

# An applied approach of teaching entrepreneurship – “Mully Model of Applied Entrepreneurship Teaching”

## **Dr David Rempel**

Department of Business Administration and Economics

IUBH University of Applied Sciences

email: [d.rempel@iubh-dualesstudium.de](mailto:d.rempel@iubh-dualesstudium.de)

## **Dr Charles Mutua Mully**

Founder & CEO

Mully Children's Family

email: [mcf@mullychildrensfamily.org](mailto:mcf@mullychildrensfamily.org)

## **Abstract**

This paper stresses the importance of entrepreneurship education towards enhancing sustainable development in Kenya. The problems facing the country ranging from high rate of poverty, youth and graduate unemployment; overdependence on foreign goods and technology.

This paper therefore argues that entrepreneurship education will equip the students with the skills with which to not only be self-reliant, but to become wealth creators. The intervention level of entrepreneurship education has been at tertiary institutions and universities. This paper argues that attitudes and values are acquired at formative stage in life. Based on literature review of the models that have been used and yielded positive results, this paper proposes an innovative approach to the teaching of entrepreneurship education that is inclusive of pre-school, primary, secondary, tertiary and university levels. This paper explores the “Mully Model of Applied Entrepreneurship Teaching” as a case study, using interviews, surveys and reviewing relevant MCF data. The organization’s success factors within the Kenyan context are discussed.

The paper also recommended that educational programs at all levels of education should be made relevant to provide the youth the needed entrepreneurial skills. Further, it recommends that experiential learning methodologies be emphasized in the delivery of entrepreneurship education.

**Keywords:** entrepreneurship education, Training Approaches, Kenya, Mully Model of Applied Entrepreneurship Teaching

Universities, Entrepreneurship and Enterprise Development in Africa – Conference Proceedings 2018  
doi: [10.18418/978-3-96043-071-1\\_78](https://doi.org/10.18418/978-3-96043-071-1_78)

## 1.Introduction

The development of any country is determined by the economic production forces and the way these are organized, in most countries the development has depended a great deal on the private sector. Entrepreneurship has played a major role. According to Ogundele (2007), the promotion and development of entrepreneurial activities would aid the diversification and development in a country. Not only can entrepreneurship alleviate poverty, but according to Osuagwu (2002) entrepreneurial development should be perceived as a catalyst to increase economic growth and create job opportunities.

“The successful contribution of entrepreneurship to poverty alleviation and economic development ...depends on entrepreneurship training and orientation”, (Ogundele, Akingbade, Akinlabi (2012).

In Kenya and other African countries, poverty is often described as a socio-economic problem that affects growth development in a region. There are a number of initiatives across Kenya and Africa that are addressing this issue. One initiative is Mully Children’s Family, a local NGO, which among other things provides training, education and a home(s) for the some of the poorest most marginalized members (children and youth) of society. Over the last 26 years a model of applied Entrepreneurship Teaching has been developed and implemented resulting in over 6400 self-employed individuals and business owners, this model will be called “The Mully Model of Applied Entrepreneurship Teaching” in this study.

The goal of this study is to analyze the methods used for the entrepreneurial training as well as some of the factors that have led to the success of the “Mully Model of Entrepreneurial Teaching”.

Drucker (1985) states that entrepreneurship is perceptiveness to change and the entrepreneur is someone who is always searching for opportunities, is willing to adjust, responds to and exploits the given opportunities. He notes that entrepreneurship is practiced behavior and is a discipline that can be learned like any other. Kuratko and Hodgetts (2004) note that the simplest way of studying entrepreneurship is that entrepreneurs cause entrepreneurship.

Entrepreneurship is seen as a process which includes the effort of an individual (or individuals) in recognizing viable business opportunities and gathering and managing the resources needed to take advantage of those opportunities (Hill and McGowan, 1999).

According to Ogundele, Akingbade and Akinlabi, in their study based in Nigeria, “The successful contribution of entrepreneurship to poverty alleviation and economic development ...depends on entrepreneurship training and orientation” (2012). True entrepreneurship according to Ogundele (2000) “is the process of emergence behavior and performance of entrepreneur.” The authors of the study suggest that entrepreneurial education should be more closely looked at, as a long-term poverty alleviation method.

Entrepreneurship education takes place in a structure setting in which entrepreneurial competencies, “which refer to the concepts, skills and mental awareness used by individuals during the process of starting and developing their growth-oriented ventures” (Ogundele, Akingbade, Akinlabi, 2012).

There are several studies on the contribution of entrepreneurship to sustainable economic development, job creation, innovation and resource allocation, but there is little attention on effective entrepreneurship training and education on poverty alleviation, especially in Kenya. Most efforts to reduce poverty are not tailored towards entrepreneurship education and organization of training for the marginalized in society. The objective of this paper is therefore to examine the success of the “Mully Model of Entrepreneurial Education”, practiced at Mully Children’s Family, as well as identify the factors that have led to the success of the model.

The two hypotheses in focus are the following:

H1: The Mully Model of Entrepreneurship Education alleviates poverty and creates wealth

H2: The Actiotope Model is a model that explains the effectiveness of the Mully Model of Entrepreneurial Education

## **2. Conceptual Framework**

Entrepreneurship Education is a purposeful intervention by education in the lives of the learners to impact entrepreneurial qualities and skills to enable the learner to survive and thrive in the world of business (Ogundele, 2012). According to Alberti, Sciascia and Poli (2004) entrepreneurship education is defined as “the structured formal conveyance of entrepreneurship competencies which in turn refers to the concepts, skills and mental awareness used by individuals during the process of starting and developing their growth-oriented ventures”.

According to Mullins (2010) training is the process of purposely and systematically acquiring job related knowledge skill and attitude in order to effectively and efficiently perform tasks in an organization. These skills are the foundation of any entrepreneurial education. However, there are additional skills needed for the entrepreneur.

The skills required by the entrepreneur can be classified as follows:

- i. Technical skills
- ii. Business Management
- iii. Personal entrepreneurial skills

Technical skills include: Technical know-how in the field of expertise, writing, listening, oral presentation, organizing, coaching and being a team player. Business management skills involve areas involved in starting, developing and managing an enterprise. The personal entrepreneurial skills are those that separate the entrepreneur from a manager, these include risk-taking, being innovative, being change-oriented, being persistent and being a visionary leader among others.

Understanding that Entrepreneurial Education is the conveyance of specific competencies, behaviors and talents, a model of effective education and talent development, the "Actiotope Model" by Ziegler will be explored as an explanation of the high effectiveness of the Mully Model of Entrepreneurial Education.

For the purposes of this study, it is important to understand the definition of the poverty used, when discussing the origins of the beneficiaries of the NGO Mully Childrens Family, who have graduated from the MCF programs and started their own businesses and entrepreneurial ventures. The beneficiaries of this program all come from absolute poverty backgrounds; absolute poverty according to Miller (1968), Wedderburn (1974), Plotnick and Skidmore (1983), World Bank (1996) refers to individuals, families or groups who lack the resources to obtain the types of diets needed to enjoy some fixed minimum standard of living determined by a given society. They are excluded from ordinary living patterns, customs and activities.

### **3. Literature Review**

Wiklund and Shepherd (2003), Luthje and Frank (2002), Charney and Liecap (2000) all confer that a positive correlation exists between education and business creation. Timmons and Spinelli (2004) and others agree that entrepreneurship can be learnt and would make a positive contribution to improving the entrepreneurial orientation of people. According to Wiklund (1999), entrepreneurial orientation consists of two components: 1. Action orientation which results in entrepreneurial behavior and 2. Mental orientation or way of thinking.

Previous studies suggest that identifying and supporting potential entrepreneurs throughout their training and the educational process could produce many long-term economic benefits (McClelland & Winter, 1969; Hatten & Ruhland, 1995 & Hansemark, 1998). A system that supports ventures based on entrepreneurship education designed to stimulate and facilitate entrepreneurial activities, would most likely result in a lower unemployment rate, increased establishment of businesses, and fewer failures of existing businesses. Entrepreneurship education can also be an important strategy to foster job creation (McMullan, Long, & Graham, 1987). Effective youth entrepreneurship education prepares young people to be responsible, enterprising individuals who become entrepreneurs or entrepreneurial thinkers and contribute to economic development and sustainable communities (Consortium for Entrepreneurship Education).

In spite of the above findings, there are indications that the formal education system is not particularly supportive of entrepreneurship and possibly suppresses entrepreneurial characteristics (Chamard, 1989). Although not in the Kenyan context, Kourilsky (1990) found that 25% of kindergartners demonstrate important entrepreneurial characteristics (need for achievement and risk taking) compared to 3% of high school students, these findings could most likely be transferred to the Kenyan context. Almost 30 years ago, Singh (1990) concluded that traditional pedagogy should be reoriented to emphasize and value entrepreneurship in order to cultivate an enterprise culture. Kourilsky and Walstad (1998) suggested that stimulating entrepreneurial attitudes through educational experiences and exposure at the pre-collegiate level could encourage entrepreneurship as a career choice.

Stumpf, Dunbar, and Mullen (1991) also argued for the benefits of behavioral simulations in teaching entrepreneurship. The need for entrepreneurship education to include skill-building components such as negotiation, leadership and creative thinking, exposure to technological innovation and new product development were proposed by McMullan and Long (1987).

Entrepreneurship programs need to also teach skills in detecting and exploiting business opportunities and incorporate detailed and long-term business planning (Vesper & McMullan, 1988). The concept of transition stages of entrepreneurship education suggesting programs geared toward creativity, multi-disciplinary and process-oriented approaches, and theory-based practical applications was introduced by Plaschka and Welsch (1990).

In the entrepreneurship literature, there is some degree of consensus about a number of psychological attributes as predictors of entrepreneurial behavior. According to Kourilsky (1980) the following are the most relevant: need for achievement; creativity and initiative; risk-taking and setting objectives; self-confidence and internal locus of control; need for independence and autonomy; motivation, energy and commitment; and persistence.

A model to explain the effective development of entrepreneurial skills, traits and ... is the Actiotope Model by Ziegler. Although this model has been tested and used to specifically explain giftedness development, it will be explored in this study as a model to also explain successful development of entrepreneurial skills and traits, and to explain the Mully Children's Family success rates of fostering high percentages of graduates who become self employed, start business and additionally create jobs for others.

### **3.1 An overview of the Actiotope Model of Giftedness**

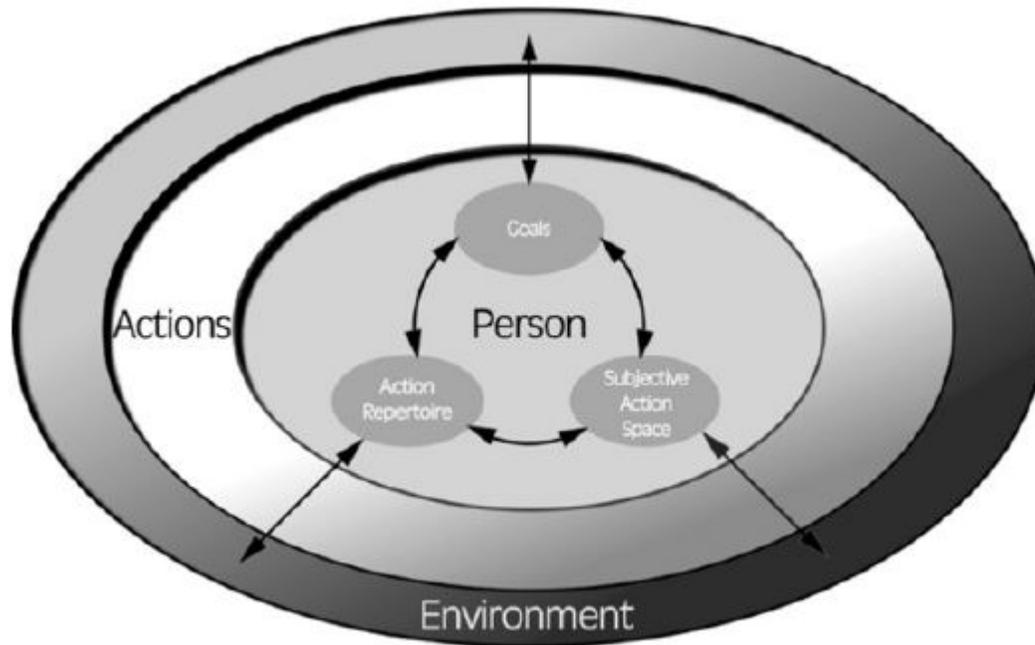
As defined by Ziegler, Vialle, and Wimmer (2013): an actiotope includes an individual and the material, social and informational environment with which that individual actively interacts.

This systemic model focuses on goal-directed actions that lead toward skill development. When extraordinary achievements are reached through talent development it is regarded as intelligent adaption to the environmental stimuli (Ziegler, 2005). There are three perspectives on actiotopes to be distinguished in the model: The component perspective, the dynamic perspective, and the systemic perspective (Ziegler et al., 2013).

### 3.1.1 The Component Perspective

There are four components that can be conceptually distinguished in an actiotope (Ziegler, 2005).

Figure 5: The four components of an Actiotope (Vladut et al. 2013)



1. Each person has a unique repertoire (see figure 1).

This is made up of all the actions a person is able to perform. During development and socialization, action repertoires expand considerably, increasing the capacity of an individual to interact effectively with his or her environment. The development of excellence can be viewed as the development of an effective action repertoire that enables a person to meet the challenges of a domain such as mathematics, soccer or sculpture (Vladut et al., 2013).

2. The individual's goals make up the second component.

3. The environment in which the person interacts.

4. The final component is the subjective action space.

This is the mental space that produces action possibilities, which combine the other three components. Actions are selected from the action repertoire that could lead to a particular goal (Vladut et al, 2013). An underlying assumption is that achievement and expertise levels are reflected in the differences in the actiotope components. Actiotopes are in a constant process of adaptation to changing inner states and changing environments (Ziegler & Stoeger, 2008;

Ziegler et al., 2014). To come to terms with these changes and use them effectively, Ziegler (2005) proposed the following five dynamic functions;

1. Individuals must be able to act in different ways in order to expand their action repertoire.
2. They must also be able to assess the correctness of an action, that is, whether the desired goal has been attained as a result of executing an action (or sequence of actions).
3. Individuals need to be able to recognize if they can apply certain actions in a specific situation (applicability).
4. The interactions of individuals in their setting must be anticipative, that is, individuals must build up effective action repertoires not only as a response to past events, but also in order to deal with novel challenges (Vladut et al, 2013).
5. Individuals need useful and effective feedback from the environment they are in. This function requires access to ordered sequences of actions and information regarding their correctness. Examples are feedback loops like the TOTE strategy (Test-Operate-Test-Exit; see Miller, Galanter, & Pribram, 1960) or cycles of self-regulated learning (Stoeger, Sontag, & Ziegler, 2014).

### **3.1.2. The Systemic Perspective**

Although, as Ziegler and Baker state, actiotopes as systems are usually quite stable, but the development of excellence is an extreme process of adapting to an actiotope which must undergo a number of significant changes (Ziegler & Baker, 2013). To do this the adaptation needs more resources than are available in the actiotope. Hence new resources have to be continually introduced in order to ensure the actiotope's modifiability while maintaining its stability.

### **3.1.3. Learning Resources in the Actiotope: Educational and Learning Capital**

As Vladut et al, (2013) state, like the Actiotope Model of Giftedness, educational implementation of system approaches focus on the provision, optimization and effective use of resources. There are two kinds of resources, namely "Educational Capital" and Learning Capital" (Ziegler and Baker, 2013).

Educational capital is in the environmental component of the actiotope and thus includes all exogenous resources that can be used to foster a person's learning progress in a domain. Learning capital is in the person component of the actiotope and thus encompasses all endogenous resources that can be used to foster a person's learning progress in a domain (Vladut et al, 2013). Educational capital and learning capital are concepts that are relational. Different actiotopes may be rich in resources on one field helping to attain extraordinary achievements in specific areas, but not in others.

Table 1, adapted from Vladut et al, (2013) gives an overview of the five forms of Educational Capital and the five forms of Learning Capital, (as discussed previously) as well as examples which illustrate their significance for learning. In the "Learning resources within the Actiotope:

*Table 17: Definitions and Illustrations of the five forms of educational capital and the five forms of learning capital*

Type of capital	Definition <sup>3</sup>	Illustration
<b>Educational Capital</b>		
Economic educational capital	Economic educational capital is every kind of wealth, possession, money or valuables that can be invested in the initiation and maintenance of educational and learning processes. (p. 27)	The socio-economic status of a family strongly influences their children's academic success (Hanushek & Kimko, 2000; Lynn & Vanhanen, 2002; Rindermann, Sailer, & Thompson, 2009).
Cultural educational capital	Cultural educational capital includes value systems, thinking patterns, models and the like, which can facilitate - or hinder - the attainment of learning and educational goals. (p27)	In East Asian countries learning and education are more highly valued than in Western countries. This reflects in students' recent achievements (Phillipson, Stoeger, & Ziegler, 2013).
Social educational capital	Social educational capital includes all persons and social institutions that can directly or indirectly contribute to the success of learning and educational processes. (p. 28)	In many studies, a mentor has been shown to be of utmost importance for the development of excellence (Bloom, 1985a, 1985b).
Infrastructural educational capital	Infrastructural educational capital relates to materially implemented possibilities for action that permit learning and education to take place. (p. 28)	Educational toys, libraries or resource rooms at school.
Didactic educational capital	Didactic educational capital means the assembled know-how involved in the design and improvement of educational and learning processes. (p. 29)	Training based on superior didactic know-how can easily yield improved effect sizes of at least half a standard deviation (e.g. Lipsey & Wilson, 1993).
<sup>3</sup> The definition are quotes from Ziegler and Baker (2013)		
Type of capital	Definition	Illustration
<b>Learning Capital</b>		
Organismic learning capital	Organismic learning capital consists of the physiological and constitutional resources of a person. (p. 29)	Physical fitness is an important precondition, not only for physical activities and sports, but also for cognitive activities (Bellisle, 2004; Gottfredson, 2004).

Actional learning capital	Actional learning capital means the action repertoire of a person - the totality of actions they are capable of performing. (p. 30)	Elementary school students extend their action repertoire gradually and systematically by learning the basic arithmetical operations from initial simple mental counting processes prior to written calculations.
Telic learning capital	Telic learning capital comprises the totality of a person's anticipated goal states that offer possibilities for satisfying their needs. (p. 30)	Students who are alienated from school have very few or even no goals regarding their academic performance.
Episodic learning capital	Episodic learning capital concerns the simultaneous goal- and situation-relevant action patterns that are accessible to a person. (p. 31)	For example, a person who is skilled in a certain language is theoretically capable of saying any sentence in that language. But this does not guarantee, that this person will say the right thing, at the right time, in the right situation.
Attentional learning capital	Attentional learning capital denotes the quantitative and qualitative attentional resources that a person can apply to learning. (p. 31)	From a quantitative perspective, leisure activities can detract from the available time for learning (e.g. chatting, playing PC games, watching television), while anxieties can impair the quality of attention while learning.

#### 4. Methodology

Firstly, this research analyses how many graduates from the Mully Children Family Programs, i.e. Vocational Training and Schools, High School Graduates, (some of which pursued Higher Secondary Schools through scholarships graduating with University degrees) became self-employed, started their own enterprises and showed entrepreneurial ventures.

Since Mully Children's Family keeps records of their beneficiaries, at least those adults who keep in contact with MCF, the method was to look at MCF documentation records upto August 2019, analyzing all those who started enterprises where individuals are self-employed, or which have created employment for others.

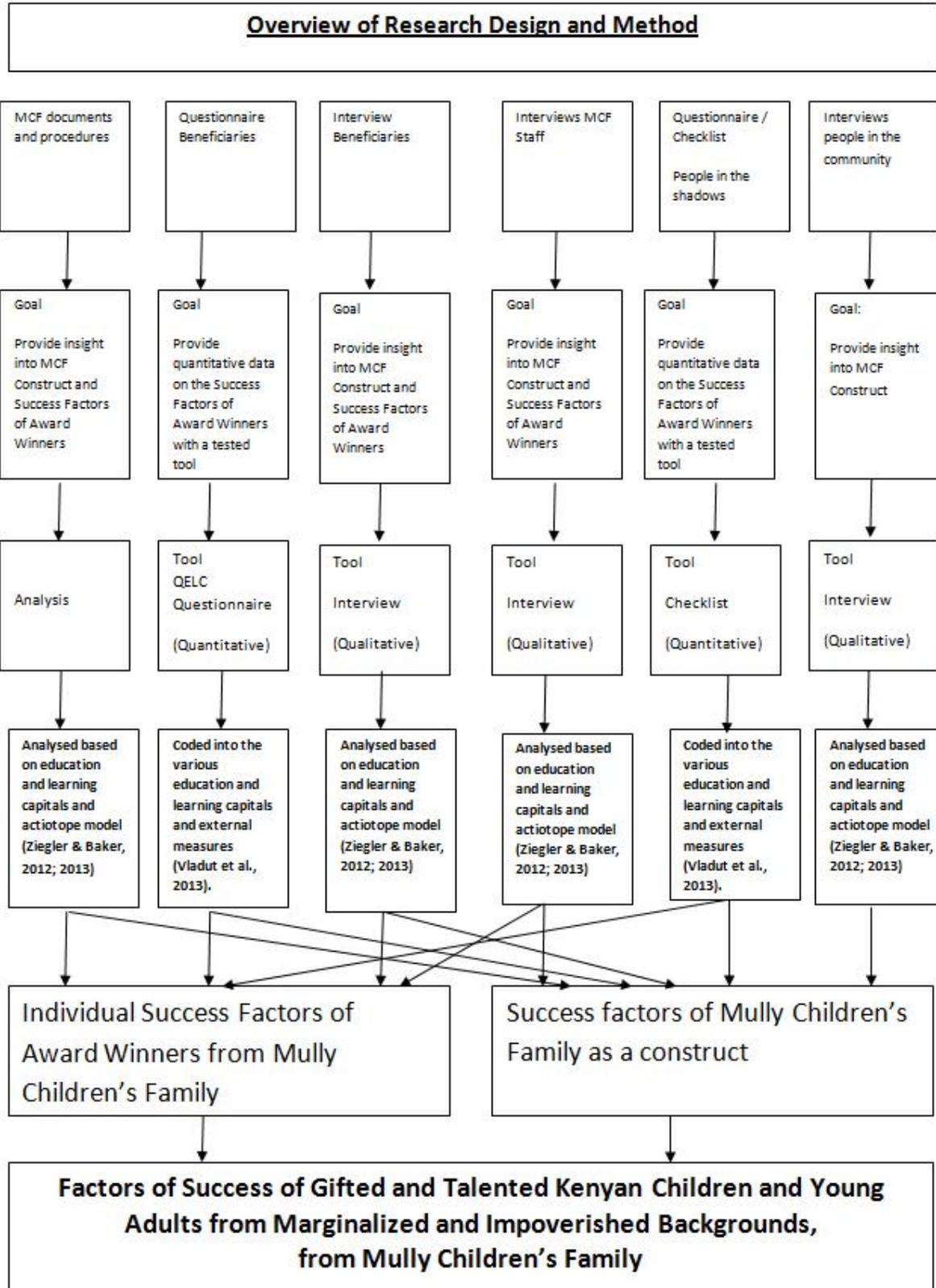
Secondly the high percentage and numbers those MCF beneficiaries especially those with vocational education, where the impact of MCF has a more direct impact on the direct development of entrepreneurial activities, since they start right out of the MCF schools posed the question, what in the NGO, Mully Children's Family produces such high entrepreneurial activities and willingness to start their own businesses?

The “Actiotope Model” by Ziegler is explored as a potential explanation, based on the research on Mully Children’s Family (Rempel, 2017).

The research done on analyzing MCF’s fit with Ziegler’s Actiotope Model was carried out extensively (Rempel, 2017) with a mixed method approach. This included six elements: 1. A close analysis of the MCF procedures and documents 2. An in depth questionnaire of based on the QELC (Vladut et al, 2013). 3. Interviews of MCF Beneficiaries, 4. Interviews with MCF Staff, 5. Questionnaire Checklist based on a verified tool (Vladut et al, 2013) with people from within MCF chosen by award winners and high achievers as having a high impact in their lives, 6. Interviews with people in the community around the MCF locations.

A brief overview of the methods used in “Factors of Success of Gifted and Talented Kenyan Children and Young Adults from Marginalized and Impoverished Backgrounds, from Mully Children’s Family” can be seen in the following image.

Figure 6



## 5. Findings

Of all the beneficiaries that have completed one of the MCF programs which include vocational training, high school and college or university education almost 46% have started their own enterprise, which equates to 6046 of 13200 beneficiaries.

These numbers have been separated again into various categories from level of education and numbers of jobs created.

The findings were put into two main categories; 1. University and Middle-College graduates, who received their post-secondary training outside of MCF and 2. Trades-Trained Entrepreneurs, who all received all of their training and education at MCF:

### 5.1.a. University and College Graduates

The findings reveal that of those receiving University Education and Middle College Education 20% and 12% respectively have started their own enterprise. Which in the Kenyan context, is not surprising since as Kinyanjui states in her study;

University graduates ... in Kenya are providing vast entrepreneurial spirit. ...graduates are fueling economic growth in rural central Kenya as they are setting up small businesses in manufacturing, retail trade and services. In addition, they are running businesses professionally and are self-motivated. They have a knack of taking calculated risks besides having a vision for their businesses. As they pursue their dreams, they are creating employment and contributing to poverty alleviation in the region. The graduates are providing impressive dynamism and business sense in terms of product diversity and production processes (p. 102, 2010).

Although the numbers and percentages of those graduating from University and middle Colleges could be impressive in most contexts, especially from the perspective of a developed economy, from a developing economy such as Kenya's economy it becomes astounding when one understands that all these graduates were originally severely marginalized members of the Kenyan society.

Furthermore, when one realizes that the 265 former MCF beneficiaries with college or university education have created over 540 jobs, in total creating work for more than 800 people in total. The impact on the economy and potential poverty alleviation could be extrapolated.

Table 18: Total Number of Graduates from MCF is 13200

<b>Number of University and College Graduate Entrepreneurs of former MCF Beneficiaries since inception</b>								
Education Level	% of total		Employees 1-5	Employees 6-10	Empl. 11-20	Empl 20+	Location (Kenya)	Location (Abroad)
<b>University</b>	4 % (528)	20% (107) Self-employed	80%	13%	5%	2%	95%	5%
		70% Employed					85%	15%
<b>Middle College</b>	10 % (1320)	12 % (158) Self-Employed	91 %	8%	1%	0	97%	3%
		80% Employed					99%	1%

### 5.1.b. Trades Traded Entrepreneurs

The findings reveal that those receiving Trades-training and education, which is completely carried out at one of the MCF Vocational Schools, has an even greater impact on starting a business and taking up entrepreneurial activities. The entrepreneurial activities are split into four groups based on the trades learned at MCF; 1. Carpentry and Joinery, 2. Tailoring Business, 3. Hairdressing and Beauty, 4. Welding and Fabrication, with between 69% to 93% of the graduates starting their own businesses, (as can be seen in the following table). These 5781 graduates have not only started their own enterprises but have created jobs for over 11 000 employees, creating work for almost 17000.

As Otuyas, Kibas and Otuya emphasize in their paper on teaching entrepreneurship in Kenya, "... The overall contributions of entrepreneurship education to creation of entrepreneurial qualities among the youth cannot be overemphasized", They further state that it is vital for the youth in Kenya to see entrepreneurship as a contributor to the economy and as a relevant occupational choice (p213,2013).

The comparison of the two groups reveals that the group of those who learned trades within MCF were more readily willing to pursue their own enterprise than those who visited post-secondary education institutions outside of MCF.

To explain the success of those who have started their own businesses, with large numbers coming from MCF vocational schools, the Actiotope Model as applied to MCF (Rempel, 2017) is explored as a model that would explain the high ratio of entrepreneurship from beneficiaries coming from Mully Children's Family.

Table 19: Number of Trades-Trained Entrepreneurs of former MCF Beneficiaries since inception

Trade	% of total		Employees 1-5	Employees 6-10	Empl. 11-20	Location (Kenya)
<b>Carpentry and Joinery</b>	17 % (2240)	70% (1568) Self-employed	95%	4%	1%	100%
		28% Employed				100%
<b>Tailoring Business</b>	24 % (3168)	69 % (760) Self-Employed	97 %	3%	0%	100%
		25% Employed				100%
<b>Hairdressing &amp; Beauty</b>	20% (2640)	75% (1980)	98%	2%	0%	100%
		Employed 15%				100%
<b>Welding &amp; Fabrication</b>	12% (1584)	93% (1473) Self-Employed	97%	3%	0	100%
		Employed 4%				100%

### 5.1.2. Findings of Actiotope Model to Explain Successful Entrepreneurial Training

The beneficiaries, who are the focus of this study, have grown up and been taught in an entrepreneurial environment. The CEO and founder of the Mully Children’s Family has built up a group of companies which generate income for the foundation and supply food for the over 3400 children in the care of the foundation.

At present there are 10 companies within the Mully Children’s Family. As can be seen in the brief overview in the table below.

The outer circle, or component of the actiotope at MCF is not only an environment where learners can effectively interact, (Rempel, 2017), but is an environment where entrepreneurial ventures are used to solve issues that arise when one wants to supply the needs of a growing number of marginalized beneficiaries.

The older beneficiaries who were the first graduates of the program, witnessed how Dr Charles Mully started one venture after another to meet the growing needs of the organization. The younger beneficiaries have been able to witness how the existing ventures have been expanding over the years, and how new ones have been added.

This then led to offer those learning trades to be able to walk out of the classroom and see how various skills are applied in the real world, within the MCF environment.

Members of the MCF management are regularly brought into the vocational training settings to explain how entrepreneurial skills are required within the business setting, as well as show how they are applied when MCF products are sold on the market outside of MCF.

With the founder Dr Charles Mully, being an entrepreneur, who models the traits needed to be able to effectively venture into entrepreneurship, the students and learners are not only taught the skill sets and the benefits of entrepreneurship but witness it and are encouraged to start their own business, as well as have a role model who regularly talks with the beneficiaries.

*Table 20: MCF Entrepreneurial Ventures*

<b>Business Venture</b>	<b>Permanent Staff</b>	<b>Temporary Staff</b>
<b>MCF Farms Produce</b>	<b>60</b>	<b>300</b>
<b>MCF Farms Poultry</b>	<b>12</b>	<b>4</b>
<b>MCF Farms Livestock</b>	<b>10</b>	<b>6</b>
<b>MCF Farms Fisheries</b>	<b>4</b>	<b>2</b>
<b>MCF Tree Farm</b>	<b>25</b>	<b>72</b>
<b>MCF Tailoring Business</b>	<b>12</b>	<b>40</b>
<b>MCF Metal Work Fabrication</b>	<b>20</b>	<b>20</b>
<b>MCF Woodwork</b>	<b>25</b>	<b>20</b>
<b>MCF Consulting &amp; Support Services</b>	<b>30</b>	<b>0</b>
<b>MCF Hospitality</b>	<b>7</b>	<b>12</b>
<b>TOTALS</b>	<b>205</b>	<b>476</b>

Not only do MCF beneficiaries have an environment of entrepreneurship around them and a number of entrepreneurial models but they also are provided with intentionally planned educational capital, including all five types of educational capital: 1. Economic Educational Capital, 2. Infrastructure Educational capital, 3. Cultural Educational Capital, 4. Social Educational Capital and 5. Didactic Educational Capital as discussed in Ziegler & Baker (2013), (Rempel, 2017).

The education capital must however, also be combined with the person within the actiotope and the learning capital must be accessed to be able to produce and develop the required development, in this case, entrepreneurial development.

Since “learning capital is located in the person component of the actiotope and thus encompasses all endogenous resources that can be used to foster a person’s learning progress in a domain” (Ziegler & Baker, 2013. p43) the effect of any construct or system, such as MCF, is limited to the suggestions and environment created to make it easier for an individual to develop and use the learning capital intrinsic to each person. The impact of the learning capital is dependent on the development and use of each individual.

A successful actiotope includes the various aspects of Learning Capital which encompass all endogenous resources used in a person’s learning process. It is vital to observe the environment of MCF which makes it easier for the entrepreneur to develop and use the learning capital intrinsic to each person as well what the entrepreneurs have used to increase their learning capitals (Rempel, 2017).

The development of excellence is described as “an adaptation during which a functional action repertoire for specific talent domains is built up” (Ziegler & Baker, 2013. p13). This is not an automatic process but requires the interplay of both homeostatic and allostatic regulations, or as educational and capital and learning capital. The modification of the actiotope happens via regulations in an ongoing manner in the direction of excellence (Ziegler, Fidelman, Reutlinger, Vialle & Stoeger, 2010). At some point, however, most people will cease with their learning and seldom fully challenge all the individual development possibilities. It is at such points that intervention from educators could assist. The task of this intervention is to help with the adaptation of the actiotope towards excellence with measures that support regulations (Ziegler & Baker, 2012).

In the context of this study, it is suggested that the term “development of excellence” could be augmented to include “development of entrepreneurial excellence”.

The skill-sets needed to graduate from the various MCF Schools are continually expanded, starting with the basic skills and training needed for the profession being learned, then the learners are also challenged to expand their repertoire to include entrepreneurial thinking.

It is at this point that interventions by educators and management of MCF are made to come with additional entrepreneurial challenges that go beyond the skillsets needed for the specific professions. For those who wish to pursue a future in entrepreneurship, the regulations needed, take place within MCF in various settings.

According to Ziegler & Baker, to be able to identify talent and promote excellence observation should extend over longer periods than traditionally practiced, since getting to excellence individual learning pathways that lead to the attainment of success may be required. The full potential of excellence may only be recognized when the supply of

endogenous and exogenous resources is present over the entire pathway in sufficient amounts. Without these the development of excellence is extremely difficult if not impossible (2013) (Rempel, 2017). To fulfill this need to observe and intervene at appropriate times, those showing entrepreneurial potential have the opportunity to spend additional periods of time, after their official schooling, within the MCF system practicing their learned skills, are given entrepreneurial opportunities and are coached in the process.

Once the individual has reached a sufficient level of competency, to enter his/her own enterprise, this is done with the help of supervisions and coaching.

According to Rempel (2017) on MCF, the organization readily supports beneficiaries to effectively interact with a conducive environment to achieve high levels of success. Research shows that to achieve high success levels the following main factors must come into play:

1. Individuals must be able to act in different ways in order to expand their action repertoire.
2. They must also be able to assess the correctness of an action, that is, whether the desired goal has been attained as a result of executing an action (or sequence of actions).
3. Individuals need to be able to recognize if they can apply certain actions in a specific situation (applicability).
4. The interactions of individuals in their setting must be anticipative, that is, individuals must build up effective action repertoires not only as a response to past events, but also in order to deal with novel challenges (Vladut et al, 2013).
5. Individuals need useful and effective feedback from the environment they are in. This function requires access to ordered sequences of actions and information regarding their correctness. Examples are feedback loops like the TOTE strategy (Test-Operate-Test-Exit; see Miller, Galanter, & Pribram, 1960) or cycles of self-regulated learning (Stoeger, Sontag, & Ziegler, 2014).

MCF has created an environment in which the above is fostered, in which entrepreneurship is lived, more specifically social entrepreneurship and entrepreneurship is viewed as one of the ways to solve problems that arise. This is modeled by not only the founders of MCF, Dr Charles Mulli and Mrs Esther Mulli, but in the management of MFC as well.

## **6. Conclusions**

The Mulli Model of Entrepreneurial Education has successfully assisted over 6400 MCF beneficiaries start enterprises creating almost 18000 places of employment. Although one cannot state that these enterprises are excellent, but one can recognize the economic and social impact of these enterprises and how they alleviate poverty in providing employment. How over 6400 individuals can move from extreme marginalization within the Kenyan society to become business owners and entrepreneurs can be explained systemically.

The actiotope model provides an explanation of how to describe why the Mully Model of Entrepreneurship Education is effective.

## **7. Limitations**

The gathering of the information was based on the documentation of Mully Children's Family. The number of employees of each founded enterprise is based in the information provided by the former MCF beneficiaries.

The Mully Model of Entrepreneurship Education is at the time of the writing of this article, still in oral form and although practiced, not written down and documented, so there is no guarantee that the elements developed by the founder, are being implemented equally throughout the growing organization.

## **8. Recommendations**

1. The complexity of the Mully Children's Family, and the Mully Model of Entrepreneurship Education must be further studied to get a deeper understanding of what factors have the greatest impact. This model could be readily applied within the context of institutions that also have a strong focus on entrepreneurship, however, further study is needed to be able to understand which aspects could be applied in a larger context, where the individuals do not live on compounds with very similar environments.
2. The economic impact of the entrepreneurs and business owners who have graduated from various MCF programs needs to be explored and compared to the investment put into their development.
3. The Mully Model of Entrepreneurship Education needs to be documented for effective analysis.
4. The Mully Model of Entrepreneurship Education could become one effective of an indigenous, Kenyan, African-developed model of not only long-term poverty-alleviation, but indigenous job and wealth creation.

## **References**

- Alberti, F., Sciscia, S. and Poli, A. (2004) Entrepreneurship Education; Notes on an ongoing debate. Proceedings of the 14<sup>th</sup> Annual International Entrepreneur Conference, University of Napoli Federico 11, Italy, 4 - 7 July.
- Chamard, J. (1989). Public Education: Its effect on entrepreneurial characteristics, *Journal of Small Business and Entrepreneurship*, 6 (2), pp. 23-30.
- Charney, A. & Libecap, D.B. (2000). The Impact of Entrepreneurship Education: An Evaluation of the Berger Entrepreneurship Program at the University of Arizona, 1985-1999. Kansas City, MI: The Kauffman Center for Entrepreneurial Leadership.
- Drucker, P.F. (1985). *Innovation and entrepreneurship*. New York: Harper & Row Publishers.
- Hansemark, O. (1998). The effects of an entrepreneurship programme on need for achievement and locus of control of reinforcement. *International Journal of Entrepreneurship Behaviour and Research*, 4 (1), pp. 28-50.
- Hatten, T. & Ruhland (1995). Student attitudes toward entrepreneurship as affected by participation in an SBI program. *Journal of Education for Business*, 7 (4), pp. 224-227. 18.

- Henry C., Hill, F., & Leitch C. (2005). Entrepreneurship education and training: Can entrepreneurship be taught? Part I. *Education & Training*, 47 (2/3), pp. 98-112.
- Holmgren, C., From, J., Olofsson, A., Karlsson, H., Snyder, K., & Sundtröm, U. (2004). Entrepreneurship education: Salvation or damnation? *International Journal of Entrepreneurship*, 8, pp. 55-71.
- Kinyanjui, M. N. (2010). New drivers of rural economies: University graduates in business formation in central province, Kenya. *International Journal of Vocational and Technical Education*, 2 (6), pp. 102-108.
- Kourilsky, M.L. (1980). Predictors of entrepreneurship in a simulated economy. *The Journal of Creative Behavior*, 14 (3), 175-199.
- Kourilsky, M.L., & Walstad, W. B. (1998). Entrepreneurship and female youth: Knowledge, attitudes, gender differences, and educational practices. *Journal of Business Venturing*, 13 (1), pp.77-88.
- Kuratko, D.F., & Hodgetts, R.M. (2004). *Entrepreneurship: Theory, process and practice* (6th edition). Mason, OH: Thomson/ South Western Publishing.
- Landström, H., & Sexton, D. (2000). Introduction. In H. Landström & D.L. Sexton (Eds.), *Handbook of entrepreneurship*. Oxford: Blackwell Publishers, xix-xxiv.
- Lüthje, C. & Frank, N. (2002). Fostering Entrepreneurship through University Education and Training: Lessons from Massachusetts Institute of Technology. Proceedings of the European Academy of Management, Stockholm, Sweden. 9-11 May.
- McClelland, D. C. & Winter, D.G. (1969), *Motivating Economic Achievement*. New York: the Free Press.
- McMullan, W.E., Long, W.A., & Graham, J.B. (1986). Entrepreneurship education in the nineties. *Journal of Business Venturing*, 2 (3), pp. 261-275.
- Miller, R. (1968). *Poverty: Changing Social Stratification*, in Townsend P., *The Concept of Poverty*, Heinemann, London, UK.
- Mullins, L.J (2010) *Management and Organizational Behaviour*, Ninth ed, London:Pearson Education Ltd.
- Ogboru, I and Abiniku, A. C (2011) *The Impact of corruption on poverty reduction efforts in Nigeria*.
- Ogundele, O. J. K., Akingbade, W. A., & Akinlabi, H. B. (2012). Entrepreneurship training and education as strategic tools for poverty alleviation in Nigeria. *American International Journal of Contemporary Research*, 2 (1), 148-156.
- Ogundele, O.J.K (2000) *Determinant of entrepreneurial emergence, behaviour and performance in Nigeria*, Unpublished Doctorial Dissertation; Nigeria: University of Lagos.
- Ogundele, O.J.K. (2007). *Introduction to Entrepreneurship Development, Corporate Governance, and Small Business Management*. Lagos: Molofin Nominees.
- Osuagwu, L (2002) *Entrepreneurship in a Developing Economy; Empirical evidence from Nigeria Business Organizations; International Journal of Entrepreneurship*, Vol.6, pp. 19-32.
- Otuya, R., Kibas, P., & Otuya, J. (2013). A proposed approach for teaching entrepreneurship education in Kenya. *commitment*, 4 (8).
- Plaschka, G.R. & Welsch, H.P. (1990). Emerging structures in entrepreneurship education: Curricular designs and strategies, *Entrepreneurship Theory and Practice*, 14 (3), pp. 55-71.

- Plotnick, R. and Skidmore, M. (1983). "The Redistributive Impact of Cash Transfers, Net of Their Labor Supply Impacts." *Public Finance Quarterly*.
- Rempel, D. (2017). Factors of Success of Gifted and Talented Kenyan Children and Young Adults from Marginalized and Impoverished Backgrounds, from Mully Children's Family.
- Singh, J.B. (1990). Entrepreneurship education as a catalyst of development in the third world, *Journal of Small Business and Entrepreneurship*, 7 (4), pp. 56-63.
- Stoeger, H., Sontag, C., & Ziegler, A. (2014). Impact of a teacher-led intervention on preference for self-regulated learning, finding main ideas in expository texts, and reading comprehension. *Journal of Educational Psychology*, 106 (3), 799.
- Stumpf, S.S. Dunbar, R.L., and Mullen, T.P. (1991). Simulations in entrepreneurship education: Oxymoron or untapped opportunity?, *Frontiers in Entrepreneurship Research*, pp. 681-694.
- Timmons, J.A. & Spinelli, S (2004). *New Venture Creation: Entrepreneurship for the 21<sup>st</sup> Century*. Boston: McGraw Hill Irwin.
- Vladut, A., Liu, Q., Leana-Tascila, M. Z., Vialle, W., & Ziegler, A. (2013). A cross-cultural validation study of the Questionnaire of Educational and Learning Capital (QELC) in China, Germany and Turkey.
- Walstad, W. & Kourilsky, M.L. (1998), Entrepreneurial Attitudes and knowledge of black youth, *Entrepreneurship Theory & Practice*, 23 (2), pp. 5-18.
- Wedderburn, D. (1974) „Poverty in Britain today: The evidence“, *Sociological Review* 10 (3), pp. 257–82.
- Wiklund J. and Shepherd D. (2003). "Knowledge-based Resources, Entrepreneurial Orientation, and the Performance of Small and Medium-sized Businesses," *Strategic Management Journal* 24, pp. 1307–1314.
- World Bank (1996) *Nigeria, Poverty in the midst of Plenty: The Challenge of Growth with Inclusion*, Washington, D.C.
- Ziegler, A. (2005). The actiotope model of giftedness. *Conceptions of giftedness*, 2, pp. 411-436.
- Ziegler, A., & Baker, J. (2012). Gifted education from a systemic perspective: The importance of educational capital and learning capital for the development of actiotopes. *Development of excellence in East-Asia: Explorations in the actiotope model of giftedness*. London, England: Routledge.
- Ziegler, A., & Baker, J. (2013). Talent development as adaptation: The role of educational and learning capital. *Exceptionality in East Asia: Explorations in the Actiotope model of giftedness*, pp. 18-39.
- Ziegler, A., Fidelman, M., Reutlinger, M., Vialle, W., & Stoeger, H. (2010). Implicit personality theories on the modifiability and stability of the action repertoire as a meaningful framework for individual motivation: a cross-cultural study. *High Ability Studies*, 21 (2), pp. 147-163.
- Ziegler, A., & Stoeger, H. (2008). A learning oriented subjective action space as an indicator of giftedness. *Psychology Science*, 50 (2), pp. 222.
- Ziegler, A., Stoeger, H., Balestrini, D., Phillipson, S. N., & Phillipson, S. (2014). Systemic gifted education. *The handbook of secondary gifted education*. Austin, TX: Prufrock.
- Ziegler, A., Vialle, W., & Wimmer, B. (2013). The Actiotope Model of Giftedness: A short introduction to some central theoretical assumptions.