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Universities' Entrepreneurship Education and Regional Development: a Stakeholders' Approach

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Março, 2010

Ficha Técnica

Director	Pedro Marques da Silva
Secretariado	Carla Loureiro
Conselho Editorial	António Cardoso Marques Ana Paula Matias Helena Batista Alves João de Matos Ferreira
Composição e Impressão	Departamento de Gestão e Economia da Universidade da Beira Interior

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Universidade da Beira Interior
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Abstract

It is assumed that entrepreneurship education encourage the growth of new businesses, exploiting the entrepreneurial spirit within higher education sector. Additionally, entrepreneurship higher education is supposed to play a relevant role in the development of enterprising citizens and in the development regions through an ongoing process of knowledge creation and delivery. In this research we will explore what roles are attributed to entrepreneurship education in the literature with regard to regional development as well as the influence and relationship of the main intervening stakeholders. The aim is to present a conceptual model which integrate the contributions of both strands of literature and, at the same time, highlight the interplay between the several stakeholders involved in HEI's entrepreneurship education and regional development.

Key words: Entrepreneurship education, university, regional development, stakeholders

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1. Introduction

Entrepreneurship education encourages the growth of new businesses, exploiting the creative potential and depth of knowledge within higher education sector. De Faoite *et al.* (2003) found that entrepreneurship education contributes for (i) the integration of a variety of business subjects, (ii) the promotion of improved decision-making skills and (iii) the increase in technology transfer between education establishments and the market place creating improved synergy and added value between both entities and the potential to add value to other non-business and technical programmes.

Entrepreneurship education is relevant in higher education curriculum once it teaches the fundamental of employment skills and how to start and run a business. Students gain experience in “creating” a business, sometimes in a stimulating environment or in the real market place. Examples of how this can be done include the availability of funds to help finance venture creation projects by students, support networks for entrepreneurial initiatives (professionals and businesses), entrepreneurship centres, business incubators, a broad supply of entrepreneurship programmes, entrepreneurship institutes, and specialized libraries.

Brown (2002) sees entrepreneurship education as a mean to teach students the skills to build a business and, in a large sense, to take responsibility and initiative in their lives. In this sense, the *Green Paper on Entrepreneurship* (European Commission, 2004) came to reinforce that education plays a critical role on the development of enterprising citizens in the Europe states, as well as the need to broaden enterprise education outwards.

Boyce (2003) suggests that colleges and universities should be viewed as having the qualities of loosely coupled systems with diffused decision making. For these institutions it is imperative that an established infrastructure will support the ongoing process of knowledge creation, delivery and management at all levels of the organisation. Entrepreneurship education can empower youths and improve the economy of the nation. Universities need to assume this challenge of curricula entrepreneurship education in a more aggressive way.

Considering key trends that are occurring in educational environments, such as diversification of students and faculty, changes in technology, and globalisation, Kezar (2005) suggests that higher education institutions (HEI) must mine organisational learning concepts and theories. Freed (2001) notes that in the learning organization, people look for new and better ways of doing things, and they work together to make process improvements that benefit institutional stakeholders. According to Kezar (2005) this concept integrates an experiential component supported by knowledge acquired in a traditional classroom setting. This format is believed to best meet the needs of the students, as well as other key stakeholders within this community (Piccoli *et al.*, 2000).

Thus, the organizational learning framework reflects not only the complexity of arguments, claims and counterclaims but also the increasing involvement and specific needs of a relatively wide range of major as well as minor stakeholders, all of whom can legitimately claim to have an interest and an impact on various aspects of entrepreneurship education (Matlay and Carey, 2007).

There is a shared perception, amongst a varied and influential group of stakeholders, that entrepreneurship education represents an efficient and cost effective means of increasing the number and the quality of entrepreneurs entering in the economy (Matlay, 2006; Matlay, 2008). Despite the recent growth in entrepreneurship education research, the full extent of stakeholders' involvement and their impact upon entrepreneurial outcomes remains unclear. Furthermore, HEI is supposed to play an important role in the economic development of countries and regions. On national level, central governments spend vast amounts of money in education. From regional perspective, the choice of location of large educational facilities is often substantiated by regional economic development type arguments (Vermeulen, 2003).

To date relatively little is known on the interplay between entrepreneurship education and regional development and the stakeholder's influences. The literature draws on a variety of approaches, perspectives and levels of analysis, all of which are pertinent. The challenging task that lies ahead is to integrate these perspectives in a consistent conceptual framework. With this aim, in this research we will explore what roles are attributed to entrepreneurship education, focusing in HEI, with regard to regional development. We propose a conceptual model which integrates the contributions of both strands of literature and, at the same time, highlights the interplay between the several stakeholders involved in HEI's entrepreneurship education and regional development.

This paper is structured as follows. Section two is dedicated to the review of literature, discussing the linkage between entrepreneurship education and regional development, and exploring this linkage with the introduction of the stakeholders approach. Based on this

literature review, in section three, the conceptual model of research is presented and explained. Next section presents a proposal of the methodology design in order to test the conceptual model. In the end, the conclusions, limitations and future lines of research are addressed.

2. Literature review

Academics have long examined that entrepreneurial activity tends to vary across regions and these differences in opportunities can explain why some regions have higher start-up rates than others (Reynolds *et al.*, 1994; Audretsch and Fritsch, 2002). The first possibility is that the success of entrepreneurship courses depends on the regional context. Research on knowledge spillovers has found that such spillovers are localised (Glaeser *et al.*, 1992). This involves that regional disparities in knowledge stocks and research and development (R&D) investment matter as regions with higher knowledge and more R&D activity provide more knowledge spillovers and thus more entrepreneurial opportunities than others.

Audretsch and Lehmann (2005) found that universities in regions with a higher knowledge capacity and greater knowledge output also generate a higher number of technology start-ups, this mean that knowledge spillovers holds for regions as well as for industries.

Thus, some regions offer more profitable opportunities than others. This implies, for instance, that the impact of entrepreneurship education may systematically differ across regions. Since universities are not isolated from, but embedded into the broader region, Walter and Dohse

(2009) argue that two regional characteristics, *start-up intensity* and *human capital density*, should amplify the positive impact of entrepreneurship education. Start-up intensity measures the relative frequency of new firm creation in a region. According to these authors it should complement academic education in several ways. First, regions with high start-up rates are more likely to have large stocks of expertise that entrepreneurs have developed in a learning-by-doing process. Second, start-ups provide a credible example that entrepreneurship is possible. Third, the existence of start-ups can reflect and further add to a regional entrepreneurial culture. Such culture can indicate students that entrepreneurship is socially attractive and accepted as a legitimate career alternative. In other words, some regions provide a more fruitful ground for entrepreneurship education than others. Fourth, regions with high start-up rates have larger and denser business networks.

Human capital density measures the share of highly-qualified individuals in the regional labour force. According to Walter and Dohse (2009), a high human capital density may be seen as an indicator that a region is rich in knowledge. Therefore, (potential) entrepreneurs in regions rich in human capital have access to superior knowledge which increases the profitability and/or the growth of their (prospective) ventures relative to competitors in regions less well endowed with human capital.

The requirements for regional engagement embrace several aspects of the responsive HEI which are generated by evolving priorities within the higher education system. For many HEI, regional engagement is therefore becoming the crucible within which an appropriate response to overall trends within higher education is being required (Goddard and Chatterton, 2003).

According to these authors, within HEI the challenge is to link the teaching, research and community service roles by internal mechanisms (e.g. funding, staff development, incentives and rewards, communications) and, within the region, the challenge is to engage in many of the aspects of the development process (such as skills enhancement, technological development and innovation, and cultural awareness) and link them with the intra-university mechanisms in an HEI/region value-added management processes.

The role of HEI in the knowledge-based economy is one of an institution that is firmly embedded in its socio-economic context. Vermeulen (2003) defines and discusses the role which education can play in economic development, and the relevant spatial scales of education, in three facets: (i) scope (international, national, regional, local and not relevant); (ii) function (qualifications, R&D, warehousing, employment, purchasing power, location factor, and welfare/externalities); and (iii) type (universities, vocational colleges, vocational training, and secondary education).

Maskell and Törnqvist (2003) stress the significance of informal relations when they explain the contributions that HEI make to the economic development of a region. In their study it was suggested that the economic role played by universities is mainly indirect, through the influence exercised on public governance, civic culture, and informal institutions rather than one private sector firms directly. In another study, Nieuwenhuis *et al.* (2003) show that HEI need to become network players if they do not want to be banished to the margins of the regional economy. The participation of the several stakeholders in regional and sectorial knowledge networks requires a new vision of the role of HEI in the local economy.

This has been combined with a new governance perspective which is based on interaction between different regional actors and on the shaping of a collective capacity for communication and joint strategy-making. In this approach, Legendijk and Rutten (2003) argue that HEI occupies a special position and it has acquired a distinct position as a regional player, which takes a dual role. On the one hand, the HEI is seen as an important source of business knowledge, both technological and, through the rise of business schools, organisational. On the other hand, the HEI is regarded as a stakeholder in the process of regional strategy-making (Goddard, 1998; Goddard and Chatterron, 1999; Jones Evans *et al.*, 1999; Legendijk and Rutten, 2003; Walter and Dohse, 2009).

Students, institutional employees and future employers of graduates and postgraduates who complete a university degree emerged as major stakeholders in HEI (Koksal and Egitman, 1998). The central stakeholders are students, teachers (trainers), the educational institution and employers. However, entrepreneurship education is a process involving a series of stages and a number of stakeholders who need to be an active part of the process. Thus, the list of stakeholders can include the specific interests of a wide range of individuals, organisations and institutions as well as those of community and government representatives.

Vollmers *et al.* (2001) claim that stakeholders such as students, educators, alumni and members of the business community have an important role in the development of entrepreneurship education curriculum that is relevant for local and regional development. They argue that by obtaining feedback from each stakeholder group, a University can determine how to best meet their needs.

Piccoli *et al.* (2000) provide a theoretical model of knowledge creation and delivery that depicts upon the capabilities and competencies of faculty, students and other stakeholders. These are critical sources of knowledge creation and important communicators of shared learning, which is disseminated through the organization to establish and improve processes that stimulate and sustain strategic change.

The UNESCO's (1998) framework for priority action for change and development for higher education stated that HEI should develop innovative schemes of collaboration between institutions of higher education and different sectors of society to ensure that higher education and research programmes effectively contribute to local, regional and national development.

Successful projects have to be embedded in and backed by curricula and accompanied by the supporting agency. In order to create sustainability, it is important to involve regional stakeholders. Others, however, point out that a single entrepreneurship model is unlikely to satisfy the varied requirements of a wide range of stakeholders (Bygrave and Hofer, 1991; Matlay and Carey, 2007; Huggins *et al.*, 2008).

According to what has been said, previous research focused in HEI considers two basic categories of stakeholders entailed in entrepreneurship education (Reavil, 1998): (i) *internal stakeholders* (such as students, faculty teaching, research, administration, support and management staff, etc.); and (ii) *external stakeholders* (including parents, alumni, entrepreneurs, representative of business, commerce and professional bodies, etc.). Interestingly, however, this distinction is mainly conceptual and it becomes considerably

blurred when stakeholders' perceptions, involvement and expectations are taken into consideration.

The central focus on entrepreneurship education usually concentrates on students (Chrisman, 1997; Raposo *et al.*, 2008a; Raposo *et al.*, 2008b). However, we encourage the inclusion of other stakeholders. Galloway *et al.* (2005) suggested the need HEI to develop as entrepreneurial institutions, to become more pro-active in addressing the needs of employers and the business region when creating courses thus exploiting their creative potential and entrepreneurial behaviour.

Thus, in this context, as mentioned before, it is suggested that entrepreneurship education should be viewed as a process, involving a series of stages and a number of stakeholders who need to be an active part of this process. Furthermore, we argue that the success of entrepreneurship programmes is very dependent on the level of commitment and the knowledge and skills base of the stakeholders.

In spite of these positive assertions, the question of how they should respond to regional needs is relatively unexplored field for most HEI. The shifting role of HEI in regional development must be seen within a broader context of globalisation and the shifting nature of regional development and governance, notably the change in emphasis from material to non-material assets and the revival of the region as an important field for political and economic activity.

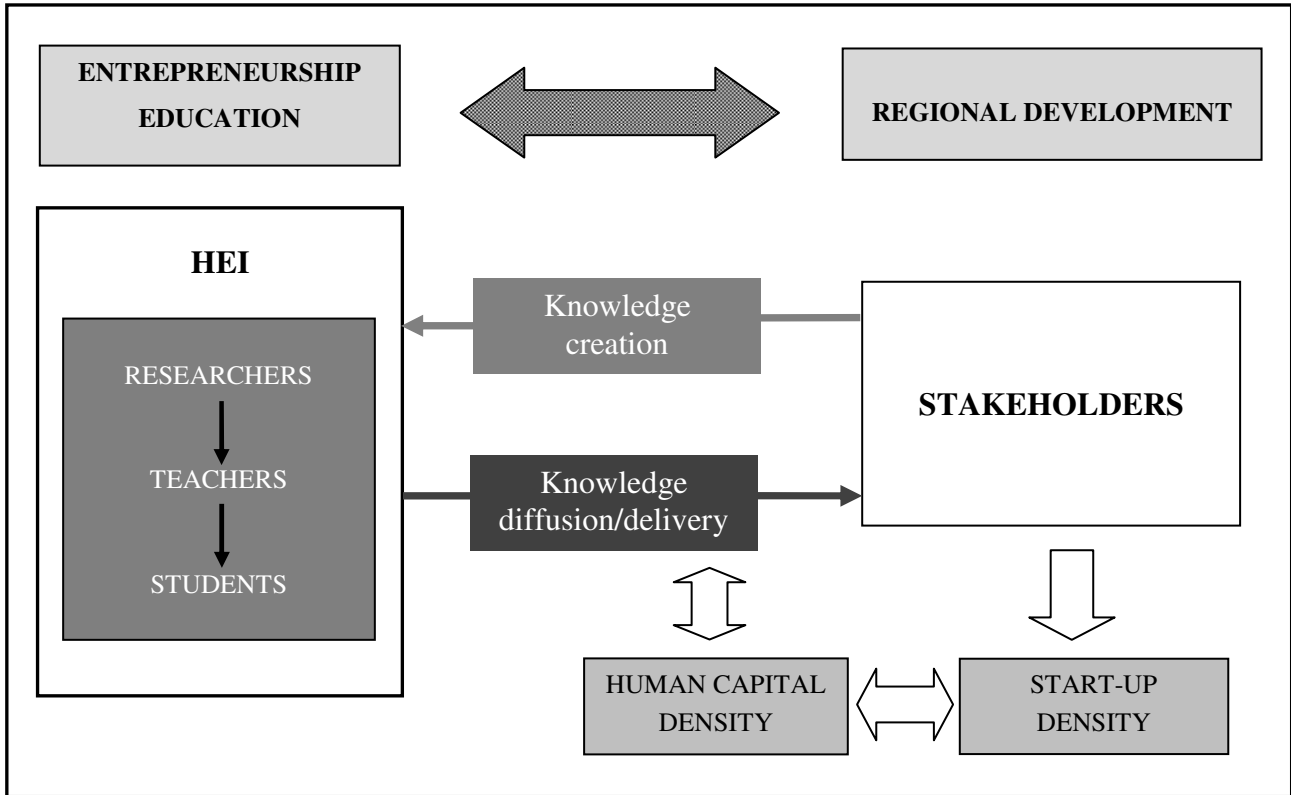
3. Conceptual model: a proposal

Our proposed conceptual model draws on the capabilities of HEI and other different stakeholders to optimize and manage existing knowledge, as well as the generation and sharing of new learning, in a regional context.

The model presented in Figure 1 considers that HEI are players within a multi-pole network of knowledge producers and users (Rutten *et al.*, 2003; Nieuwenhuis *et al.*, 2003). In the centre of our model we incorporated the theoretical construct of knowledge creation and delivery presented by Piccoli *et al.* (2000) that depicts upon the capabilities and competencies of faculty, students and other stakeholders. It considers that all these stakeholders are critical sources of knowledge creation and important communicators of shared learning, which is disseminated to establish and improve processes that stimulate and sustain strategic change.

The model considers that practitioners are the source of knowledge and that HEI is largely responsible for developing new knowledge which was then transferred to the business region, who applied the knowledge in the creation of new products and services (Rutten *et al.*, 2003; Walter and Dohse, 2009). But the model also assumes that HEI play an important role through the influence exercised on public governance, and other elements of the community (e.g. civic culture, and informal institutions as mentioned by Maskell and Törnqvist, 2003).

Figure 1. The interaction between entrepreneurship education and regional development



Thus, the model sustains, as several authors do (e.g. Legendijk and Rutten, 2003; Goddard and Chatterton, 2003; Rutten *et al.*, 2003) that HEI acquired a distinct position as a regional actor, which takes a dual role. On the one hand, the HEI is seen as an important source of business knowledge, both technological and, through the rise of entrepreneurship education, organisational. On the other hand, HEI is regarded as a stakeholder in the process of regional strategy making (Goddard, 1998; Goddard and Chatterton, 1999; Jones Evans *et al.*, 1999; Legendijk and Rutten, 2003; Walter and Dohse, 2009).

As Goddard and Chatterton (2003) argued, we assume that additionally to the two traditionally roles - teaching and research - HEI have a third role that is the contribution to regional development through the formal integration and acceptance of a regional engagement in the

mainstream teaching and research. Thus, within HEI the challenge is to link the teaching, research and community service roles by internal mechanisms (e.g. funding, staff development, incentives and rewards, communications) and, within the region, the challenge is to engage in many of the aspects of the development process (such as skills enhancement, technological development and innovation, and cultural awareness) and link them with the intra-university mechanisms in an HEI/region value-added management processes.

This model also highlights the synergies and mutual benefits associated with a range of entrepreneurship education initiatives for a combination of internal and external stakeholders as described by several authors (e.g. Reavil, 1998; Hynes and Richardson, 2007). Thus the multi-pole network considered in this model includes the main stakeholders identified in literature in both entrepreneurship education and regional development namely *internal stakeholders* involved in entrepreneurship education in HEI (students, faculty teaching and researchers); and *external stakeholders*, including: the business sector, especially the small firm sector and entrepreneurs, which provide students with real life practical experiences and researches with important research questions and “raw material” to develop their theories, but also receive from HEI, knowledge about how to improve their performance and enhance their skills, and specialised work force for their organisations; government representatives - which are affected by the knowledge created in HEI about “how reality works or should work” - and other groups of the local/regional community (including parents, alumni, representative of business, commerce and professional bodies, etc.)

Entrepreneurship education should, on one hand, produce more highly qualified individuals to run or manage businesses (increasing human capital density), on the other hand, the knowledge

resulting from research, when disseminated through the social system, can encourage other individuals (besides students) to create their own business but also influence policies in order to be more effective in the provision of institutional support to new and small businesses (increasing start-up density). Furthermore, as referred by Walter and Dohse (2009), regions with high start-up rates are more likely to have large stocks of expertise that entrepreneurs have developed in a learning-by-doing process, this means, in other words, that the intensification of start-up density will reflect in the intensification of the human capital density.

4. Methodology design: a proposal

The conceptual model presented in the previous section draws on the skills of the several stakeholders to optimize and manage existing knowledge, as well as the generation and sharing of new learning, in a regional context. In order to test the proposed model, it is necessary to develop an adequate methodological approach.

Thus, concerning to the methodologies, the research will be carried out through experimental designs. In these experiments, we will use some instruments (questionnaires, interviews, etc.) to evaluate several aspects of the different stakeholders. We also intend to conduct several focus groups with some stakeholders to explore perceptions, opinions and attitudes towards entrepreneurship education programmes, as well as to understand their perception about the impact of their actions in the regional development. The results of this stage will allow the development of pertinent scales. The items of the measurement instruments will be refined, adapted and validated for the stakeholders that we intend to analyse.

In the fieldwork phase of the research it will be necessary to implement the field survey and the data collection. In the conduction of the quantitative research we will have to proceed to the: definition of objectives of research, definition of sample and research methodology (focus groups, in-depth interviews, etc.), definition of means of research, refinement of the research tools and the conduction of the research in the selected population samples.

The quantitative research will entail different methods of obtaining information and data, depending on the unit of analysis. The quantitative data includes carefully designed research, before the data is actually collected. The tools that will be used by the researchers will entail descriptive studies, which include the use of personal interviews with experts and academics. The analysis of case studies is also contemplated.

We will develop this study using a HEI selected from each of the five main Portuguese regions (North, Centre, Lisbon and Tejo Valley, Alentejo and Algarve). The aim is to gather data from diverse Portuguese realities. We will try to apply the model to different regions in order to analyse the differences at several levels (e.g. public support policy, educational curricula, propensity to start up, etc).

A HEI from each one of those regions will be selected in order to make some focus groups and administrate the questionnaires to students. Additionally a sample of the local entrepreneurs will be selected in order to apply some questionnaires and make some interviews. Finally we will gather some information from the local government representatives by mean of interviews.

Given the complexity of the interrelationships between the different stakeholders and the different agents existing in the regional context, we will restrict our analysis to three stakeholders - students,

business owners and government representatives. This complexity of link also point to the use of sophisticated analysis techniques. So, structural equation modelling (SEM), t-tests and correlations will be used to analyse the data.

5. Conclusions

Along this research we discussed the roles of the interplay between HEI, business community public authorities and civil society is an important part of the settings for a society in change. These links imply the establishment of networks and adaptable organisations to add innovation and improve competitiveness.

Some implications of the conceptual model here presented can be strained. The promotion of entrepreneurship education at regional level, with a consistent programme bringing together local stakeholders and addressing the diverse levels of education through a scope of different instruments, assumes relevant importance. Simultaneously, there is a necessity to better integrate entrepreneurship programmes and activities in the established curricula for schools at all levels. But all these actions just will be successful if the both national and regional governments ensure sustained funding/support for entrepreneurship education and for the implementation of concrete enterprise projects in school.

We argue that HEI should respond to this changing environment, first producing a clear mission to support the knowledge transfer, to increase the industry orientation and the climate of cooperation relations with stakeholders, second by establishing new institutional management

structures to meet more effectively the demands of the various regional stakeholders. It is important to recognise the unique characteristics of each stakeholder, such as organisational culture, territorial responsibility, and funding sources and linking them within the region will be an important step to increase (or change?) the profile of HEI to respond to regional needs.

As future research, we can point, in first place, the interest in empirically to test the conceptual model proposed and apply it in specific regional context. Secondly, it would be also interesting to apply the model in international context in order to establish comparisons. Thirdly, further research is needed to improve our understanding of stakeholders' dynamic role in regional development and entrepreneurship education context. It should explore which endogenous and exogenous variables might explain the effects of these players.

Acknowledgments

This work was supported by the Portuguese Foundation for Science and Technology (FCT) funds.

References

- Audretsch, D.B., and E. Lehmann. 2005. Does the knowledge spillover theory of entrepreneurship hold for regions? *Research Policy* 34: 1191-1202.
- Audretsch, D.B., M. Fritsch. 2002. Growth regimes over time and space. *Regional Studies* 36(2): 113-124.
- Boyce, M. E. 2003. Organizational Learning Is Essential to Achieving and Sustaining Change in Higher Education. *Innovative Higher Education* 28(2): 119-136.
- Brown, T.T. 2002. *The opportunity and experience: Curriculum for entrepreneurship education*. Louisville: Copenhagen Babson College.
- Bygrave, W.D. and C. W. Hofer. 1991. Theorising about entrepreneurship. *Entrepreneurship Theory and Practice* 16 (2): 13-22.
- Chrisman, J.J. 1997. Program evaluation and the venture development program at the university of calgary: A research note. *Entrepreneurship Theory & Practice* 22(1): 59-73.
- De Faoite, D., C. Henry, K. Johnston, and P. Van der Sijde. 2003. Education and training for entrepreneurs: a consideration of initiatives in Ireland and The Netherlands. *Education & Training* 45 (8): 430-8.
- European Commission. 2004. Action Plan: The European agenda for Entrepreneurship, ftp://ftp.cordis.europa.eu/pub/incubators/docs/action_plan_on_entrepreneurship.pdf (accessed 20 September 2009).
- Galloway, L., M. Anderson, W. Brown, and G. Whittam. 2005. The Impact of Entrepreneurship Education in HE, *Report for Business Education Support Team*, Oxford, May.
- Glaeser, E.L., H.D. Kallal, J.A. Scheinkman, and A. Shleifer. 1992. Growth in Cities. *Journal of Political Economy* 100: 1126-1152.
- Goddard, J. B. 1998. Universities and regional development: Report to the Department for Education and Employment, Newcastle upon Tyne: University of Newcastle/CURDS.
- Goddard, J. B., and P. Chatterton. 1999. Regional development Agencies and the Knowledge Economy: harnessing the potential of Universities. *Environment and Planning C, Government and Policy* 17 (6): 685-699.
- Goddard, J. B., and P. Chatterton. 2003. The response of universities to regional needs, in R. Rutten, F. Boekema, and E. Kuijpers, (eds.), *Economic Geography of Higher Education: Knowledge, Infrastructure and Learning Regions*, Routledge, London.
- Huggins, R., M. Jones, and S. Upton. 2008. Universities as drivers of knowledge-based regional development: a triple helix analysis of Wales. *Int. J. Innovation and Regional Development* 1(1): 24-47.
- Hynes, B., and I. Richardson. 2007. Entrepreneurship education: A mechanism for engaging and exchanging with the small business sector. *Education + Training* 49 (8/9): 732-744.
- Jones Evans, D., M. Klofsten, E. Andersson, and D. Pandya. 1999. Creating a Bridge between University and Industry in Small European Countries: The role of the industrial Liaison Office. *R&D Management* 29 (1): 47-56.
- Kezar, A. 2005. What campuses need to know about organizational learning and the learning organization. *New Directions for Higher Education* 131: 7-22.
- Koksal, G., and A. Egitman. 1998. Planning and design of industrial engineering education quality. *Computers and Industrial Engineering* 35 (3): 639-642.

- Legendijk, A., and R. Rutten. 2003. Associational dilemmas in regional innovation strategy development: Regional Innovation support organisations and the RIS/RITTS programmes, In *Economic Geography of Higher Education: Knowledge and infrastructure and learning regions*, Edited by Roel Rutten, Frans Boekema and Elsa Kuijpers, Routledge Studies in Business Organizations and Network, Taylor & Francis Group, NY.
- Maskell, P., and G. Törnqvist. 2003. Universities and the learning region, in: R. Rutten, F. Boekema & E. Kuijpers (eds.) *Economic Geography of Higher Education: Knowledge, Infrastructure and Learning Regions*. Routledge, London
- Matlay, H. 2006. Entrepreneurship education: more questions than answers? *Education & Training* 48 (5): 293-295
- Matlay, H. 2008. The Impact of Stakeholder Involvement upon Entrepreneurship Education Outcomes in the UK: A Critical Perspective, *proceedings of Institute for Small Business & Entrepreneurship* 5-7 November 2008 - Belfast, N. Ireland.
- Matlay, H., and C. Carey. 2007. Entrepreneurship education in the UK: a longitudinal perspective. *Journal of Small Business and Enterprise Development* 14 (2): 252-263.
- Nieuwenhuis, L., K. Verhaar, and A. Hoeve. 2003. Networking between economy and education, in , in R. Rutten, F. Boekema, and E. Kuijpers, (eds.), *Economic Geography of Higher Education: Knowledge, Infrastructure and Learning Regions*, Routledge, London.
- Piccoli, G., A. Rami, and B. Ives. 2000. Knowledge management in academia: A proposed framework. *Information Technology and Management* 1 (4): 229-245.
- Raposo, M., A. Paço, and J. Ferreira. 2008a. Entrepreneur's Profile: A Taxonomy of Attributes and Motivations of University Students. *Journal of Small Business and Enterprise Development* 15 (2): 405-418.
- Raposo, M., J. Ferreira, A. Paço, and R. Rodrigues. 2008b. Propensity to Firm Creation: Empirical research using Structural Equations. *International Entrepreneurship Management Journal* 4 (4): 485-504.
- Reavil, L.R. 1998. Quality assessment, total quality management and the stakeholders in the UK higher education system, *Managing Service Quality* 8 (1): 55-63.
- Reynolds, P., D. J. Storey, and P. Westhead. 1994. Cross-national comparisons of the variation in new firm formation rates. *Regional Studies* 41: 443-456.
- Rutten, R., F. Boekema, and E. Kuijpers. 2003. Economic geography of higher education: Setting the stage, In *Economic Geography of Higher Education: Knowledge and infrastructure and learning regions*, Edited by Roel Rutten, Frans Boekema and Elsa Kuijpers, Routledge Studies in Business Organizations and Network, Taylor & Francis Group, NY.
- UNESCO.1998. *Framework for priority action for change and development for Higher education*, Paris: UNESCO.
- Vermeulen, M. 2003. Knowledge still travels on foot; an educationalists' perspective on regional development, in R. Rutten, F. Boekema, and E. Kuijpers, (eds.), *Economic Geography of Higher Education: Knowledge, Infrastructure and Learning Regions*, Routledge, London.
- Vollmers, S.M., J.M. Ratliff, and B. Hoge. 2001. *A framework for developing entrepreneurship curriculum through stakeholder involvement*, Morehead: Morehead State University, KY.

Walter, S., and D. Dohse. 2009. The Interplay between Entrepreneurship Education and Regional Knowledge Potential in Forming Entrepreneurial Intentions, Kiel Working Paper No. 1549, Kiel Institute for the World Economy, Düsternbrooker Weg 120, 24105 Kiel, Germany.