New Approaches in Sport Sciences (NASS), Vol 3, No 5, 109-126, June 2021

Designing an Entrepreneurial Education Program Model with Emphasis on the Relationship between Industry and University in the Sports Science

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Received: August 20, 2021; **Accepted:** October 31, 2021
doi: 10.22054/nass.2021.62964.1099

Abstract
Purpose: Today, sport is considered as an industry and sports as a science discipline recognized in the world, requires effective cooperation with industry. The development of sports is accompanied by the development of science, which doubles the need for appropriateness and attention to the field of science to develop entrepreneurship in the university and the relationship with industry. In this regard, the purpose of this study was to design an entrepreneurial curriculum model with an emphasis on the relationship between industry and academia in the sports science. **Method:** The research approach was qualitative and used a grounded theory methodology and in-depth interviews were used for this purpose. Participants included students and professors of sports sciences at public universities, who were considered as 23 according to the purposeful sampling. **Results:** The results showed that the university structure, communication with industrial institutions and centers, training of university manpower are effective in developing the entrepreneurial curriculum model and the development of learning in the real world. As a result, to strengthen the curriculum, the need to pay attention to cooperation between institutions and gain experience through internships and contracts between universities and the participation of other disciplines as well as industrial centers can strengthen knowledge, skills, and attitudes. **Conclusions:** It seems that the increasing practicality of educational programs and their close relationship with the sports industry and related organizations can affect sports entrepreneurship in society.

Keywords: Sports Industry, Sports Science, University, Data Foundation, Entrepreneurial Approach

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INTRODUCTION

One of the centers where the sports industry acquires technology and innovative approaches is educational centers that can be effective in development and innovation (Ratten, 2020). The relationship and cooperation between universities and industry have a special place in the scientific progress of countries. To empowerment of human resources and scientific innovations, universities need to expand scientific services and solve social problems to improve people's lives. To achieve such goals, universities must establish cooperation and logical communication with institutions such as industry. As a result, any shortcoming, whether temporary or continuous, in the continuation of cooperation between these two institutions, directly and immediately challenges the comprehensive development (Shafiee and Yazdanian, 2009).

The advent of knowledge-based economics has created new global infrastructures in which information technology, innovation, and the synergy of academia and industry have had a significant impact on the global economy. In today's world, not only the nature of knowledge has changed but higher education has shifted research and learning towards restructuring, in which higher education institutions are required to respond to the demands of various stakeholders such as government, industry, and various organizations as well as students (Moc, 2005). As a result, academic sciences, including sports science, have increasingly moved towards entrepreneurship through the structure of communication with industry and corporations, as well as through internal dynamics (Jacob and Helstrom, 2000). Due to the importance of moving towards entrepreneurship in universities, the term entrepreneurial university was coined to refer to the activities carried out in universities to move entrepreneurship. These activities at universities are including patents, licensing, start-ups, and university-industry partnerships (Phan & Siegel, 2006), which address issues such as the establishment of new companies by faculty members, postdoctoral students, or technology-related staff. Government policy seeks to promote entrepreneurship for its economic gain through entrepreneurship education (O'Connor, 2013). Despite some complexities, entrepreneurship education has been shown to have a positive effect on attitudes, perceived behavior control, and entrepreneurial intent (Rauch and Halsink, 2015). Business model-based

teaching enables learning based on practical experience (Pittaway and Trobe, 2012).

Beyond education and research, universities are trying to institutionalize innovation using new organizational structures. Etzkowitz et al. (2019) consider the university as a stakeholder in the strategy of developing university-district cooperation. However, it is important that universities take an entrepreneurial ecosystem approach instead of focusing too much on individual elements and using political decisions to further enhance their potential for economic impact (Hayter et al., 2018). The dual purpose of being in the public interest and being the engine of economic growth are inseparable. Once the needs and interests of stakeholders are shared, entrepreneurship and value creation can occur simultaneously (Simeone et al., 2017). In a case study from the University of Oxford, Smith & Bagicchisen (2012) found that the university, in addition to collaboration and industry-related activities, has created an innovation structure consisting of traditional entrepreneurial programs.

While the university-industry collaboration literature highlights the challenges of the theoretical and practical gaps, it only addresses the heterogeneous nature of the knowledge produced and its efficiency process. Accordingly, Crespin-Mazet & Ingemansson-Havenvid (2021) showed that the collaboration between academia and industry is a useful but insufficient platform for academic and managerial theorizing and its applicability had been considered. Walter and Black (2016) in a study based on institutional theory and the theory of entrepreneurial performance, considering the outcome of entrepreneurship related to entrepreneurship education and institutional environment. Ramsgaard et al. (2017), in a study, showed the importance of internships and the relationship of the university with institutions where students use theories to strengthen their professional identity. In addition, the results showed that students in internships as a group develop a comprehensive understanding of the application of theories in practice. Using an entrepreneurial learning approach, students reported an improved understanding of learning outcomes and a theory-performance gap, the ability to identify opportunity and a sense of usability, and professional identity. Elements of entrepreneurial performance included the value of combining theory and practice, level of reaction, feedback, and usability.

Finally, this article concludes that entrepreneurship learning and internship are two concepts that benefit from each other. Mok (2005) examines the ways and strategies of Hong Kong universities to foster entrepreneurial spirit and practices by encouraging academics to work in the industrial, commercial, and business fields. Finally, the role of the regional government in promoting entrepreneurship, with particular reference to the interactions between the government, the private sector, and the higher education sector in promoting a vibrant aspect, has been considered as a key element. Wing Yan Man (2006) studied the pattern of entrepreneurial learning and used semi-structured interviews with 12 entrepreneurs. According to him, entrepreneurial learning is more than just gaining experience, skills, and knowledge or continuing learning-related behaviors. The entrepreneur needs to demonstrate a set of effective learning behavior patterns. These behavioral patterns are measurable. Training and practice for the entrepreneur can be considered from a behavioral approach with an emphasis on behavioral modification of the learning pattern rather than simply emphasizing the acquisition of knowledge and skills.

Shafiee and Yazdanian (2009) in internal studies, including the harms of industry-university relationship, know such things as: educational barriers (non-compliance of university courses with the needs of industry, lack of attention to applied and workshop courses, decline in academic quality And scientific graduates due to documentaries, incompatibility of the educational system with the industrial system, insufficient attention to internships by universities, lack of long-term planning), barriers to research (bureaucracy and administrative formalities) Defining university research projects regardless of real needs, easier income from educational and executive activities, overestimating the publication of scientific articles to promote faculty members, lack of proper understanding of industry problems by universities, lack of Research facilities (and barriers to policy-making and planning) Lack of necessary policy-making regarding the alignment of research with real needs, instability in the country's economic strategy and policies, lack of importance of industry to the university, lack of feeling The need for industry to innovate, administrative barriers and enforcement mechanisms (financial and administrative bureaucracies to

spend resources) Given, lack of appropriate format for spending research budgets, complexity and inadequacy of regulations, instructions). Khosravizadeh et al. (2014), in a study, examined the barriers and strategies of communication between the sports industry and higher education institutions in Markazi province. Among the main barriers to communication between the sports industry and higher education institutions were: cultural, legal, educational, research, administrative, executive, structural, policy-making, and planning barriers, respectively. Among the proposed solutions in the relationship between industry and academia; utilizing the capacity of all higher education centers for the development of sports, establishing a committee to communicate with higher education centers in the field of the sports industry, improving the quality of scientific ability of managers and experts in the sports industry, increasing research funding in the field of sports, using findings Research on higher education centers in the sports industry, the formation of the Association of Physical Education Graduates and its use for the development of the sports industry, the formation of the Association of Physical Education Graduates in the sports industry of the province was mentioned. Shiri (2014) in a qualitative study examined the relationship between the university and industry and its challenges. The results showed that the lack of mutual needs, lack of need in the industry to communicate with the university, lack of motivation in the university to communicate with the industry were among the causes of barriers to industry-university communication. Saatchian et al. (2013) in a study studied the strategies and consequences of communication management between schools of physical education and sports sciences and the executive branch of industry and in a qualitative study based on the systematic model of Strauss, strategies such as; Cognition and awareness of the parties, external view, manpower, organizational culture building, thinking of the parties, integrated custody/management unit, rules and regulations and marketing concluded and among the implications presented in the research were: cultural development, public development, educational development, scientific development, infrastructure development, international development, social development, economic development, technology development, and political development.

Summarizing the studies conducted, especially abroad, shows the continuous review of courses and emphasis on internships to develop entrepreneurship, and in this regard, entrepreneurship education has become one of the most important and extensive activities of foreign universities. What is more important in these courses are the educational goals, the appropriateness of the content of the training courses, the entrepreneurial nature of the teaching methods, the creation and expansion of the concept and culture of entrepreneurship in the university environment, and the adaptation and coordination of training courses with different sports industries. The mentioned cases are used together to educate students and graduate entrepreneurs. The unemployment crisis is an issue that highlights the review of the structure and system of planning and the close relationship with the needs of industry and society in general. Due to the lack of research to explain the model of entrepreneurship curriculum in the field of sports science based on the relationship between industry and academia and also due to the importance of entrepreneurial universities in connecting students with industry, the purpose of this study is to design an entrepreneurial curriculum model with emphasis on the relationship between industry and academia. The answer to this question can lead educational planners and politicians to work closely with sports industry centers and adopt coherent strategies and strategic plans.

METHOD

The research approach was qualitative based on the Grounded theory methodology. Interviews with sports professionals and entrepreneurs active in the sports industry and services sector were used. Participants included professors of sports science and entrepreneurs from industry and services. In other words, in the qualitative stage, acute case sampling was used. Acute sampling is considered to be those in which the relationships under study are particularly clear, such as the opinions of experts or those of particular importance to the performance of the program being evaluated (Philic, 2009). In this research, sports management professors who were familiar with the topics of sports entrepreneurship and curriculum (according to their research field) were interviewed. The opinions of active entrepreneurs in the sports industry (manufacturing) and sports services (sports clubs) were also used.

Sampling continued until theoretical adequacy was reached. In other words, the criterion for judging the time to stop sampling was theoretical adequacy. According to Glasser and Strauss (1967), when theoretical adequacy is achieved, no additional data can be found by which the researcher can formulate properties or features (categories). As it collects similar data, it empirically ensures that a category is sufficient (Danaeifard et al., 2010). The emerging theory approach requires a long stay in the research environment to allow the researcher to identify the main concerns of the participants, so as to allow the central category or process that depicts the answer to the problem to emerge. The basic theory begins with the codes and then ends with the concepts, categories, dimensions, and finally the theory. The resulting theory does not need to be validated and tested separately because the theory is derived from live data. Three types of coding in the research process are open coding, axial coding, and selective coding (Khanifar and Moslemi, 2018). To analyze the interviews from an editorial approach; which is one of the data analysis approaches used in interviews (Danaifard et al., 2010). In open coding, the data obtained from the interview were entered in writing and then the necessary concepts were extracted as a result of the editorial approach. Axial coding examines the relationship between the classes produced in the open coding phase; in selective coding, the extracted core codes are grouped and compared with each other to obtain the main groups and the necessary dimensions. Conformability (through the researcher's 6-month presence in the research approach and interview), transferability (through maximum extraction and analysis), verifiability (clarity of research steps for other researchers), and reliability (through the reliability formula for qualitative approaches) are confirmed. The percentage agreement method was performed for coding reliability. For this purpose, 3 interviews were considered and each of them was coded twice at intervals of 14 days. The following formula was used for the percentage of reliability.

Table 2: Calculation of reliability (stability index)

Row	Interviewee number	Number of codes	Number of agreements	Number of disagreements	Re-test reliability
1	IN1	21	10	4	%95.2
2	IN3	14	6	1	%85.7
3	IN8	28	12	2	%85.5
Sum		63	28	7	%88.8

RESULTS

A total of 51 concepts were identified for the entrepreneurial curriculum model; which is given in Table 2 of open, axial and selective (optional) coding..

Table 3: Open, axial and selective coding

Selective coding	Axial coding	Concepts
The institutional environment in cooperation of universities with sports organizations and industrial centers	Coordination of institutions influencing sports with each other	Lack of coordination of sports institutions in implementing a coherent program
		Meetings and joint activities between the university and sports institution
		The commitment of sports organizations and institutions to the implementation of programs
	Strategic plan and vision to become an entrepreneurial approach	Belief in being the plan-oriented
		Pay attention to the needs of sports institutions or the sports industry
		Develop a clear plan for developing relationships with the sports industry
		Develop an approach to make industry and academia more familiar with each other's needs and abilities
	Creating a connecting institution and supporting industry and academia in the field of sports	Establish communication institutions between universities and sports producers
		Establish the structure of the entrepreneurs development policy council and the council of experienced entrepreneurs
		Creating institutions to improve the situation of sports businesses
	Protection laws	Develop laws to protect the relationship between industry and academia
		Allocate funds for research and development
		Elimination of taxes from doing academic projects or plans
		Creating a legal basis for the active presence of academics in the sports industry
	Cultural development	Evaluate research and development activities
		Appropriate reward system for industry-related activities
Academic structure	Academic infrastructure	Construction of sports facilities and equipment (hardware)
		Equipping gyms and sports equipment (hardware)
		Changing the infrastructure of teacher promotion (paying attention to education versus research scores, paying attention to creativity and innovation in teaching and valuing it, etc.)
	Teacher promotion infrastructure	Changes in the rules and infrastructure of teacher promotion
		Reforming the evaluation system and promoting the rank of faculty members in order to evaluate research activities related to industry and sports institutions

Selective coding	Axial coding	Concepts
Investing in human resources	Improving empowerment and training the human resources	Formal and informal training for university staff
		Focus on training to create entrepreneurial motivations
		Efforts to acquire knowledge of raw material manufacturing technology in the country
		Teaching entrepreneurial skills development skills in the field of sports and entrepreneurship in the university
Curriculum revision to fit the needs of the sports industry	Educational-research courses	Holding knowledge-enhancing courses for professors in order to promote knowledge and entrepreneurial motivation and transfer it to students
		Holding scientific projects along with theoretical and practical courses
		Teaching with student participation
		Suitability of training courses or the needs of the sports industry
		Preparing and compiling the content of the internship course with the cooperation of sports specialists and sports institutions
		Visiting sports business centers as an educational strategy
		Adaptation of educational principles and content to sports technology and technologies
		Demand for research projects
		Holding startup events in colleges / departments
		Holding short-term and long-term courses for institutions or the sports industry
		Combining university courses with sports sciences in order to make sports sciences more usable
		Holding an operational workshop for students in teaching
Entrepreneurial training program	Applied learning	Active search for learning opportunities
		Deep and purposeful learning
		Continuous learning
		Development of entrepreneurial knowledge
		Managing new issues related to the sports business
		Gain entrepreneurial work experience
		Gain experience and skills

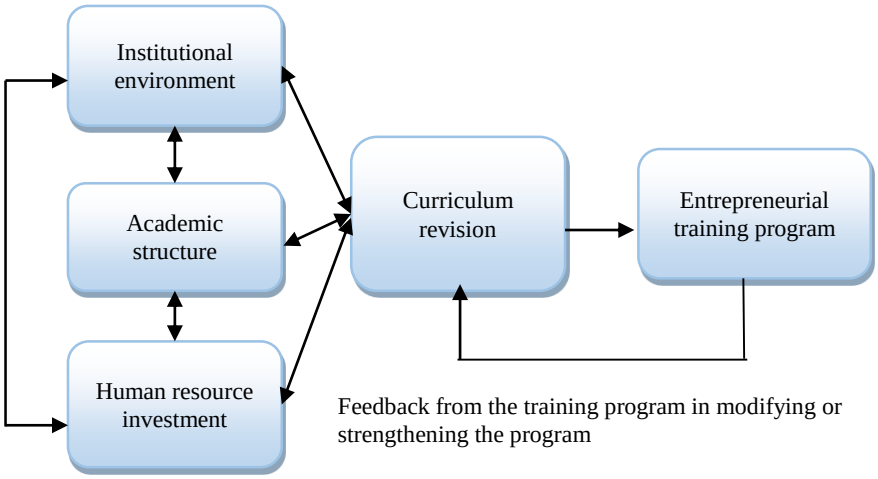

Figure 1. Model of entrepreneurial educational program in sports science schools

According to the coding, the entrepreneurial training program model is shown in Figure 1.

As Figure 1 shows, to create an entrepreneurial education program approach, the need to pay attention to inter-institutional cooperation, to learn in the real world, and gain experience through internships and internships and contracts between universities and communication institutions in the field of science. Sports can help strengthen students' knowledge, skills, and attitudes as much as possible. In addition, strengthening the university structure, creating hardware, facilities, and educational space, changing the infrastructure for promoting professors and giving more weight to entrepreneurship, and giving more participation and connection between professors and students to the sports industry can help in the entrepreneurial education program approach. In addition, the results of the entrepreneurship curriculum can be considered as feedback to modify or strengthen the curriculum.

DISCUSSION

Reducing the gap between research and experience, as well as increasing the dual understanding of theory and applied approach to science, suggests that investing in knowledge and applying it are inextricably intertwined (Jacob and Helsertom, 2000). The issue of the entrepreneurial university and entrepreneurial approaches is an issue that

has attracted increasing attention in recent years. The main issue in universities is the emphasis on entrepreneurship training programs to start businesses and start-ups. As a result, the research aimed to design a model of entrepreneurial sports science curriculum with emphasis on the relationship between industry and academia.

Based on the obtained model, sports-related institutions, coordination of institutions influencing sports with each other, strategic plan and vision to become an entrepreneurial approach, creating a linking institution and support for industry and academia in the field of sports, supportive laws and cultural development to The title is a subset of the institutional environment as factors that can play a role in the discussion of the entrepreneurial education program. The institutional environment defines, creates, or limits entrepreneurial approaches and thus influences the scope of entrepreneurship (Huang and Powell, 2005). In today's world, it is not acceptable to evaluate only one particular type of institution, but we must consider the importance of governmental institutions as well as non-governmental institutions. In other words, different types of institutions give rise to special functions that offer unique partnerships to achieve entrepreneurial goals (Gechev, 2008, 54). What seems important in the institutional environment is the importance of coordination and cooperation between institutions, especially the relationship between sports schools and sports industries, sports organizations, including the National Olympic and Paralympic Committee. The close connection between universities and industry and the real environment leads to an understanding of the needs of the sports industry as well as sports organizations. For example, part of the sports industry is related to fashion and sportswear, which during an interview with one of the entrepreneurs in this sector stated that:

"We need someone to come and do these designs for us to design fashion and sportswear. I went to Al-Zahra University myself to be able to offer work to students who have studied in this field, but unfortunately such a person. "I did not find it and I do not think he is a graduate in the field of fashion and sports design at all."

This indicates a lack of connection between the university (sports science faculties) and the sports industry and the relationship with sports businesses. It seems that a strong link between the university (sports science faculties) and other organizations, including the National

Olympic and Paralympic Committee, can play a role in scoring scientific research and applying it to sports medals in the real world. As in the sport of England, a research and innovation unit has been implemented to guide the Olympic and Paralympic sports. It is close to the Institute of Technology at the University of England's boast (Drawer, 2008) as these two institutions have challenged entrepreneurs to create new ideas in sport (Sedan and Baldwin, 2008). The institutionalism attitude also grew with the invention of modern institutions such as legislative institutions, judicial arbitration institutions, and so on. In this view, the effectiveness of other institutions in facilitating the relationship between industry and academia is taken into account, which in many cases has led to the provision of new solutions in the development of cooperation. The great achievement of institutionalism approaches is to provide freedom of action for academics and artisans to operate without worries and preconditions (Shafiee and Yazdanian, 2009).

The university structure, including attention to the university infrastructure and the faculty promotion infrastructure, can be effective in the entrepreneurial curriculum approach. Academic infrastructures such as paying attention to hardware approaches and equipping sports laboratories, sports equipment, and facilities in improving the quality of education along with more weight in connection with the industry to promote the sports industry and on the other hand improving the capability and training of manpower can play a role in the entrepreneurship training program. Be. Resources and support structures are of fundamental importance to facilitate industry-university communication. Buildings, facilities, classrooms, salaries, and benefits, etc. fall into this category (Altschood and Kumar, 2010, 23-24). Sports equipment, places are in the priority, that is, sports equipment and hardware are considered very important for the entrepreneurial training program. Theorists Nazariyan Madwani et al. (2014) in a study considered educational facilities and equipment to be effective in achieving educational goals. Human capital has an impact on entrepreneurship and the entrepreneurial curriculum through institutional support (Mosharraf and Taghiyareh, 2016).

Curriculum revision tailored to the needs of the sports industry and sports organizations, as well as the support of the university

infrastructure by professors and entrepreneurs in this field, can play an important role in the entrepreneurial education program. As a result, it seems necessary to make a fundamental review according to the needs of the market floor in the field of sports science, and based on this, it may be necessary to create multidisciplinary fields with other sports sciences. Some researchers such as Kargar Fard et al. (2006) and Mondalizadeh and Khosravizadeh (2019) concluded that the undergraduate physical education program is out of date and disproportionate to the needs of society. All these researches and the results of the present research indicate that educational goals are not necessary to meet entrepreneurial approaches and there is a kind of slogan in expressing these goals. As a result, it seems that curriculum revision leads to entrepreneurial motivation and a sense of learning in the real environment can cause such an atmosphere among students can be the result of the entrepreneurial curriculum. Curriculum revision with the participation and invitation of all people in various sports institutions, including sports organizations and sports entrepreneurs can help strengthen the curriculum to suit the needs of the sports industry.

CONCLUSIONS

In conclusion, it seems that strengthening the academic structure, creating hardware, facilities, and educational space, changing the infrastructure for promoting professors and giving more weight to entrepreneurship, and giving more participation and communication between professors and students can help in developing educational programs and entrepreneurial goals. Slowly Professors are also one of the levers in this field, which helps to strengthen the teaching, increase the quality of teaching and applied education by creating courses to increase knowledge about entrepreneurship to help strengthen the entrepreneurial position in sports science. The results of learning entrepreneurship can be considered as feedback to improve or strengthen the curriculum; therefore, providing the necessary infrastructure and background to create an entrepreneurial university can teach students how to connect with industry, teach risk-taking, provide an atmosphere of failure and victory for students in the real world, and this means entrepreneurial university. It is developed in the world.

According to the research results, the following suggestions are presented:

- Since the university and its activities do not take place in a vacuum, as a result of inter-institutional coordination (universities and other industrial centers, sports and youth departments, sports boards, etc.) and having a systemic view on the implementation of contracts Cooperation with each other and proper supervision over it (for example, in the implementation of internships in practical and theoretical courses) can be effective in the effectiveness of activities and employment contracts.
- Curriculum review should be done based on the scientific and collective approaches of the country's academics and with the presence of activists in various sports institutions of the country, for which purpose, sports entrepreneurs in the sports industry and sports managers to help develop topics.

Equipping gyms, equipping laboratories and, in general, hardware approaches can have a great impact on promoting entrepreneurial education and learning. As a result, it is suggested that the required financial resources be provided to the faculties of sports sciences in various ways.

- Educating professors and staff with the concepts of information technology, start-up businesses and the application of entrepreneurial education techniques and its application through workshops and knowledge-enhancing approaches can help promote entrepreneurial education in universities. As a result, it is suggested that this training be given priority.

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