

**University-Industry Collaboration:
A conceptual learning framework**

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Abstract

The case writing projects could provide an illustration and example of a framework for working with companies in constructing cases as a mean of advanced knowledge sharing and building of new competences. Normally cases are mainly constructed for teaching purposes in higher education. However, in order to get closer co-operation and more interest from the companies we in Sweden encouraged the students and the managers in the companies to construct cases on issues that the companies felt were especially relevant for them. Drawing on previous research on case writing in teaching we set up the case writing projects in Sweden since 2001. The participating managers in this project said that have worked closely with the students were very satisfied both the case writing process and the final produced cases. They managers stated e.g. that this university collaboration increased their capability working proactively with the market and university. It also gave them a new “language” for communicated better in business and technology matters.

This paper has four purposes. First, to review existing research regarding cases and collaborative educational projects between industry and academia. Secondly, to present a unique collaborative project between university and industry in a graduate course on technology strategy between the Faculty of Engineering and BioGaia: a biotech company situated in Lund, Sweden. Thirdly, to present and discuss the key findings for working and

collaborating with a company and managers in university education. Of special interest is the design and visualisation of the unique pedagogical format and the collaborative project involving three stakeholders; company managers, students and teachers. Fourth, the paper finally discusses some implications for university teachers that intend to or already are using collaborative educational and research projects.

KEYWORDS: Educational collaboration, conceptual learning framework, Learning arenas, Relationship building between academia and industry, student written cases

We want to give our warm compliments and gratitude to the company BioGaia in Sweden and especially their managers at BioGaia in Lund, Sweden for participating and deeply sharing their unique learning experiences and reflections with us at the University in Lund, Sweden. Without their innovative “mind set” this unique industry and academy collaborative project haven’t been possible! Thank you all very much!

Introduction

There is a growing interest in universities and companies of developing collaborative projects between industry and academy. These stakeholders find it increasingly important to open up the interaction and collaboration between academy and companies. We know relatively much about how to create, maintain and evaluate collaborative research projects (e.g., Bengtsson, 2006) between industry and academy but relatively little is known regarding educational collaboration between industry and academy. There is a small but growing knowledge base on how to establish and conduct educational projects, such as student written case projects, in university education (e.g., Coté, D 2000, Bengtsson and Asplund, 2002, 2003, 2008; Asplund & Bengtsson, 2004; Ross, Zufan and Rosenblom, 2008).

The educational program for engineers at the Faculty of Engineering at Lund University Sweden has for a long time included the use of the case method and case studies especially in courses related to the business management and technology strategy area. Existing teaching cases in text books and distributed by e.g. Harvard Business Press (<http://hbsp.harvard.edu/product/cases>) and case clearing houses (www.ecch.org) are often set in foreign context, i.e., American and British, and to some extent that poses some problems for the predominantly Swedish students.

However, the greatest problem with cases and case studies, in especially the technology strategy area, is the fast pace of technological changes causing many cases to become outdated and obsolete. With this in mind, we introduce case writing in a course on Technology Strategy at the faculty of Engineering for last-year engineering students. The objectives was both a) to generate more Swedish based and contemporary technology strategy cases and b) to influence the students learning strategies towards using a broader set of skills and to understand technology strategy in a broader firm and societal context.

The student written cases are written in close collaboration with Swedish companies that provide the topics and information needed in order for the students to construct the cases. The best outcome both in terms of good quality cases and in terms of learning outcomes for the students and the companies we achieved in projects where the company managers were the most interested and most supportive to the case construction projects (Bengtsson & Asplund, 2003).

As mentioned above previous research seems to lack concerning the experiences and outcomes for participating companies and university organizations in collaborative

educational projects. In a broader sense this issue concerns the division of business and management education into two encapsulated learning arenas: the university and the company (Leitch & Harrison, 1999).

Leitch & Harrison advocates a more interactive strategy and integration of these two learning areas especially when it comes to management and entrepreneurship education. Even though Leitch & Harrison do not explicitly discuss undergraduate education we think there is a need for new teaching methods and assessment formats, e.g. student written cases, trying to integrate and stimulate interactivity between these two learning arenas.

Building on our earlier experiences (Bengtsson & Asplund, 2002; 2003, 2008; Asplund & Bengtsson, 2004, 2005) and others (Ross, Zufan & Rosenbloom, 2008) we have developed our student writing case construction method in order to further integrate and stimulate the interactivity between the university and company learning areas.

This paper has four purposes. First, to review existing research regarding cases and collaborative educational projects between industry and academia. Secondly, to present a unique collaborative project between university and industry in a graduate course on technology strategy between the Faculty of Engineering and BioGaia: a biotech company situated in Lund, Sweden. Thirdly, to present and discuss the key findings for working and collaborating with a company and managers in university education. Of special interest is the design and visualisation of the unique pedagogical format and the collaborative project involving three stakeholders; company managers, students and teachers. Fourth, the paper finally discusses some implications for university teachers that intend to or already are using collaborative educational and research projects.

Review of existing research

Case writing in teaching and/or as way of assessing students' performance in academic education has received very limited attention in research. Only a few articles seem to have been published in the area. For our purposes, using case writing in undergraduate teaching, the studies by Lamont (1995; 1996), Whitt et al (1991), Sureshwaran & Hanks (1998), Ross, Zufan and Rosenbloom (2008) and our own previous studies (Bengtsson & Asplund, 2002; 2003, 2008; Asplund & Bengtsson, 2004) give some valuable insights.

Bengtsson & Asplund (2002) proposed that the students themselves can construct a teaching case in order to understand a company's technology strategy. In this case construction process we stressed the importance of the construction of a instructors manual in order to support new knowledge of both content issues and at the same time creating a good learning vehicle to support this.

Bengtsson & Asplund (2003) reported on different measures in order to further involve and create a higher value(s) for the participating companies. The study concluded that the participating companies could be categorized into three groups depending on their level of involvement in the case construction projects; 1) obligation level, 2) relationship level, and 3) intervention level. In the first group a combination of lack of motivation from the companies and their contact persons and the student groups sometimes in conjunction with problematic case construction processes resulted in less good co-operation and less good cases. These companies mostly participate because they fell obligated to do so. A second group of companies seemed to involve themselves a bit more in the case writing projects. While they

saw limited value in the actual case projects they did value the relationships with students, the faculty and developing a good public image.

They also could get a free look at possible future employees. Some of these companies recognised however that more value could be created if the process was managed differently, e.g., given longer notice of participation, more explicit information and improved internal organization. The third group of companies was enthusiastic about the case writing projects and involved themselves heavily in the student groups' work. These companies recognised that not only could they maintain and develop the relationships (as the group above) with students and faculty, but they could also use the case studies for getting new perspectives on their own thinking and management practices. These companies seemed to use the case writing projects as interventions in their own practices.

In the collaborative project with the company of BioGaia, Sweden we created and designed a conceptual framework (i.e., three combined and interactive learning arenas), in order to frame, visualize and execute a deeper collaboration and exchange with one company in industry.

We termed this in-depth collaboration "intervention level" meaning that this could contribute to a "win-win-win" situation (see Bengtsson and Asplund 2008) where both our students, the company managers and we as teachers/researchers could learn new things working together in different, but closely related projects, of mutual interest and hopefully with valuable outcomes for all partaking stakeholders.

Huges, O'Regan Wornham (2009, p 49) debates the importance and mutual value of collaboration between university and industry. "Business is increasingly looking to universities as sources for innovation and competitive advantage. As they seeks to address the competitive pressures inherent in their operating environment. At the same time, universities and business schools in particular, are becoming more aware of the value of knowledge and seek more opportunities to interface with business"

So from the perspectives of both academia and business there exist an increasing demand to find new innovative ways and organizational formats to better interact and exchange ideas etc with each other in order to innovate in both contexts. This collaboration project therefore addressed these need in the field of educational collaboration.

University meets industry in educational collaboration

The educational program for engineers at the Faculty of Engineering at Lund University Sweden includes the use of case studies and cases especially in courses, as said, especially related to the business management and technology strategy areas. Existing cases in text books and distributed by e.g. case clearing houses are often set in foreign context, i.e., mostly American and British, and to some extent that poses some problems for the predominantly Swedish students. However, the greatest problem with case studies in the technology management area is the pace of technological change causing many cases to become outdated and obsolete.

With this in mind we decided to introduce case writing in a course on Technology Strategy at the Lund Institute of Technology for last-year engineering students. The objective was to both generate more Swedish based and contemporary technology strategy cases and to influence

the students learning strategies towards using a broader set of skills and to understand technology strategy in a broader firm and societal context.

The student written cases are produced in close collaboration with Swedish companies that provide the topics and information needed in order for the students to construct the cases. One of our case host companies is the Swedish biotech company BioGaia (www.biogaia.com) that we have collaborated with since 2002.

This first contact (and then followed by networking) started in 2002 with meeting one the company representatives during an executive course where we meet at a executive course: “Business knowledge” delivered by EFL – Executive Foundation in Lund, the executive division of the Lund School of Economics and Management, Lund university. This was then followed by a start up meetings at BioGaia, Lund in the autumn 2004 for planning guest lectures about this venture company and focused on its research concerning the probiotics *Lactobacillus Reuteri protectis* in Lund and Stockholm.

BioGaia

BioGaia (see www.biogaia.se) is a Swedish biotechnology company that develops and sells probiotics products that support/enhance people’s health. BioGaia products are based on *Lactobacillus Reuteri* bacteria. This is a “good” and friendly bacterium – called “Probiotics” – that helps battle the “bad” micro-organisms in the human digestive tract. The product is distributed in various forms (i.e. delivery systems) (for example pills, chewing gums, yoghurts, fruit juices, straws etc). Their vision is (revised by the authors): “BioGaia contributes to the well-being of people and companies all over the world by providing superior quality probiotic products, solutions, delivery systems and knowledge sharing”.

The BioGaia history starts back in the late 1980’s. Two Swedish entrepreneurs, Peter Rothschild and Jan Annwall, became inspired by the work of leading researchers in the probiotics field, and decided to pursue the possibilities presented by probiotics as a natural alternative to antibiotics. Observe that the health-promoting properties of *Lactobacillus reuteri* had already been documented before these entrepreneurs acquired the commercial rights to the strain. However, to receive market acceptance soon proved to be very difficult. Firstly the food industry representatives said that consumers wouldn’t buy probiotic milk. Then the authorities said that with probiotics added, such a product couldn’t be called ‘milk’. Then the entrepreneurs joined up with a small independent dairy company in Sweden and launched the first functional food product on the Swedish market: BRA milk (the B stands for bifidus, the R for reuteri, and the A for acidophilus) which the authorities at first tried to ban. From this “rough” start BioGaia has developed their business in a slow but steady fashion developing new forms of distribution as well as concluding distribution agreements with various partners in the world.

BioGaia has now over 25 years’ experience in the Probiotic field. Besides the in-house experts, they also now work with an international and global network of leading independent companies, researchers and specialists in the whole world. The corporate strategy and administrative operations as well as the sales and marketing functions are located to Stockholm, Sweden. Product development, productions and coordination as well as quality control are located and conducted in Lund, Sweden. BioGaia also conduct Probiotic research, quality control and product development in their lab in Raleigh, North Carolina, USA.

The outline of the educational collaboration project

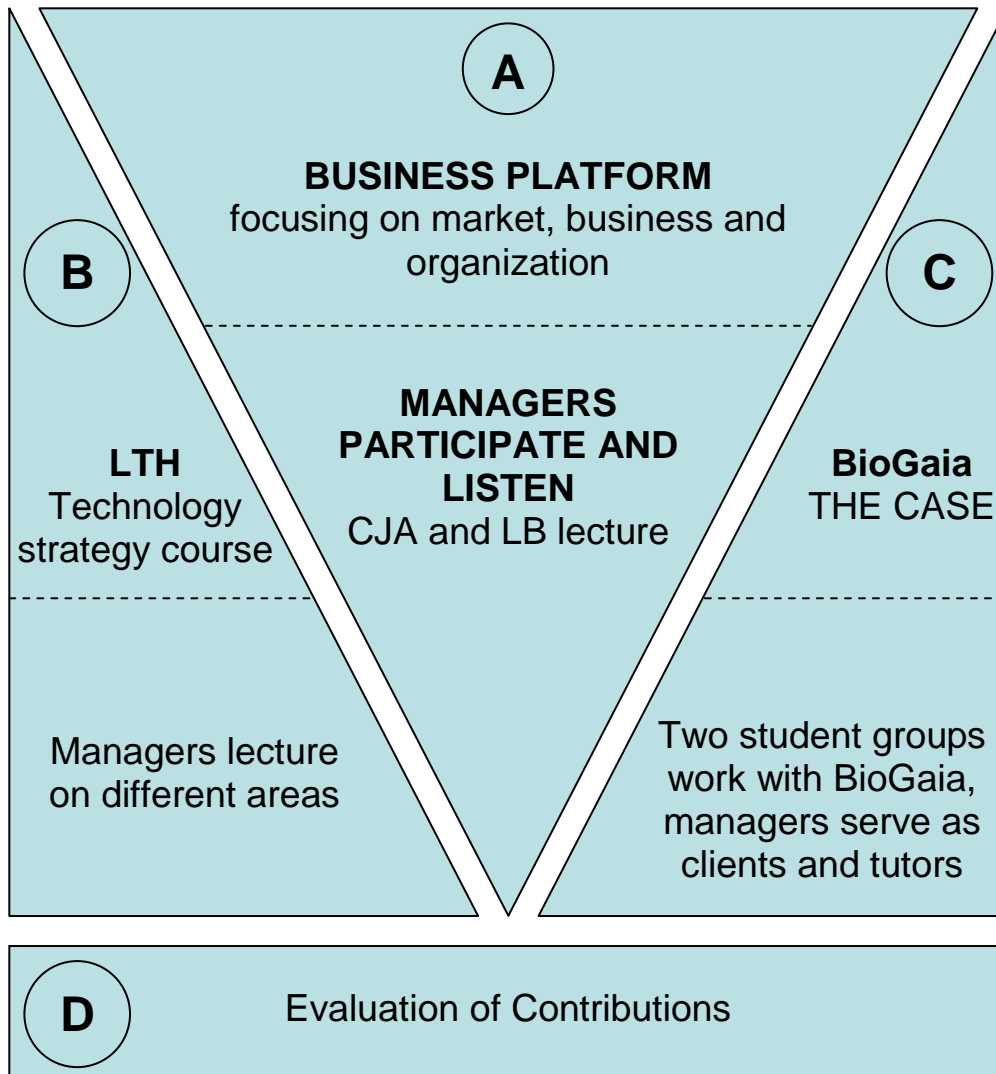
In the autumn of 2004 a contact was taken, initiated by one of the company managers (M1), to possibly participate in and contribute to an organizational development program in the company due to an educational need related to a reorganisation. The main focus was the company's vision and ambition to become even more market/business oriented in order to further develop their presence on both the domestic and international markets. The four managers expressed a need to be more informed and educated, both theoretically and practically, in how a more market driven organisation could be designed in this special kind of industry. We decided to meet and brainstorm into this to get some basic ideas and see if we could eventually form a collaborative project.

In this first (with their main product manager) and a second meeting with the company's five representatives (including their CEO) we interviewed them about their needs and current situation. During the third meeting we discussed the main themes of the educational program and also the most appropriate format for such a delivery. As this project coincided in time with the Technology Strategy course at the Faculty of Engineering we decided to try out a more elaborate and interactive design (see figure 1) in order to get as much value out of this collaborating project for both the company and for the university.

In the proposal to the company we stated the following: "Introduction to the work and profession as product manager. The objective for this course (including two additional learning arenas in figure 1) was to give the five participants at Bio Gaia an in dept-introduction to becoming and function as product managers in the company Biogaia, Lund.

The focus in this educational collaboration project (including the four parts see figure 1) was to educate the participants in business and industrial marketing (50%), business network relations (30%) and organisation, team and management (20%)".

Figure 1: Learning arenas



Because both parties wanted something extra ordinary with lasting effects out of this collaborating venture a “bold” suggestion derived out of the preliminary meetings was put forward. This design included, besides the original idea of a more classical education effort/outcome, also the use of the company as a “training area” for students writing cases at LTH in the course “Technology strategy”. And for the professional development of the participating manager they could also individually and collectively plan, design and deliver mini-lectures within their individual functions at the same university course. So after a fourth meeting all meet at the company and presented and discussed the goals of the collaborative project including the more elaborated design (i.e. with addressing the various goals for the stake holders). When the course then begun in January we informed explicitly the students about this unique collaboration with industry. The main goal with the three interconnected and interactive learning arenas was to simultaneously address the needs of all three stakeholders: managers, students and faculty.

When we presented the outline och goals of whole learning project (Nov 2004) for the managers it read as follows:

- Introduction the special program at Biogaia (see the description above)
- The whole and the different learning arenas A, B and C
- What could be learned from each arena?
- The focus of the education and pedagogical format
- Our respectively roles and areas of responsibility
- Our expectations
- Participating managers and company
- The academic faculty i.e. teachers
- Expected contribution concerning each learning arena
- Time schedule and activities
- A+B+C
- What focus should we have on the Biogaia case?
- Follow-up Quality meeting 1 (December 2004)
- Other questions and clarifications

The first (A) central learning arena (triangle): The Business Platform

This is the main learning arena which included six half-day workshops (i.e., combination of lectures, exercises and cases) held in the late autumn of 2004 and early spring of 2005. The purpose of the workshops, as said, was to address the profession of becoming a production manager in the “wide” definition of this profession and term. This learning arena was the original idea and basic rationale with starting the collaboration project. Each workshop had a main theme. The main themes were the following: a) Business platform, b) Industrial marketing and c) Relationship marketing. The learning material here included two text books and working with various individual and team assignments and cases related to e.g. managing products and market orientation.

The second (B) learning arena: Technology strategy course

This course is focused on learning the topic of technology strategy (TS) in connection to business strategy. We stress here the importance of especially TS and this can be understood in depth in the earlier phases of innovation; from R & D and concept idea to technological collaboration between companies (Dodgson, 2000). The idea was here to address the “needs” of both the academic course and the BioGaia managers. Students got an in-depth insight into the company and phases of technological and business innovation because the managers prepared and delivered presentations into their unique areas of expertise. This was interwoven into the pedagogical frame of the seven week course which started in January and lasted into March 2005. Besides Biogaia two other companies participated with one lecture each. For the BioGaia managers both learning arena B and C meant collaborating with the students at the university.

The third (C) learning arena: Student case writing

This part meant that the managers provided an opportunity for the students to produce a business case (and an instructors manual) that the company (i.e., the managers themselves and others at the company) could use in their internal development and education, for example in becoming more market oriented. Bengtsson & Asplund (2002) proposed that the students themselves can construct a teaching case and instructors manual in order to understand and

address a company's technology strategy. In this case construction process we stressed the key importance of the construction of a instructors manual in order to support new knowledge of both content issues and at the same time creating a good learning vehicle to support this. The managers and two students groups constructed two BioGaia cases and instructor's manuals during the spring of 2005.

The fourth (D) learning arena: Evaluations of contributions

This part was carried out in three steps (and it's the empirical base for this paper). First we did a short follow up with the all participant's after all six workshops in order to reflect over the specific learning's and if the learning process worked as they expected. In this after-reflection we change roles between being a lecturer and supporting teachers every second time the workshops were held. One of us acted in the function as lecturer the lecturer and the other acted in the role as observer and took notes of sub themes that could be addressed at the next workshop. This second role also governed the participant's reflections after each workshop. This information was then brought into the planning for the forthcoming workshop.

Döös (2004, p 213) referring to Dixon (2004) says: "All members of an organization which partakes in learning have an equal responsibility over the organizational learning process, so one should reflect over what responsibilities you have as member. She stresses in this the vital importance of both voicing and debating the possibilities to reach common learning's and shared mindsets with the participants.

A second evaluation of the different contributions was held at the company were we meet with the participants and discussed both their learning with the part of the business platform and the specific outcomes with the two student written cases that was produced. The students had before our evaluation demonstrated and discussed the case with the managers. After this we conducted a third follow up with interviewing the participating managers and after this send them the transcripts for validation.

We have after the collaboration project this special collaboration project evaluated it both with the participating students at the university (Asplund and Bengtsson 2005) and this paper which focuses on the managers learning's.

Questions areas in the company evaluation/reflection.

Question 1: When you reflect back on the collaboration and education what do you consider being the most valuable contributions for your self in your professional development?

Question 2: When you today reflect back on the education and collaboration-what do you consider to be the most valuable contributions for BioGaia as a company?

Question 3: Which importance/function had the preplanning phase of the project and your formulated expectations?

Question 4: Which importance had the figure/image over the three learning areas that we together formulated, and then used as an "orientation map" over the whole learning process?

Question 5: What importance had the lectures at the University for your learning (i.e., about your function/work at BioGaia)?

Question 6: If we should redo this project today again - should it be possible? Or Impossible?

Question 7: If yes (i.e. possible), what education/learning activities would you:

- a) Keep?, b) Eliminate?, c) Increase?, d) Decrease?, e) Create

Question 8: What do you remember the most from the collaboration/education project?

Question 9: Is there something else you would discuss that we haven't discussed yet.

Discussion of the empirical findings

For the four managers at Biogaia, reflecting back on the collaboration and education in 2005, one of the most valuable contributions for them personally was the creation of a “new business language”. The new models and concepts gave them help them with understanding of their whole business situation (i.e. business landscape) facing them in their new role as product managers. This learning’s who established in the initial part of the education collaboration contributed also to give the managers new confidence and familiarity with handling the combination of technology and business issues at the firm BioGaia.

When the four managers reflected back on the collaboration project – and discussed the most valuable contributions for Biogaia as a company they said that, they as a subunit of the company in Lund, have got them more visibility and identity as an implicit result and that a more explicit communication link has now been formed between the units in Lund and in Stockholm. They managers also said this University and industry collaboration project “gave us more identity in the whole company”. Interesting to note is that one of the student written cases that was constructed for BioGaia by the students focused on the importance of the “communication issue” between these units! The findings also pointed out that this collaboration project with the University has been good in their effort of knowledge building/sharing relating to the external world.

The preplanning phase of the collaboration project (together with the managers) which addressed their and our pre expectations functioned very well. This we think because all four managers were involved and engaged from the beginning of the project and explicitly voiced their common and individual needs and wants. The preplanning gave us as learning architects (i.e. designers) of the whole learning arena the “golden” opportunity to more exactly address the total needs that all stakeholders felt. The design and goals of the project was communicated and anchored well at BioGaia with both the managers and the executive group. We then made a trade-off which is partly showed in figure 1.

The figure/imagery over the three interconnecting learning areas which we together formulated in the preplanning for the whole learning process functioned well and to fuller extent that we initially hope for. The managers said that this visualisation gave them a full overview and served thereafter in the learning process as an “overall map” in connecting especially their education programme as production managers with both lecturing on their current functions at the university and being a resource in the case production for the students. One intellectual hinder they voiced was that they had a hard time in the beginning of understanding what a case was really about and what its function were for the company. During the interaction with the students this got much clearer.

All managers also said (and several times) that they really liked their mini lecturing at the university teaching and that this part of the learning arena functioned very well! They also said that their preparations for the university lectures also gave them all more clarity of their personal unique competences and different roles in Biogaia in becoming and function as product managers.

Implications for participating managers and company

At the end of evaluation, the managers said, that they were willing to try again this innovative work format again in the future, but with a new content (i.e. that they were now ready for new challenges and theoretical learning's)

They all said we have been changed in the process and after "we can now better communicate using this "new language" and insights that connects "technology" with business matters. What we would perhaps, in the near future, want is to go deeper in for example marketing and networking issues and also to get more tips from the university on good literature and links in this and other related areas.

Implications for university and teachers

We have now come to main implications for university teachers. What have then been the unique characteristics of this collaboration project in Lund with BioGaia? We think that first of all has been the appreciation of the innovative and collaborative mindset (Gratton, 2007) that was held by the managers in this very innovative and open minded biotech company. Without their willingness and attitude to reach the sk. "intervention level" (Bengtsson & Asplund, 2003, 2008) a project of this kind and range could not have been possible. Of course the timing was very good and this was pure luck and coincidence.

Had the BioGaia manager approached us later that year, the university course had already been planned or held and the connection to the university course; teaching and case writing collaboration with the students had not been possible. Thus, the first implication is trying to work with companies and managers that really see the opportunities in educational collaboration and to create clear educational gains for the company and managers in the collaboration project and not only for the university and the students. We think that this can not be achieved directly but is an outcome of from working together in earlier projects and building mutual trust.

We also think that the unique design process formed a unique pedagogical as well as a visual format (i.e., the four learning arenas) which explicitly communicated the overall and different learning's for all stake holders involved at the industry and university; i.e., students, managers and faculty. All these stakeholders including the students have all been very satisfied with this new collaborating venture and format. The second implication is to try to design a pedagogical format that both address educational needs in the company and at the university and that benefit from interacting with each other. A key issue is also to highlight the ethical issues and constrains when doing this kind of collaboration. A third implication is also in the future investigate more into a) the parallel synergistic benefits for working with both students and managers with the same topic; in this case technology strategy. In perhaps during the learning process address more in dept upcoming sub themes of mutual interest.

Is it then possible for other companies and universities to create this type of educational collaboration? The answer to this is yes. We think that one feature is that we as university faculty have to as Dodgson (2000) says go into the thinking of the 5th generation innovation process. This means for us at the university to open up and work together more closer with industry and managers in addressing and achieving mutually shared goals.

The university faculty could with their knowledge of both research and pedagogical formats invite industry to new, innovative and "daring" partner collaboration projects. If we, at the

universities, could put also us in this frame of mind we could increase the valuable “friction” between these two contexts (i.e., industry and academy) that is needed for the prospering new future in education as well as in business.

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Appendix 1

Evaluation with the four managers at BioGaia, Sweden

M1 Manager focus on delivery systems and logistics

M2 Manager focus on production and product development

M3 Market and Web-manager

M4 Manager focused on CRM and technical selling support

Question 1: When you - the managers at BioGaia- today 2008 reflect back on the collaboration and education 2004/2005 - what do you consider to be the most valuable contributions for your self in your professional development?

M1: See the connections between products, product development, production and the market/target groups. Gave me a language to reflect about business and organisation. To learn to talk the same “language” as the sellers on the market.

M2: See how the company works as a whole: Combining technology and business. A big thing for me! To understand how the company works in different stages of development. To help me to market ones production planning internally and externally.

M3: I had the marketing knowledge more or less before the education, but got here a necessary and relevant update. Learn to connect the marketing issues with business and organisation issues. I especially liked the book on “marketing to marketing” by Evert Gummesson focusing on networks and networking. Gave me new perspectives.

M4: The education gave me more self confidence when it comes to hold more “selling and market oriented” presentations about our product L. Reuteri and the company BioGaia.

Question 2: When you today 2008 reflect back on the education and collaboration 2005 - what do you consider to be the most valuable contributions for BioGaia as a company?

M1: Have given us - production managers and the Lund unit internally a better visibility. Now we can discuss more exact and clearer with the selling unit in Stockholm. I understand now more what they are saying and how to find the right arguments to sell in my/our ideas to them. We see now the bigger context.

M2: It has happened a lot since 2005! Quite amazing things due to this collaboration. Now we can sell our ideas better and the sellers really listen to us. We know now: Better?! See now the whole - not only the details to, for example, setting the production.

M3: To lecture against the current students at the university made my work more visible.

M4: As my work today, to a greater extent, is technical selling support the education and collaboration contributed to that I (and the company) is much more confident in my work and also to a greater extent work more professionally.

Question 3: Which importance/function had the preplanning phase of the project and your formulated expectations in the autumn 2004?

M1: It went as we, together with you, preplanning. Good! Also very good that our manager participated in this phase. This made them also more engaged and involved for what we were interested in becoming product managers.

M2: Set the aspirations right from the start.

M3: Got us engage! Set the standard!

M4: I assume that our planning and our expectations made it easier for you as external actors/professor to direct the education/collaboration so that the project suited and connected to our goals and unique work situation.

Question 4: Which importance had the figure/image over the three learning areas - that we together formulated - and then used as an “orientation map” over the whole learning process?

M1: Very relevant and useful! Funny to make different things with different purposes. Got a lot of responses from the students! Important to make connections and collaborations with the university.

M2: Good - Very good to see the whole picture! Interesting to talk about things you/I “burn” for! The case part was difficult to understand

M3: Gave both us and hopefully you valuable orientation. The PBL-Problem based learning method made it easier to learn several things.

M4: The figure/image gave an explicit overview over those parts and their inter connections in our collaboration/education.

Question 5: What importance had the lectures at the University for your learning (i.e., about your function/work at BioGaia)?

M1: The lectures at the university were very exiting and gave me/us much! The preparations for this gave us managers more clarity of our different competences/roles in BioGaia.

M2: Other (students) got to see more “details” and the whole company

M3: I think that BioGaia was developed to a great deal. This work model worked very well! Our different work roles were made explicit and more visible.

M4: I think this lecturing part was important because it gave me time and knowledge of how I can conduct a “selling” presentation about probiotics and BioGaia.

Question 6: If we should redo this project today again - should it be possible? Impossible?

M1: Not in the same design. We and the company have changed! But perhaps with another focus on current issues that are relevant.

M2: Not the same. I liked to learn about business. So perhaps more about that.

M3: I like the marketing part and of course the book Many-2-Many. Perhaps that part - but now deeper.

M4: Of course it is possible!

Question 7: If yes, what education/learning activities would you:

- a) Keep?, b) Eliminate?, c) Increase?, d) Decrease?, e) Create

M1: The same leaning design, but create new learning areas/subjects.

M2: Create an activity where, for example, a journalist comes in to describe our work situation (as we did in an education in Hong Kong). How a workers life and work from another culture was portrayed. Very interesting about work in other parts of the world!

M3: Perhaps create new online lectures to combine management, selling, product development and production for even better communication. Show the challenging business reality of our business partners all over the world.

M4: Personally I should increase that part which meant mini-lectures at LTH because this gave me an opportunity to practice on the working task which is important! The other activities and parts I would keep the same.

Question 8: What do you remember the most from the collaboration/education?

M1: That you both are nice and that you made it so fun! To see the company and relate it better. It leads to other relevant related discussions internally. Gave us more identity in the whole company!

M2: The readings; Business platform and marketing. Easy to read and apply! Gave me another thinking and approach! Use the brain! Interesting to work with the case with demanding students!

M3: The networking and the thinking/reasoning about this. The importance of having key relations!

M4: The presentation at LTH

Question 9: Is there something else you would discuss that we haven't discussed yet.

M1 For you to come and contribute at the BioGaia Academy day!

M2-3: The actual personal "learning travel" for us! Better business woman's today! And having more confidence!

M4: Perhaps we could get more information about good basic literature and cases about marketing. A subject which I often come in close contact with, but which I haven't studied at the university level.