting and improvement of its qualities; and to learn by searching, that involves activities of Research and Development (R&D) in the firm;

2. From external sources - learning by interaction. It constitutes the learning resulting from the relations between the firm and its consumers and suppliers in innovative processes. Interactive processes between agents allow the exchange of information, joint actions, division of responsibilities, establishment of codes and procedures, that result in alterations in the status quo of products and processes, representing economic gains for the companies, which appear from lasting relations with customers or suppliers, creating a collective learning for the improvement of production methods, product quality and greater technological qualification. For the authors the establishment of relations of cooperation between companies - learning by interacting, can be an important instrument to stimulate the growth of these companies and of regional economy, once this cooperation allows them to attainment profits in larger scale and generating positive externalities, minimizing common problems to all.
4. Productive Agglomerate of Telêmaco Borba – State of Parana

The four basic types of productive agglomerations pointed by SEPL & IPARDES (2005), the Productive Agglomerate of Telêmaco Borba, located in the center-oriental region of the Paraná, was identified and classified as Local Development Vector (LDV), being formed of companies who act in the economic segment of lumber industry (sawed wooden production); laminated wood, ply wood manufactures; manufacture of diverse devices wooden goods and manufacture of custom furniture (residential and office).

The forest capacity of KLABIN S.A, with the city hall and partnerships of other local agents was of extreme importance for the formation of the lumber productive agglomeration of 1995 the 2001, generating jobs and income in the region guaranteeing better perspectives of survival of the lumber companies in the market, especially for the micro and small companies.

5. Methodology and procedures

The field research contemplated a universe of 36 Small and Medium companies that act in the lumber sector. By means of classification of the CNAE (National Code of the Enterprise Activity), these companies have been grouped in accordance with the operating economic segment, as demonstrated in Table 1.

<table>
<thead>
<tr>
<th>Economic Wood Segment</th>
<th>Number of researched companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wood sawing and or drying</td>
<td>20</td>
</tr>
<tr>
<td>Ply wood and laminated wood</td>
<td>4</td>
</tr>
<tr>
<td>Manufacturing of Diverse wooden products</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
</tr>
</tbody>
</table>

Source: Field research

Table 1 - Number of companies researched by lumber economic segment

In the cases where it was verified that the company acted in more than one economic segment, due to the fact of the occurrence of processes that are complement in some plants, generating products that can also be fit in other segments, a criterion the classification was adopted for the economic segment with greater aggregate value and bigger percentage of production by the company.

The method used in the research was inductive, since in this type of reasoning, the generalization drifts from cases comments of empirical reality. Gil (1999, p.28) defines the inductive method as a process where the research starts from the particular and places the generalization as the posterior product of the work of particular data collection.

The adopted methodological boarding for the research is quantitative and qualitative of interpretative nature, being classified as descriptive, with exploratory character. In function of the adopted procedures, it is classified as a survey, involving the direct interrogation of the proprietor, production manager or administrative manager of the company. A structuralized interview with support of a questionnaire was used as the instrument of data collection.

6. Description and analysis of the results

The description and analysis of the results gotten through the questionnaires and interviews on the central element of the study will be presented from this point, searching to identify the forms of inter organization relations, as well as verifying the factors that limit the companies of a cluster to adhere to a more solid interaction relationship, capable to develop innovation.

6.1. Relation between the lumber companies
A favorable characteristic of the productive agglomerations is the access and sharing of information between the companies. In this direction, it was looked to inquire the question of the horizontal bilateral relations between the companies of the cluster. This data are demonstrated in Table 2.

<table>
<thead>
<tr>
<th>Rate of Exchange of Information</th>
<th>Freq. (%)</th>
<th>Number of executives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extra-professional Relationship</td>
<td>YES</td>
<td>95%</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>5%</td>
</tr>
<tr>
<td></td>
<td>24</td>
<td>2%</td>
</tr>
<tr>
<td>Enterprise Relationship</td>
<td>98%</td>
<td>36%</td>
</tr>
<tr>
<td>Informal exchange of information</td>
<td>98%</td>
<td>17%</td>
</tr>
<tr>
<td>Formal Exchange of information</td>
<td>49%</td>
<td>52%</td>
</tr>
</tbody>
</table>

Source: Field research

Table 2 - Relationship and exchange of information between the companies of the Telêmaco Borba cluster

It was evidenced to be over 90% of the interviewed they had answered that they possess extra-professional relationship, (friendship and social interaction characterized by informal meeting with other executives), enterprise relationship and informal practices of exchanges of information, involving in some cases related aspects of new technologies in the market, availability of credit, competition, quality and specification of products, machines and equipment. This universe of relationship, however, is restricted to not more than 16 executives.

The formal exchange of information is less significant, since 49% of the interviewed answered to mainly change formal information with executives of the same segment regarding questions that involve the acquisition and transport of the wood, common canals of distribution, exportation and others that demand a higher degree of formal information exchange.

In relation to the frequency of the formal or informal exchange of information of enterprise strategies, it was verified that 69.4% of the interviewed carry through occasionally and 27.8% are frequent. In this exchange of information are boarded questions on: technological innovation of the machines and equipment, quality and product specification, new products, optimization and price of the raw material, workforce contract, legislation, marketing and financial questions and others related to the lumber sector.

About 63.9% of the companies answered that occasionally they visit other companies of the cluster and 33.3% had mentioned to be frequent these visits, however it was isolated with some companies of the same segment that possess greater effectiveness. In this same line, 58.3% of the companies had answered that occasionally they allow the access to the facilities for visits by other companies from the cluster and 41.7% have said mainly that these visits are frequent, of companies of the same economic segment.

The commercial relations and the exchange of information reveal to still be timid, occurring in an isolated form between companies of the cluster. In some cases the relations appear from social interactions. This is corroborated when 47.2% of the interviewed maintain social interactions in weekly manner, 30.6% in recreational clues, 11.1% in cultural activities,
8.33% in informal conversations, 5.6% in religion services, 5.6% in family reunions. From the universe of 36 interviewed companies, 22.2% mentioned that they do not maintain any type of social interaction with other companies in the cluster, preferring that this type of interactions occurs only with the employees.

Considering the presented results, it is observed that the exchange of information in the cluster exists, however this amount is not enough develop greater aspects of integration that result in competitive advantages for the companies. Such fact is evidenced, where only 12 companies interact, and the remaining companies present a reserved position, with a behavior more directed to the competitiveness then to cooperation. From this, it is observed that the cluster is still presented closed and with little dynamism in the interactions between the companies. In this line, Porter (1999) praises that beyond the exchange of information; a partnership must exist that involves some aspects and stages of the relations.

Following are presented through Table 3 the cooperation forms that are more frequent in companies of the cluster.

<table>
<thead>
<tr>
<th>Forms of cooperation</th>
<th># of Cit. (YES)</th>
<th>Freq. (%) (YES)</th>
</tr>
</thead>
<tbody>
<tr>
<td>In production</td>
<td>15</td>
<td>41.7%</td>
</tr>
<tr>
<td>In the acquisition of raw material</td>
<td>11</td>
<td>30.6%</td>
</tr>
<tr>
<td>In the commerce of products</td>
<td>9</td>
<td>25.0%</td>
</tr>
<tr>
<td>In the export of products</td>
<td>7</td>
<td>19.4%</td>
</tr>
<tr>
<td>In the imports of equipment, machines and other products</td>
<td>1</td>
<td>2.8%</td>
</tr>
<tr>
<td>In the leasing of machines</td>
<td>6</td>
<td>16.7%</td>
</tr>
<tr>
<td>In the development of products</td>
<td>4</td>
<td>11.1%</td>
</tr>
<tr>
<td>In the technologic development</td>
<td>7</td>
<td>19.4%</td>
</tr>
<tr>
<td>In sector marketing</td>
<td>4</td>
<td>11.1%</td>
</tr>
<tr>
<td>In workforce training</td>
<td>9</td>
<td>25.0%</td>
</tr>
<tr>
<td>In the exchange of materials</td>
<td>20</td>
<td>55.6%</td>
</tr>
<tr>
<td>In the organization of expositions</td>
<td>3</td>
<td>8.3%</td>
</tr>
<tr>
<td>In negotiations with the government</td>
<td>5</td>
<td>13.9%</td>
</tr>
<tr>
<td>In negotiations with the syndicate</td>
<td>19</td>
<td>52.8%</td>
</tr>
<tr>
<td>In the solutions of common problems</td>
<td>17</td>
<td>47.2%</td>
</tr>
<tr>
<td>Others (specify)</td>
<td>4</td>
<td>11.1%</td>
</tr>
</tbody>
</table>

Source: Field research

Table 3 – Forms of cooperation between the companies of the Telêmaco Borba cluster

It is observed that the cooperation between the companies is regarding the in exchange or loan of common materials to the productive process of the economic segments in a significant percentage (55.6% of the interviewed).

Regarding to the common problems in the industrial district, such as transport, energy, communication and others, 47.2% of the companies have mentioned to cooperate in the direction of requests to the municipal city hall of the city.

In the negotiation with the union, 52.8% of the companies cooperate in aspects related to wage negotiation with the Workers Union (SINTRACONTB) and collective negotiations with the Company’s Syndicate (SINDIMATEL).
The companies that have mentioned to cooperate in the production (41.7%), it was observed that the question of the raw material lack in some situations is supplied by companies that use wood with same specification (diameter), being distinguished in such factor as a type of excellent cooperation for the companies. One of the companies (sawed wooden production), cited that in sporadically cases of productive deficiency, they search for alternatives of temporary partnership with another company of the segment.

In relation to the purchase of raw material, it was verified that 30.6% of the companies cooperate, however this is more frequent between companies of the same size and that operate in the same economic segment, using the same wooden species. About 25% of the companies cooperate in the commercialization of products, being this more frequent between companies who produce the same line of products. One of the companies stranded out that this form of cooperation is sporadically.

Regarding to the development of new products, it was verified that 11.1% of the companies, of the segment of diverse products, cooperate between them self, however this happens more in an isolated manner between companies with improved productive processes. The same happens in the technological development, where it is observed that only 19.4% of the companies cooperate.

In terms of machinery lease, 16.7% of the companies mentioned that they cooperate when they need machines for a production in grater scale.

Regarding workforce, it was seen that 25% of the companies use this type of cooperation when regarding courses directed to the area of production and specifically in the area of work security. One of the interviewed companies mentioned that it loans machines and equipment in specific trainings that involve other companies of the sector.

It was verified that 19.4% of the companies cooperate in the export of products when sent to common canals of commercialization in countries as Indonesia, Canada, China, United States, Vietnam or part of Europe. One determined company of the segment of frames mentioned that in a sporadically manner they exportation in containers with another company of the same segment.

In relation to the cooperation in the importing of equipment, machines and other products, only one company mentioned the use of this practice. However, the evidenced results have not demonstrated the presence of this type of cooperation.

In regards to sector marketing, it was verified that only 11.1% of the companies cooperate in the advertising of products and 8.3% cooperate in the organization of fairs.

In relation to the negotiation with the government, it was perceived that this form of cooperation prevails in 13.9% of the companies, restricting these negotiations with the municipal government in what refers to better infrastructure conditions for the industrial district.

Among others cooperation forms, 11.1% of the companies cited the act of workforce contracting (specialized workforce), purchase and sales sawed wood, firewood/residues and exchange on the best specifications of the wood offered by Klabin Florestal S.A.

Of the 36 interviewed companies, 11.1% had declared not to cooperate in any commercial, organizational or administrative activity; therefore they prefer that the strategic decisions are taken by the proprietor of the company. In this context, it is denoted that literature presenting a vast contribution on the benefits of cooperation between companies of a cluster as an
alternative, was verified that the companies had attributed a counter-productive reply, that is, have not shown to be involved in a higher form of cooperation.

In relation to the factors that influence or make it difficult for companies to adhere to a consistent cooperative relationship, the following results were evidenced:

a) 56.1% mention the lack of a legal articulator (agency) that foments the cooperation and that is the manager of the diverse Inter-relationships between the lumber companies;
b) 56.1% consider the lack of habit in cooperation between the local entrepreneurs;
c) 39% approach the fear the cooperation in making them more fragile regarding the competition;
d) 53.7% mention the diffidence between the local companies;
e) 36.6% consider the dispute for the same markets;
f) 31.7% point the fact the companies do not recognize the cooperation as form of increase of competitiveness.

It stands out that the interviewed companies had still mentioned the lack of time lack, the lack of will, the lack of enterprising vision and resistance, as factors that constitute in impediments to stimulate the cooperation and the interactive learning between the companies of the cluster.

6.2. Research, development and innovation (P& R&I)

The relations with Technological Centers of Research, Universities and other institutions are practically inexistent in the cluster, restricting these relations to a small parcel of companies, as shown in Table 4.

<table>
<thead>
<tr>
<th>Forms of interaction</th>
<th>Frequencies (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inexistent</td>
</tr>
<tr>
<td>Forest certification in the chain of custody</td>
<td>63,9%</td>
</tr>
<tr>
<td>Others (to specify)</td>
<td></td>
</tr>
<tr>
<td>Raw material characterization and selection</td>
<td>94,4%</td>
</tr>
<tr>
<td>Development of new products</td>
<td>97,2%</td>
</tr>
<tr>
<td>Development of new processes</td>
<td>97,2%</td>
</tr>
<tr>
<td>Use of industrial residues</td>
<td>97,2%</td>
</tr>
<tr>
<td>Others (specify)</td>
<td>92,7%</td>
</tr>
</tbody>
</table>

Source: Field research

Table 4 – Exchange relations with research centers, university and institutions at the Telêmaco Borba cluster

The existing relations with the research institutes, was verified that the certification of the chain custody is part of the universe of 36,1% of the companies. This certification is destined to companies that process and commercialize certificated forest products, where guarantees must exist of origin control, manuscript and tracking used in all the stages of production, from the forest to the end process. The products of the certified companies receive a credential stamp from the FSC (Forest Stewardship Council), international institution that identify for the consumer that the product is following rigorous environmental, social and economic standards. In Brazil, the companies that possess FSC stamp are monitored annually by the program of forest certification of IMAFLORA (Institute of Handling and Forest and Agricultural Certification).

Raw material characterization and selection are carried through rarely in company of the lumber unfolding segment in partnership with Klabin Florestal S.A and Federal University of
Rio Grande Do Sul (UFRGS). Another company of the segment of plywood mentioned to use this practice frequently every year with the Federal University of Paraná (UFPR).

The development of new products is carried through by a company of the segment of manufacture of diverse wood products with rare frequency with UFPR. A company of the wood unfolding segment mentioned to keep a monthly contact with UFPR for the development of new processes that involve the drying of wood.

The contact on the exploitation of industrial residues is carried through by a company of the segment of diverse wood products with rare frequency with entities such as SENAI and EMBRAPA.

Other forms of interaction have been cited by a small number of companies (not more than 03 companies) as: to contract trainees of the course of Wood Engineering of the UFPR; tests of resistance of materials with the Institute of Technology of Paraná (TECPAR) and glue tests with an institution located in France.

Of the universe of the companies that do not keep any form of interaction with Centers of Research and/or University, the following reasons have been pointed:

a) 48.2% do not have necessity, therefore they judge to be small business companies, whose process or product does not demand any form of innovation;

b) 37% allege that the education institutions and research in the regional have never proposed to them and research proposal;

c) 7.4% consider that the local institutions do not possess the infrastructure and qualification necessary to take care of the necessities of R&D of the company, since institution like SENAI are in the areas of cellulose and paper and the College of Telêmaco Borba (FATEB) does not possess courses directed toward the lumber area;

d) 7.4% count on external supply of information on R&D.

A small parcel of companies mentioned in the distance of the cluster in relation to the research centers, confidential knowledge of the proprietors and/or strategic company information as reasons that justify the lack of interaction. By this, it is verified that the learning processes occur through proper experiences in the production process, what in the reality limits the companies of the cluster is to develop continuous changes through external sources, in the perfecting and improvement of production methods, product quality and greater technological qualification.

7. Final considerations

From the results, it is evidenced that the interaction and/or cooperation between the companies are little significant, revealing inconsistent the aspects directed toward the solution of basic common problems.

There is a certain degree of affinity between companies, however in an isolated form, especially between companies of the same economic segment. There are certain competition with little cooperation between the companies it is observed; due to the weak inter relations between them, being that the joint actions are not satisfactory. The exchanges of information happen with greater relevance; however they are not enough for qualitative jumps in the performance of the cluster that can have collective efficiency.
With this, it is inferred that the level of relations is presented disarticulated, characterizing more by isolated relations, what it causes in a low level of class actions a side of the desired to provide competitive advantage to the companies of the cluster.

Although innovation is a significant factor for the majority of the companies, relations with Technological Centers of Research, University and institutions for the development of new processes and products of the type learning-by-searching and learning-by-interacting, they are practically inexistent, restricting to not more than 05 companies. Factors that contribute for this reality are individualistic and reluctant behavior on the part of the entrepreneurs of perspective of short term and immediate profits and skeptic in relation to the establishment of partnerships with institutional agents, these are considered as strong reasons to give place to the idea of interactive learning. This reality opposes to the thought of Roetlandt and Den Hertong apud Debiasi (2001) when affirming that the interaction and the exchange of knowledge between companies, institute of research, university and other institutions, are the heart of the analysis of the innovation processes.

The same occurs with the courses of SENAI - CETECEP that, even being of technical level, is more centered for the reality of maintenance and repairs of machines and equipment then of properly for questions of technological innovation. Such evidences, in a general, the unconcern of the entrepreneurs in searching solutions and perfecting in products, processes, structure of education and research of technical level and superior, with the development of new abilities and necessary abilities to process innovation. In face of the presented aspects, it is inferred that the cluster of Telêmaco Borba is presented as a concentration of companies worried about the productive process, thus being able to be considered as a potential cluster. Although a concentration of companies exists with productive activities and presence of some characteristics in its productive and organizational system (for example, in average a majority of small companies located in the same city), it has many difficulties to be surpassed such as: infrastructure, technological development, formation of specialized workforce, search of politics that can readjust to the sector and make possible its growth, as well as a awareness on the part of the entrepreneurs that are necessary to the integration of the companies in the search of class actions, demanding in return significant cultural transformations in direction to cooperation.

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