Foreword

‘Knowledge must flow!’ proclaimed Professor Harry van den Kroonenberg some 30 thirty years ago during his initial period as Rector of the then-TH Twente. Although education and research were naturally the core tasks of a university, he added ‘providing services to society’ to the list of aims. This later became known as ‘knowledge transfer’, and these days we talk about ‘knowledge valorization’. But in essence, it’s all the same: it’s about research results finding their way into society by means of new products and services. They must boost the knowledge economy. Today, it may sound obvious and a logical part of the universities’ remit, but in those days it was simply not done for a university to take an active interest in stimulating entrepreneurship.

In the simplest model, knowledge only seems to flow in one direction. The research lab comes up with a brilliant idea for a new or improved product, the scientist is not quite sure how to bring it onto the market and is given a helping hand. The knowledge flows out of the university. This strategy worked well in many cases. A substantial number of the more than 700 spin-offs generated within the University of Twente since Van den Kroonenberg’s era have benefited from the TOP programme to help them on their way. And proved themselves more than viable.

VentureLab goes a step further. Which is why the name ‘lab’ is so suitable. A laboratory is a place for experimenting, for testing new ideas with a certain degree of freedom. In a lab, knowledge does not flow in just one direction. Everyone contributes, each with his or her own area of expertise. A technical-scientific researcher acquires commercial know-how, a financial expert learns about the complex steps involved in research. This interaction makes ‘experimenting’ dynamic, and knowledge flows into the university. The dynamics are essential to prepare businesses for a future of healthy growth.

You have taken part in the VentureLab programme as an entrepreneur, experimenting with knowledge and entrepreneurship. I trust that this has been a worthwhile experience, which has given you a wealth of valuable contacts and insight.

I wish you all the best with your plans!

Prof. Ed Brinksma
Rector Magnificus, University of Twente
Ten years of NIKOS, engaged scholarship on Technology, Innovation and Entrepreneurship:
Research, Teaching and Entrepreneurial Support at VentureLab Twente

We recently celebrated the tenth anniversary of the Netherlands Institute for Knowledge-Intensive Entrepreneurship (NIKOS). The first steps taken in 1999 included establishing an academic minor in Entrepreneurship. Then in 2001, the Executive Board of the University of Twente agreed to combine part of its knowledge & technology transfer unit (in particular the division that was engaged in encouraging entrepreneurship, led by former colleague Dr. Peter van der Sijde) with the Chair in Innovative Entrepreneurship (Prof. Wim During) and the Chair in Marketing, then represented by the undersigned.

NIKOS's objective was to combine scientific development and practical regional economic development for knowledge-intensive entrepreneurship. This resulted in the Netherlands' first centre for entrepreneurship, incorporating research, education, entrepreneurial support (business development) and consultancy/training. The centre's research endeavours started with a handful of PhD candidates. The team initially consisted of seven researchers, but NIKOS rapidly grew to include thirty people working in the field of entrepreneurship and marketing. In 2004, the International Management group (led by Prof. Erik Joost de Bruijn) joined the centre, followed by the Strategic Management group (led by Prof. Hans Roosendaal).

The institute's tenth anniversary in 2011 is an excellent opportunity to once again outline the scientific questions concerning knowledge-intensive entrepreneurship which form the basis for NIKOS, and to indicate how NIKOS works and will continue to work on answering these questions using Andrew van der Ven's maxim of 'engaged scholarship'. All of our research efforts are highly significant given the current socio-economic situation. After all, the central theme of our activities is entrepreneurship and innovation. The national Innovation Platform and the regional Twente Innovation Platform have placed this theme high on the political agenda and the current government has recently given a new impetus to this process by identifying nine key economic sectors.

The central question is on how scientific knowledge can be made to serve economic and social purposes at an accelerated rate, and how the gap between important academic knowledge and technical applications can be bridged. This is exactly what all of our activities focus on. This is most evident to the outside world in projects like VentureLab Twente (VLT), but we are also active on an international level, working with bodies like the ICT Labs of the European Institute of Technology. Ultimately, our aim is to make our current and future business community more entrepreneurial, innovative, flexible and customer-oriented so that we are better able to compete globally.

In this booklet we also present some of VLT's current research projects. This research provides us with one-of-a-kind and in-depth insights into the actual processes of entrepreneurship, the tools that entrepreneurs use, and the effectiveness of entrepreneurship support measures.

One of VLT's unique features is that we are able to follow the entrepreneurial process in real-time from an early stage of a venture's development. Raja's project takes advantage of this feature by studying how entrepreneurs and their stakeholders develop their venture over the course of time starting at inception. Natalie's project takes a detailed look at the entrepreneurial process. Her research specifically focuses on how entrepreneurs use social media tools throughout this process and whether and how these tools improve their ability to gather relevant market information. Ellen's project takes a deeper look at how entrepreneurs differ in their learning styles and how an entrepreneurial support programme such as VLT can enhance learning in order to produce more successful entrepreneurs.

Together, these three projects highlight the richness of the research being conducted at VLT while at the same time showing their underlying commonality. All three reflect a process-oriented, in-depth approach to studying entrepreneurship with the aim of arriving at more successful ventures.

Prof. dr. Aard J. Groen
Scientific Director of NIKOS and Professor of Innovative Entrepreneurship

Message from the Academic Director
This sixth volume in the series of VentureLab Twente Entrepreneurs is a special issue.

VentureLab Twente (VLT) is a business support program for start-up companies and for small and medium-sized enterprises going for high growth and business acceleration. This very effective programme was developed by NIKOS, the Netherlands Institute for Knowledge-Intensive Entrepreneurship. NIKOS is a Research Institute at the University of Twente. NIKOS not only provides some of the key lecturers for VentureLab, but it is also involved in carrying out fundamental research into its participants’ entrepreneurial processes. In just a little more than two years the researchers have collected a tremendous amount of detailed information on the participants. The information comes from intake and exit interviews, weekly progress diaries and 4-monthly panel presentations and monitors. These scientific data will help us to better understand the entrepreneurial process and to design even better support programmes in the future. This is of importance to policy makers and to the EU, the Provinces of Overijssel and Gelderland and the Region of Twente, all of whom provide financial support to VentureLab. This special issue points at some of the initial results and scientific articles that VLT will publish.

VentureLab Twente is now slowly spreading its wings into other regions. In Gelderland we are developing a partnership with Health Valley and we will host special seminars on Healthcare and Entrepreneurship in Nijmegen in early 2012. Further, VLT has joined the kiEMT network (Knowledge and Innovation in Energy and Environmental Technology), and kiEMT is now also a VentureLab participant, thus strengthening our mutual networks for the benefit of our participants working on sustainable energy initiatives.

In October and November we organized special events for our participants. In collaboration with the Ministry of Economic Affairs, Agriculture and Innovation we hosted a session on financial instruments, i.e. innovation credit, tax measures and Business Angel and Venture Capital funding. More than 80 companies attended the meeting and we have reason to believe that it helped several of them obtain new financing. For the second time this year VLT organized a Launching Customer visit to KLM/Schiphol Airport. Nine companies were trained to pitch and joined in for the trip to Amstelveen. This visit had interesting pay-offs for many of them! The Netherlands Industry for Defence and Security foundation (NIDV) visited VentureLab and met with an audience of 25 attendees, all hoping to gain access to new business and new customers.

The monthly VentureClasses are attracting a growing number of networkers, keen to share their knowledge and experience and eager to learn from the keynote speakers. One of them was Russell Hancock, CEO of Joined Venture: Silicon Valley Network, who told us about the secrets of a successful entrepreneurial ecosystem. Ruben Wegman, CEO of Nedap, shared with us nine ‘lessons learned’ for the management of innovation.

In November VLT received a visit from an important delegation. More than 50 people from the EU Directorate General for Regional Policy and representatives of the Ministry of Economic Affairs, Agriculture and Innovation and of the Provinces of Overijssel and Gelderland listened to the opening words of the Deputy of Overijssel, Hester Malj, followed by Aard Groen (who spoke on the past, present and future of VLT), and Roel Pieper (who spoke on the economic importance of programmes such as VLT), Joska Broekmaat (SolMates, breakthrough in chip production) and Rob Wermenbol (3D Modelfactory, new production technologies), both VLT alumni, presented their companies.

There is never a dull moment at VentureLab! Please enjoy reading the stories of our Group 6 participants, the group of five young managers from Bao Steel who joined us for a three month traineeship, and three NIKOS PhD candidates, who find inspiration and ‘research material’ in our lab. And check our YouTube channel.

Dr. Rob van Lambalgen
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Rob van den Nieuwboer started his Holland Hydraulics business in 1994 in a big hall in Hengelo. He now employs 25 staff to design, build and install hydraulic systems for industrial applications. The company also boasts a 24-hour call-out service and represents a number of foreign firms. ‘As an entrepreneur, I have to be alert; keep my eyes open and my ear to the ground. Discover new opportunities. That’s why I signed up with VentureLab.’

In Van den Nieuwboer’s words, Holland Hydraulics has always been a company featuring ‘steady, controlled growth.’ Right up to the present day. He has customers in countless sectors, from Akzo and Vredestein through to foundries, recycling companies and shipbuilders. But the recession of a few years ago is firmly imprinted in his memory. ‘You saw companies suddenly go under. Trouble is brewing again now. If you don’t keep on your toes, you’ll get dragged down too. You have to stay ‘in the picture’ and find new clients.’

An advertisement for VentureLab caught his eye. ‘I’d tried a similar programme once before, but it was too one-sided. They expected a lot from me, but the returns never quite crystallized. That’s not my style. I liked the tone of VentureLab; it seemed fair, open and down-to-earth. No pot of gold. An entrepreneur isn’t used to certainty, so don’t promise it.’

Van den Nieuwboer signed up. A good decision, he says in hindsight: ‘Particularly for the network. After all, we all want to contact the right companies at the right time. VentureLab makes this possible. That’s so valuable, for now and in the future. The same is true of the coach. Holland Hydraulics is doing well, but this gives you a chance to bounce your ideas and talk about the ins and outs of business. I thoroughly enjoyed it.’

This brings him to the following evaluation: ‘The comprehensive range of courses, workshops, coaching and the network puts VentureLab ahead of the field. Entrepreneurs are inundated with invitations to conferences and trade fairs. I could spend every single day at one. Here, I polished up my knowledge and developed a few new ideas. It was exactly what I was looking for; even though I didn’t do all the courses. Business first, of course.’
Yoga on a keyboard

Hans te Maarssen adopts the global lotus position. Hands on his thighs, palms open and facing upwards. He explains that this automatically moves your sternum forward and your shoulders back. The tension flows from your body and your lungs and other organs are given more space. ‘My Yogitype keyboard works on this principle. It’s a (r)evolution in computer use.’

‘Thousands of years of yoga show how beneficial this position is. So why do we do it the other way round? Look at how we sit at a computer: hand palms downwards, bending forwards. We can do much better than this.’ Te Maarssen smiles as his fingers skillfully glide over the keyboard he has designed. ‘It’s much faster, see? And touch-typing is easier with this keyboard too. Even using all ten fingers. This should become the new standard.’

But he knows from experience how difficult that path can be. He plays a film on his smart phone, showing the patented book phone he also designed, which unites the tablet and the smart phone. ‘I took this concept right up to the top of Apple, Microsoft and Nokia. They were all impressed, but saw too many risks. So I stopped; I can’t afford the investment.’

The prospects for the Yogitype appear more positive. Once you’ve got used to it (‘which only takes a few minutes’), you won’t want to go back to the traditional keyboard. ‘But you have to overcome the first hurdle, which is that most people simply can’t imagine working with it. This is what persuaded me to come to VentureLab. Not the knowledge I stood to gain, but the network and the dynamics. VentureLab has given me the incentive I need to take it to the next level.’

And fellow-participant André Haverkort has become the man who will help Te Maarssen prepare the marketing side. ‘I’ve been at it for nearly ten years now; it’s proving to be a difficult delivery. VentureLab has taught me to think in terms of networks; it’s become less of a one-man show. Keyboard manufacturers are interested, but they want to me to prove that my Yogitype will succeed in a particular niche first. That’s the challenge we’re focusing on at the moment.’
Wow! We never knew you could experience music like that!’ was the reaction of Shubhangi Jadhav’s friends when she showed them her prototype of Muzikool. She describes it as an online music streaming portal, which surpasses all others by its intuitive ways to consume and discover music. The market reach for Muzikool is boundless across various distribution channels as Internet serves the entire world.

The idea came to her during a car journey. Shubhangi and her husband were listening to a CD. ‘I was not happy; I thought that something was missing.’ Music evokes an atmosphere and certain feelings, and the transition to the next song can sometimes jar your senses. ‘There must be a better way, I thought. Using a lot of visual maps and interactive tools, in a way that hasn’t been done yet.’

The name Muzikool says it all: it contains elements of ‘school’ and ‘cool’ amalgamating with the core offering of music. ‘The time for added value in music experience is ripe due to proliferation of tablets, smart phones, 3G network, and WiFi availability in public transport systems. Muzikool will create chaos in the market because of its innovative features that we have safeguarded through patent applications. And the market is enormous; after all, who doesn’t like music?’ says Shubhangi.

‘I’d never really considered becoming an entrepreneur, but then I saw the massive potential of Muzikool. The prototype is ready, and so is the business model, I just need to find an investor. But this is so promising and exciting; I should be able to launch by 2012.’ And thanks to VentureLab, she is now ready to take a big step. VentureLab taught me how to abstract on various approaches which I was totally unaware of. The biggest value of VentureLab is in bridging the gaps in understanding and execution which I never thought to touch base upon. After all the devil is in the details.’ She laughs: ‘A fully fledged entrepreneurship would never have occurred to me in India. That’s another of VentureLab’s strong points: it puts you in an environment that nourishes the entrepreneurial mind-set compelling you to expect the unexpected.’
Wim van Dijk had just given his first panel presentation about his wholesale business in food dispensers. Suddenly, he was asked the all-important question: 'So this is your big dream? This is what you’re going to live the rest of your life for?' The message was clear. It had to be retail. Bag & Buy, a chain of shops where the customers decide how much of a particular product they want to buy and then pack it themselves. Fresh and sustainable.

The thought of a chain of specialist shops had occurred to him before. 'I was too scared', Van Dijk says now. 'But after the presentation, on the way home, it suddenly dawned on me – if I didn’t do it now, I never would. All I needed to do was work out a good plan.'

And that plan is certainly a very appealing one, as are the first designs. They show a shop where the products are displayed in transparent dispensers – a range of coffee beans, candy, seeds, muesli and other products. If it is dry, the shop can stock it. It is reminiscent of an old-fashioned grocer’s shop, but here it’s the customers who weigh and pack the produce. 'It's very contemporary,' says Van Dijk. 'And it's fair too. You can see what you are getting and you don’t have to buy more than you need. That way you are helping to save on packaging and transportation. It’s a self-service shop version 2.0.'

It already looks like being a huge hit. The development company PPM Oost is prepared to invest in Bag & Buy, as long as Van Dijk can attract a second major investor. Other organizations and institutions have distributed the plan to their ‘business angels’. ‘That’s an enormous boost, but all the real work is still to be done. I certainly think there is enough space in the Netherlands for around 150 of these shops.’

And all from that one, all-important question. ‘You won’t be surprised to hear that I’m very enthusiastic about VentureLab. My idea would never have got off the ground without them. They can provide the knowledge, the contacts and an encouraging atmosphere with like-minded people who are ready for a voyage of discovery. This is really important. There should be a VentureLab to help all entrepreneurs through their first year. It can really help your idea take off.’
Jack Heijer (owner/managing director of Heijcon metal works) first saw a 3D printer while visiting a trade fair. He was immediately convinced of its huge potential. For making swift and easy prototypes, for example, to be produced in metal at a later stage. ‘I’m a born technician; my strength lies in transforming ideas into feasible products. And this is high-tech, a field that really fascinates me.’

Heijer cannot stop talking about the possibilities of 3D printing. ‘You can make highly detailed models, without needing to adapt them afterwards’, he explains. There, at the fair, the pieces of the jigsaw suddenly fell into place. ‘3D technology is a real asset for developing new metal products. You can show customers a prototype much sooner and much more easily. It allows you to produce the real thing in metal much faster and more efficiently. What’s more, it could be a second pillar for my company, so I could cope better with fluctuations in the market. After all, the 3D machines can be used in our regular production processes.’

While considering his next move, Heijer saw an advertisement for VentureLab. ‘I needed a good sparring partner to help modify my business plan’, he explains. And that’s exactly what he found: ‘You get so much back for your input: feedback, knowledge, contacts, a sounding board. You can brainstorm with people of the same mind and share your own knowledge and experience with others. It’s not just ‘what’s in it for me’, although I did land three new customers while I was here.’

So what about his business plan? ‘I was very taken with the clarity of the canvas business model, in which you set out aspects such as your market, your customers and your value proposition. This helped me to make targeted decisions and identify areas for special attention. And I mustn’t forget the coach. He not only makes you take a long, hard look at yourself, he also helps you polish up your professional knowledge. The contact with other entrepreneurs is enormously useful, as are the lectures. I went to a number on staffing policy, negotiating and communication.’

He would have liked to attend more, but didn’t have the time. ‘If you want to capitalize on every opportunity here, you’d need much more time. The programme is fairly full, but I would thoroughly recommend VentureLab.’
Although Harold Lever knew early on that renewable energy would be his field, he didn’t quite know how. ‘The ideas just kept coming, but obviously you can’t start up five companies in one go. So I came to VentureLab for advice and coaching’, he remembers. And that’s exactly what he found. He has now started up a company that supplies high-calorie wood and small-scale biomass incinerators with someone from his hometown. All the company needs now is a name...

Lever has been keen on the idea of generating renewable energy for some time. ‘The combination of maintaining prosperity while relieving the strain on the environment appeals to me’, he explains. ‘So as the larger companies aren’t very active in this sector, I started thinking about starting my own business. But I had too many ideas; I needed someone to help me make targeted decisions.’
In search of the latest technology

Wim Geul is a seasoned entrepreneur. He started his company, Gullimex, more than thirty years ago. These days, it is 'market leader in food safety' in both the Netherlands and Belgium. So if the company already supports fifty employees, why the step to VentureLab?

'Because I’m looking for people who know about the latest technology, people who can develop my ideas and put them into practice’, he explains.

The Gullimex story started with a digital manual thermometer for measuring the core temperature of food. 'It was an immediate success’, says Geul now. Countless other products followed, all aimed at enhancing food safety. 'I even developed a few of them myself, working closely with Twente partners and our manufacturers. I always enjoyed this side: designing things myself and finding partners to help with the next steps. It puts you ‘on the frontline’; you see and hear all kinds of things and know exactly what's needed. This is what drives me. And I think I can safely say: it’s always worked; it’s what made us market leaders.’

New ideas for a following product put Geul onto VentureLab. He is a good entrepreneur, who has already proved himself. But he needs to find the right people for his latest innovation, a chip that measures the quality of fat for deep-frying. ‘This is the concrete question I initially brought to VentureLab. This and the thought of spending a year here appealed to me.’

It has turned out to be a valuable experience. ‘The contact with other, younger entrepreneurs has been a particular eye-opener. Some of the courses and workshops didn't really do it for me. I found myself thinking: ‘Been there, done this.’ I was a little disappointed that so many of the courses are in English; it means that people miss a lot. But all in all, it was a great experience. The interaction with the other participants was one of the highlights for me. I found it meaningful and inspiring; it’s a form of networking in its broadest sense.’

So Geul is not too worried that he didn’t manage to find the research partners he was looking for. ‘They’re out there somewhere; I’ll find them eventually. The VentureLab network has thrown up several promising leads. And that’s what it’s all about: collecting the right people. This is how ideas progress.’
The concept is nothing new: being able to heat frozen meat evenly for industrial use. But without the down-side of regular microwave heating. In fact this is just one of the many ideas that Peter Giesselink from ProGib is working on in his mission to develop microwave and RF technology. ‘This is what drives me; I can see so many opportunities’, he says.

ProGib has two branches. The first is project, proposal and programme management, for which Giesselink has joined Silvertop, a network of organization consultants with senior knowledge. But he spends most of the week working on developing new technology and applications, particularly in the field of microwave and RF (Radio Frequency).

Like the method for heating frozen meat mentioned above. ‘These are problems that I can solve’, he explains. ‘I’ve come up with a principle to ensure that the meat is heated more homogenously than at present. Think about heating frozen products in the microwave: the outside gets warm long before the inside defrosts. My solution warms the product much more evenly, exactly where it’s needed.’

He went to VentureLab to improve his focus. ‘I have so many ideas, but I can’t develop them all at once. At times like this, you need someone to help you make the right choices.’ Alongside project management, he is still attracted to the development side. ‘I was looking for the expertise to sharpen my focus.’ And VentureLab hasn’t disappointed him. After he had presented his ideas, the panel members advised him to adopt a wider approach. Giesselink was concentrating on applications in the pet food sector. The panel recommended trying the entire food sector. ‘That’s an enormous market, where innovative production lines play a major role. We’ve now reached the point where we can look for a launching customer.’

In addition to advice, he was also keen to establish an extensive, solid network. Another success. ‘You have to pitch it at the right level if you want to convince others of your added value. VentureLab’s strength is the fact that it supports you in every aspect of business: in developing your ideas and getting them off the ground. I thoroughly enjoyed myself and learned a lot.’
Fitness for individuals and companies

Sixteen patented outdoor fitness devices, with an accompanying intensive training and guidance programme. This is Standing Strong’s business formula. Although still new, the company already leads the market in the Netherlands and is about to start exporting. ‘We certainly hadn’t expected this’, says Rob Boogmans.

As a physiotherapist and personal trainer, Boogmans regularly meets clients who don’t like going to the gym. They would rather be outside. ‘The most common option is the outdoor training circuit, but this isn’t suitable for novices’, he explains. He pointed this out to the local authorities in his home town of Nijmegen. Perhaps it’s time for an alternative? ‘Show us something better’, said the alderman. Boogmans: ‘I discussed the matter with two shipbuilding brothers and an industrial designer.’

Standing Strong is the result of their brainstorming. The company now supplies circuits consisting of sixteen patented devices. Weather-proof and vandal-proof. ‘Even novices can use them straight away, as every device has user instructions. They’re ideal for groups too, which is why I devised the training programme. You do all the exercises standing up. And the hydraulic technology means there is practically no risk of strain through overdoing it.’

The prototypes were installed in Nijmegen two years ago. Now, ten local authorities have installed Standing Strong circuits and six European countries are showing serious interest. ‘Our ambition is to be selling more than 1,500 devices per year in five years’ time. As nearly everything is contracted out, we can accommodate fast growth while keeping our costs down.’

VentureLab was invaluable in developing the strategy. Boogmans arrived here by coincidence after winning a pitch contest in the Nijmegen region. ‘I couldn’t do everything as I didn’t have the time. But the coaching was very important to me. I’m a physiotherapist not an entrepreneur, so much I relied on my instincts for a lot of what I did. The coach made me realize that I have to think about the decisions I make. And the network is the stepping-stone that we needed. VentureLab is a safe environment that encourages you to learn and develop as entrepreneur.’
New ideas for Chinese steel giant

William, Charlotte, Kevin, Dianna and Charles, from left to right, – these are the names used by five managers from the Chinese steel giant Baosteel to take part in VentureLab. They were in the Netherlands for almost three months. ‘We have come up with lots of new ideas, which we can develop when we get home. We also hope that they will boost our ongoing process of internationalization.’

And of course we have a keen interest in internationalization’, adds William. ‘Chinese companies have little experience in this field. China wants to open its doors to the world, so we need managers who have worked and studied abroad. We want to learn how you do things and how you think; this will help us to become more international.’

The five managers work for different branches of the Chinese state company. Its 130,000 employees and annual production of 45 million tons make the company one of the world’s largest producers. ‘We have undergone rapid growth, which has led to problems that we cannot resolve immediately. Baosteel heard about VentureLab via NIKOS. It has brought us into contact with all the latest insights, including things that have not yet been published in the literature’, says Dianna. ‘I came to realize that some problems are really serious. My new grasp of up-to-date management skills and effective management strategies will help me to find the right solutions’, adds William.

‘It was also good to talk to people about China’, says Charlotte. ‘The interaction with teachers and other participants was great, we learned a lot,’ according to Dianna. And Kevin: ‘I’m very impressed by VentureLab’s network as a fast track to information. I intend to work on this in China too.’

The western names were intended to make it easier for the other participants, who simply aren’t used to Chinese names. ‘Chinese names can be difficult, so we often go by other names. Baosteel sends people on courses every year, both inside China and in the United States and Europe’, explains Dianna. They are mainly interested in modern western theories about management, marketing and human resources management.

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Who’s in control?
Self-directed learning in entrepreneurship education

Lee Donkers is familiar territory to Ellen Donkers. As an educationalist, she was closely involved in designing the training programme. She now mainly concentrates on finding the right balance between the control that students and teachers have over the learning process in entrepreneurship education. She focuses on the concept of ‘self-directed learning.’

As Donkers is quick to stress: ‘Self-directed learning is a philosophy. It is based on the assumption that adults learn most effectively when they are responsible for their own learning process. Adults know what they want to achieve, can decide what they need to learn and then choose the path that suits them best.’ This is the philosophy behind the VentureLab curriculum, she continues: ‘The aim is to enable participants set their own learning goals on the basis of insight into their own strengths and weaknesses, and subsequently decide for themselves which parts of the programme they need to follow. Of course it’s not always that simple. Even adults appreciate being told what’s expected of them.’

Her main research question is this: ‘How can the design of entrepreneurship education programmes support and strengthen self-directed learning, without compromising the intended course content?’ She has expanded her research field along the way, after experts in the field advised her to involve students. ‘It’s a quasi-experiment, in which a self-directed strategy is compared with a traditional approach, among both students and entrepreneurs. I will examine the differences in what is learned between the two strategies and between the two groups.’

This makes her PhD thesis interesting reading for the education sector. ‘Self-directed learning is an essential skill for lifelong learning and one of the main criteria for effective adult learning. If I can prove that self-directed learning, in which the student determines both the goals and the path, achieves as much if not more than traditional teaching methods, this will form a good basis for improving teaching programmes in general.’

And will it result in better entrepreneurs? Donkers: ‘That’s what I’m researching. I think that my dissertation will at least provide a few pointers to help make learning at VentureLab more effective. In addition, my findings may be relevant for other incubators and universities. In this instance, VentureLab is not only a laboratory for developing entrepreneurship, but also for testing different teaching methods.’

e.donkers@utwente.nl
The key to entrepreneurship is help from the right set of people

Everyone knows Steve Jobs. But who knows Steve Wozniak, Ronald Wayne, Mark Markkula, Jeff Raskin and many nameless engineers? Yet they were the early stakeholders that gave birth to what was later to become Apple Inc. This example – one out of many – illustrates the central topic of Raja Singaram’s thesis: successful entrepreneurship is based on co-creation.

‘On the whole, the only stories you hear about flourishing entrepreneurs are success stories. But if you look closely, you will see that they all got help from several crucial people. It’s never a one-man show, but a process of co-creation, which takes time and involvement of multiple actors over a period of time. I’m trying to paint a clearer picture of this mechanism for the cleantech industry’, explains Singaram, who works as a PhD candidate for NIKOS, the Netherlands Institute for Knowledge-Intensive Entrepreneurship.

His research will provide a solid basis for helping businesses in the cleantech sector to succeed. The input consists of the development of a number of these businesses over the course of several years, a series of case studies and an analysis of thousands of cleantech companies in various environments. He will compile the analysis together with Prof. dr. Shaker Zahra from NIKOS and the Carlson Institute of Management at the University of Minnesota.

He explains the relevance as follows: ‘My research could benefit every inexperienced entrepreneur when he or she starts up. Who would be your best early stakeholder? Questions like this are vitally important in the cleantech sector, he stresses: ‘Collaboration is essential. Just imagine you’ve designed an electric car. You will obviously need multiple partners to make sure that there are enough charging points, car manufacturers to build compatible cars, and so on. Co-creation is so important in cleantech.’

Singaram hopes to finish his research and be awarded a PhD in 2014. ‘My contribution would be a valuable scientific study; there is so little documentation about processes like this. People working in the sector would have guidelines to help make the right decisions, and governments would be able to read about how to support cleantech initiatives. When it comes down to it, there is a constant need for new entrepreneurs in all areas.’ The researcher then hopes to continue his career as an independent consultant and researcher. Wherever that may be: ‘We are all citizens of the world. Modern professionals can work anywhere.’

i.singaram@utwente.nl
Up until now, entrepreneurs have tended to see social media as a promotion tool. But social media are also effective instruments for product innovation and market research. It’s ‘the power of the many.’ You can easily find a thousand people ready and willing to help.’ These are the words of Natalie den Engelse. She is currently writing a PhD thesis on social media as a source for entrepreneurs.

It would appear that entrepreneurs gather information in four different ways: by observing, by asking questions, by networking and by trial and error. ‘I’m exploring the potential of social media as a means of supporting these methods of gathering information,’ explains Den Engelse. ‘For example, there are a lot of niche platforms, often with specific knowledge and experience. Entrepreneurs could make good use of these, by posting questions or asking for reactions to product ideas. It might generate a lot of useful information.’

But it would also need a lot of prior thought and preparation. The entrepreneur would first have to find the relevant platforms using key words. And then look for the right networks and content. ’My research will show just how beneficial this is,’ says the researcher. ’The people on these platforms are serious and well-motivated. You could create a good, free pool of market research subjects, where you are totally in control: it is up to you to decide on the information you need.’

The concept is reasonably new. Most entrepreneurs see social media as a tool for promotional activities. ‘It was noticeable even among the VentureLab participants, who either see social media as a sales instrument or avoid them altogether.’ Den Engelse is careful not to be too hasty drawing conclusions from her research. She is comparing the findings and experiences of entrepreneurs who use social media for market research with those who do not. This should show just how useful social media can be in supplementing existing business intelligence tools.’

She hopes to have her PhD by May 2014, after which she expects to forge a path into the entrepreneurial world with the scientific data she collects via VentureLab. ‘And then it’s all down to the practical translation. How best to use the ‘Power of the Many?’ This is where the real opportunities lie.’

n.engelse@utwente.nl
Disclaimer

This publication was produced in order to highlight the innovative developments in VentureLab Twente and to convey general information regarding entrepreneurship. Although this volume was prepared with the greatest of care, no responsibility can be accepted for inaccuracies. It is also important to remember that both law and practice are subject to continual change.

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Core team VentureLab Twente

Coaches involved with the entrepreneurs presented in this volume
Ruud Koopman, Marc Sandalowski, André Oosting, Marjo Nieuwenhuijse, Alvin Oude Lansink, Karin van Beurden, Rob van Lambalgen, Willem Poterman and Peter Krijnsen.

Contact VentureLab Twente

Please visit our website for more information, news and upcoming events.
www.venturelabtwente.com

Visiting address
You are welcome to meet us in person in the middle of an entrepreneurial ecosystem.
The Corridor
Hengelosestraat 525-527
7521 AG ENSCHEDE
The Netherlands

Correspondence address
We look forward to hearing from you.
NIKOS / University of Twente
PO Box 217
7500 AE ENSCHEDE
The Netherlands

You may also contact us by e-mail at: info@venturelabtwente.com.

Personal contact
If you prefer to address your communication to a specific individual, please contact one of the following staff members.

Dr. R. (Rob) van Lambalgen
Programme Director
T +31 (0) 53 4836 883
M +31 (0) 6 1302 5103
E r.vanlambalgen@utwente.nl

Ir. J.J. (Jaap) van Tilburg
Programme Manager
T +31 (0) 53 4836 878 / 4896 989
M +31 (0) 6 2224 6069
E j.j.vantilburg@utwente.nl
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