Learning styles and team roles – Lessons for Gregorc based teams for effective enterprise development

Estilos de aprendizagem e funções de equipa – inferências para equipas "Gregoric" para um desenvolvimento empresarial efectivo

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Abstract
The need to develop robust and coherent models for effective entrepreneurial training and development has never been more relevant than in the contemporary economic and educational milieu. The demand for the promotion of enterprise and enterprise development calls on those entrusted with nurturing entrepreneurial talent to create fecund environments for students and participant is alike to promote sustainable enterprise development. Essential to achieving this are considerations of learning styles and the relationship of these to team roles in business start-up activities. This research exercise attempts to establish linkages between different learning styles with the allocation of roles and responsibilities in teams who have aspirations to create and explore business start-up opportunities, within an educational setting. The context will be explored and a proposed model will be developed with considerations to cost of effective teaching and learning for enterprise development. The model will be used to demonstrate how an integrated and effective learning environment can be created through the use of Gregorc considerations and how this paradigm can contribute to cost effective teaching and learning methodologies.

Resumo
A necessidade de desenvolver modelos robustos e coerentes para a formação e o desenvolvimento empresarial efectivo nunca foi mais relevante do que no actual contexto económico e educativo. A procura da promoção da empresa e do desenvolvimento empresarial requer, daqueles que são responsáveis pelo fomento de talento empresarial, a necessidade de criar ambientes fecundos, quer para estudantes e quer para participantes, tendentes à promoção de um desenvolvimento empresarial sustentado. Essencial para atingir este objectivo são pressupostos relativos a estilos de aprendizagem e a relação entre estes e as funções de equipa no início das actividades de negócio. Esta investigação pretende estabelecer ligações entre diferentes estilos de aprendizagem e a alocação de funções e responsabilidades em equipas com aspirações a criar e explorar oportunidades de início de negócios, dentro de um ambiente educacional. O contexto vai ser explorado e o modelo proposto vai ser desenvolvido tendo em consideração o custo de ensino e aprendizagem efectiva para o desenvolvimento empresarial. O modelo vai ser utilizado para demonstrar como um ambiente integrado e efectivo pode ser criado usando pressupostos de Gregorc e como este paradigma pode contribuir para a definição de metodologias de ensino e aprendizagem eficazes em termos económicos.

Keywords
Entrepreneurship training; learning styles; cost management; pedagogy; education.

Palavras-chave
Formaçãoempresarial; estilos de aprendizagem; gestão de custos; pedagogia; educação.

1. Learning styles and Team Roles – Lessons for Gregorc Based Teams for Effective Enterprise Development

"The nice thing about teamwork is that you always have others on your side."
*(*Margaret Carty*)*

Entrepreneurship education is receiving more focus as the contemporary economic environment continues to show limited recovery from the financial malaise of the past 5 years. This coupled to the recognition of the role of entrepreneurs and SMEs, as 'key generators of employment and income, and drivers of innovation and growth' (OECD: Centre for Entrepreneurship, SMEs and Local Development, 2009:6) is changing the role of entrepreneurship education across society. The OECD report continues and observes that in the European Union SMEs 'account for over 99% of all enterprises... given their importance in all economies, they are essential for the economic recovery' (ibid). For this reason the current global economic crisis has given much impetus to both the concept of entrepreneurship and the nature of entrepreneurship education.

The period up to 2007/08 saw entrepreneurship education as a burgeoning discipline in academia. In the current economic environment, with declining labour market absorption rates, entrepreneurship education has become both a national economic and education imperative. As early as 2000, in the USA Charney and Libecap observed that 'whereas 15 years ago only a handful of schools offered courses in entrepreneurship, today more than 1,500 colleges and universities offer some form of entrepreneurship training' (Charney and Libecap, 2000:1)

This paper does not aim to present an in-depth analysis of all aspects of entrepreneurship training, however, against the backdrop of role and importance of entrepreneurship it aims to offer some basic insights into the pedagogic debates associated with entrepreneurship education. Further, it attempts to build a foundation for a costing model for teaching entrepreneurship education developed around consideration of learning styles.

Fundamentally, the concept of effective enterprise education cannot be predicated on 'one size fits all', from both a pedagogic perspective and the implications for ineffective cost/benefit considerations. Firstly, we will address the general momentum supporting the global focus on entrepreneurship education and issues associated with entrepreneurship education, followed by a basic analysis of Gregorc learning styles and implications for teaching methodologies and finally possible implications for costing will be assessed and suggestions offered for further research.

The World Economic Forum, through its Global Education initiative, highlighted in 2007 the need to promote global awareness and action with regard to entrepreneurship education (WEF, 2009). In terms of this focus the WEF has as its aims (WEF, 2009:9):

1) Highlight and raise awareness of the importance of entrepreneurship education in spurring economic growth and achieving the Millennium Development Goals.
2) Consolidate existing knowledge and good practices in entrepreneurship education around the world to enable the development of innovative new tools, approaches and delivery methods.
3) Provide recommendations to governments, academia, the private sector and other actors on the development and delivery of effective education programmes for entrepreneurship.
4) Launch a process in which the recommendations can be discussed on the global, regional, national and local levels and implemented with the involvement of key stakeholders.

Developing and delivering effective pedagogic methodologies are therefore central to the global initiative emanating from the World Economic Forum. 'It is widely accepted that the future prosperity of post-industrial societies depends on the strength of their entrepreneurial culture' (Heeboll, 1997:171). If this culture is to be effectively developed and nurtured institutions, governments and third sector organisations must embrace coherent and integrated pedagogic philosophies.

The very nature of 'entrepreneurial' activity predicates innovation and application of practical skills. As such the question of whether entrepreneurs are born or bred becomes relevant. Lukovski (2011), states that it is difficult for entrepreneurs to demonstrate a homogeneous group of characteristics. Inner entrepreneurial characteristics are in the main determined by environmental factors and therefore entrepreneurs are a heterogeneous group. There are implications here for the role of the

entrepreneurship 'teacher' which has to be adapted within the context of taking the responsibility for nurturing and developing entrepreneurial talent. The 'teachers' become process facilitators whose responsibility is to structure the pedagogy in a coherent and thoughtful manner drawing resources for all possible sources and resources. In essence the teacher as 'entrepreneurial facilitator' must evolve beyond the teachers as the gate keeper or assessor of the merits or otherwise of ideas and their currency in terms of success or otherwise. Mullins and Komisar (2009) recount the history of PayPal which started life effectively as 'network security for networked devices' at a time when networked devices did not exist. It's not a leap of imagination to speculate how that idea would have been received in many enterprise education classroom and development centres.

Any student or emerging enterprise team or potential start up has aspirations which are often unrealistic and do not necessarily play to the strengths and weaknesses in a study group. This requires innovative and eclectic enterprise educational methodologies that aim to support these aspirations in a flexible and enabling manner. Therefore developing effective curricula and responding to these demands will create significant institutional strains and may also exposes the limitations of legacy institutional thinking, with concomitant insecurities, intransigence and other obstacles to rapid institutional change.

This presents a dual challenge for the entrepreneurial educator, which can be categorised as the need for:

> a) Effective, proactive and innovative curriculum development
> b) Organisational management and change

The theme of this paper is firmly focussed on the first, and aims to integrate an enterprise education strategy and curriculum development exercise predicated on recognising different learning styles and offer a model for cost consideration in delivery of effective training. The primary aim is to ensure that the teaching and learning environment is supportive for all different learning styles while meeting the start-up agenda. In terms of the second challenge, the proposed model aims to offer costing base lines in terms of minimum pedagogic investment for the highest possible return in terms of leaning outcomes.

The trajectory from initial business idea through research, planning and development to sustainability is a complex issue that does not easily lend itself to standard pedagogic approaches. In order to be effective the systems, processes, activities and other approaches must be as eclectic as possible, meeting the diverse needs of different learners and learning styles. Huang in discussion of entrepreneurship education observes 'the vested pedagogical effort in the programs needs to be empirically evaluated especially in the context of advanced learning technologies' (Huang, 2008:3).

Huang continues and identifies the key research questions for entrepreneurship education as (ibid):

- What are the pedagogical effects of entrepreneurship education?
- What are learners' entrepreneurial tendencies?
- What are the roles of learning styles?
- How can educators customize the learning environment?
- Can learning technologies help? How?

These are key questions that need to be asked when consideration is given to the design, development and delivery of an effective enterprise education programme. Every coherent and effective teaching and learning process starts with the end in mind, lesson plans carry learning outcomes, skill competencies development and similar learning objectives. These are invariably supported by a plethora of assessment criteria and other evaluative frameworks to offer a clear sense of the effectiveness of the teaching and learning and by extension the investment in education and training. In the case of entrepreneurship education many metrics lend themselves to be applied, i.e. How many new ideas developed, how many business started, etc. However, unlike standard evaluative metrics they are easily abused. For example, it is simple in most countries to register a business, the lack of suitable structures to ensure that unviable business are not registered often does not exist.

Consequently, if an effective entrepreneurship programme is to develop the outcomes of the teaching and learning exercise must be identified, these must be linked to the teaching and learning

methodologies and not be easily manipulated by external variables, such as simply registering a business.

Developing a suitable framework for assessing the outcomes expected from an entrepreneurship education process is important. The Quality Assurance Agency (QAA) in the United Kingdom indentifies   the outcomes of an effective entrepreneurship programme will have successful students exhibiting the following behaviours (QAA, 2012:13):

- the ability to seek out, be alert to, and identify opportunities (opportunity recognition)
- creative and innovative approaches (problem solving)
- the initiative to act on perceived opportunities while considering risk factors (taking action)
- independent responsibility for managing projects (managing autonomously)
- the ability to reflect and persevere in challenging environments in pursuit of achieving desired objectives or goals (personal awareness)
- use of social skills to build trust, relationships and networks and to communicate ideas and information (networking and communication)

In the case of entrepreneurial attributes (ibid), students should be able to:

- recognise and achieve goals and ambitions, especially in response to challenge (goals and ambitions)
- enhance self-confidence and belief through practice of enterprising skills and behaviours (self-confidence)
- demonstrate perseverance, resilience and determination to achieve goals, especially within challenging situations (perseverance)
- recognise that they are in control of their own destiny (internal locus of control) and use this understanding effectively within enterprising situations
- take action and learn both from actions and active experimentation (action orientation)
- innovate and offer creative solutions to challenging and complex problems (innovation and creativity)

While entrepreneurial skills (ibid), students should be able to:

- take creative and innovative approaches that are evidenced through multiple solutions and reflective processes (creativity and innovation)
- persuade others through informed opinion and negotiate support for ideas (persuasion and negotiation)
- manage a range of enterprise projects and situations appropriately, for example by proposing alternatives or taking a holistic approach (approach to management)
- evaluate issues and make decisions in situations of ambiguity, uncertainty and risk (decision making)
- use networking skills effectively, for example to build or validate ideas or to build support for ideas with potential colleagues or stakeholders (networking)
- recognise patterns and opportunities in complex situations and environments (opportunity recognition)

These behaviours, attributes and skills should inform the design of any entrepreneurship education process and act as a formative and summative assessment framing structure. With these outcomes as a goal for any programme the question of teaching and learning methodology arises. Central to effective entrepreneurship education is the need to assess the learning styles of the students and participants.

Assessing learning styles is kernel to an effective entrepreneurship education programme as it ensures that the diverse nature of entrepreneurship is captured in the training of entrepreneurs. Harris et al outline a number of learning styles (Harris et al, 2009: 8- 11):

- Myers Briggs
- Gagné's Theory of Learning Styles
- Kolb learning style inventory
- The Ned Herrmann Whole Brain Dominance Theory
- The Gregorc style delineator

Each of these styles has lessons for the entrepreneurship educator, however, Huang (op cit:6) argues that for the research questions that they have identified, Gregorc style delineator is sufficient. Accepting Huang and his colleagues perspective in this regard for the present purposes it can be easily demonstrated how the four mind qualities delineated by Gregorc can be used to develop an entrepreneurship education programme. The four are:

- Concrete
- Sequential
- Random
- Abstract

This gives rise to four frames of reference (Huang op cit: 7):

Frame of reference	CS (Concrete Sequential)	AS (Abstract Sequential)	AR (Abstract Random)	CR (Concrete Random)
Key words	Practical	Probable	Potential	Possible
World of reality	Concrete world of the physical senses	Abstract world of the intellect based upon concrete world	Abstract world of feeling and emotion	Concrete world of activity and abstract world of intuition
Ordering ability	Sequential step by step linear progression	Sequential and two dimensional tree like	Random web-like and multi-dimensional	Random three dimensional patterns
View of time	Discrete units of past, present, future	The present, historical past, and projected future	The moment time is artificial and restrictive	Now: total of the past, interactive present, and seed for the future
Thinking process	Instinctive, methodical, deliberate	Intellectual, logical, analytical, correlative	Emotional, psychic, perspective, critical	Intuitive, instinctive, impulsive, independent

Table 1

Incorporating these four frames of reference in an enterprise start up team would arguably lay the most solid foundation for creating and pursuing ideas. These points to the need to apply suitable initial pre-programme assessment structures for allocation to group work activities. Claxton and Murrell (1987) and Butler and Pinto-zipp (2006), Huang et al (op cit 8) generate the following table for effective educational methodologies to match the different learning styles (Butler and Pinto-zipp, 2006):

Frame of reference	CS (Concrete Sequential)	AS (Abstract Sequential)	AR (Abstract Random)	CR (Concrete Random)
Preference	Deriving, information through direct, hands-on experience. Touchable, concrete materials	Experimental, trial-and-error attitude, flashes of insight	Strong skills in working with written and verbal symbols. Grasp concepts and ideas vicariously	Receive information in an unstructured and like group discussions and multi-sensory experiences
Methods	Workbooks, demonstration teaching, programmed instruction, Well-organized field trips, practical orientation	Games, simulations, independent study projects, problem-solving activities, optional assignments	Reading and listening, rational presentations given by authorities	Medium movies, group discussion, question-and-answer sessions, and television

| Media, teaching methods and practices | • Workbooks (B)
• Handouts (A)
• Drill (A)
• Demonstrations (A)
• Results orientated (B)
• Practical lessons (B)
• Hands-on practice (C)
• Projects (B)
• Models (B)
• Manuals (B)
• Step-by-step directions
• Programmed instruction (B)
• Orderly classroom (A)
• Orderly lab (B)
• Direct application problems (B)
• Computer-aided information (B) | • Experiments (B)
• Simulations (C)
• Mini-lectures (A)
• Critical issues (B)
• Interactive video (C)
• Problem-solving curriculum (B)
• Independent study (A)
• Computer and other games (B)
• Trial and error discovery (B)
• Optional reading assignments (A)
• Invent new ways of doing things (C)
• Stress challenges and probing questions (B)
• Insist students think for themselves (A) | • Lecture (A)
• Textbooks (A)
• Audiotapes (B)
• Documented evidence (B)
• Study carrels (B)
• Likes scope & sequence
• Evaluate by formal testing (B)
• Intellectual debate (B)
• Guide individual study (B)
• Likes long-range plans (B)
• Teach from a base of content expertise (B)
• Supplemental reading assignment (B)
• Develop blueprint from an idea to visualize final produce (B) | • Group discussion (A)
• Use media (B)
• Flexible with time demands (B)
• Personalized classes (C)
• Concerned with mood of class (A)
• Use thematic approach to content (B)
• Create aesthetic or interpretative products (C)
• Assign group rather than individual activities (B) |

Table 2

For each of the media, teaching methods and practices, a loose costing model is applied using the teacher/facilitator/practitioner engagement [1] as the key resource cost, in terms of design, development, organising and delivery. This model, although in early stage of development can provide the initial framework that will inform future real cost grounded research at other institutions.

- Cost Band A – Low teacher engagement
- Cost Band B – Medium teacher engagement
- Cost Band C – High teacher engagement

Given the nature of the categorisation used here there is extensive scope for debate , however, for present purposes the delineation acts as a guide for further framing on the base that this paper aims to layout. This costing framework will be applied later to establish focal pedagogic approaches that are resource and budget sensitive.

In order to develop the concept of Gregorc learning styles applicability to the design of entrepreneurship programmes, it is necessary to explore what the 'perfect' enterprise start-up team should comprise of in terms of roles and characteristics. For this purpose Leslie et al in their paper *Managerial Effectiveness in a Global Context* offer 7 managerial roles (Leslie et al, 2002:11):

Informational Roles

1. Monitor: scan environments, monitor units, probe and seek information, act as corporate nerve center of incoming information.
2. Spokesperson: communicate and disseminate information with multiple levels of the internal and extra-organizational system, advocate and represent the organization.

Interpersonal Roles

3. Leader: motivate, coach, build teams, maintain corporate climate and culture, and supervise the work of others.
4. Liaison: network, coordinate, link entities, and span organizational boundaries.

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[1] This is very ad hoc at this stage of the model's evolution but is sufficient to create the initial framework that will inform more real cost based research at partner institutions.

Action Roles

5. Decision maker: take action, troubleshoot, make decisions, and use power to get things done.
6. Innovator: try new approaches, seize opportunities, generate new ideas, and promote a vision.
7. Negotiator: make deals, translate strategy into action, negotiate contracts, manage conflict, and confront others.

Using the Huang et al (2008) frames of reference and the managerial roles identified by Leslie et al (2002) the educator can design effective entrepreneurial education teaching and learning activities. Allocating students to groups that have a diverse cross section of learning styles while mapping roles to learning styles, a more scientific pedagogic framework will evolve. With diverse learning styles being catered for throughout the programme the achievement of the outcomes are more likely to be realised for the groups and the individual students and participants. Further, it will allow for more individualised learner experiences and a more fertile environment for mapping professional development trajectories for learners.

Huang et al (2008) research, surprisingly, generated a clear, positive correlation between CS learning style and entrepreneurial tendencies. However, in the case of CR learning styles their results showed a negative correlation. These results are surprising in so far as the prima facie view is that entrepreneurs are much more random and disruptive, as opposed to concrete and sequential. Although it can also be argued that success in entrepreneurial ventures call for the concrete and sequential. Huang et al continue and conclude (Huang et al, 2006:13):

- 'CS style students who are practical and focus on material reality have strong entrepreneurial tendency to achieve their visionary goals
- CR style students who have strong sense of ego and focus on process have negative minds to be entrepreneurs for their concern of risk'

These conclusion are generated in terms of the individual leaner and the research parameters are predicated on five motivators for learners on an entrepreneurship education programme (ibid 10):

- Need for achievement
- Need for autonomy
- Creativity tendency
- Moderate/calculated risk taking
- Drive and determination

Taking the Leslie et al (2002) managerial roles above and the associated skills   and mapping onto relevant frames of reference generates the following table. This also offers, loosely, a coherent design framework for effective curriculum development and team allocation.

Frames of reference → Managerial Roles	CS (Concrete Sequential) Deriving, nformation through direct, hands-on experience. Touchable, concrete materials	CR (Concrete Random) Receive information in an unstructured and like group discussions and multi-sensory experiences	AS (Abstract Sequential) Experimental, trial-and-error attitude, flashes of insight	AR (Abstract Random) Strong skills in working with written and verbal symbols. Grasp concepts and ideas vicariously
Monitor	√		√	√
Spokesperson				√
Leader		√		
Liaison	√	√		
Decision maker	√			
Innovator		√	√	√
Negotiator			√	

Table 3

The exercise in the table above is unstructured and open to extensive debate but aims at developing an analytical paradigm for the allocation of roles within a group based entrepreneurship education process for supporting student and general enterprise development while identifying the best pedagogic tools as per Butler and Pinto-zipp's (2006) table.

For example, assuming the team in question needs to develop its skills in monitoring and innovation, according to the table above this would generate a need to focus on CS, AS and AR learning styles for monitoring and CR, AS, AR for innovation. When the costs categories are added as above what is generated is a model for costing a suitable enterprise education programme:

Methods, media, teaching methods & practices	CS (Concrete Sequential)	AS (Abstract Sequential)	AR (Abstract Random)	CR (Concrete Random)
Cost band A	• Handouts (A) • Drill (A) • Demonstrations (A) • Orderly classroom (A)	• Mini-lectures (A) • Independent study (A) • Optional reading assignments (A) • Insist students think for themselves (A)	• Lecture (A) • Textbooks (A)	• Group discussion (A) • Concerned with mood of class (A)
Cost band B	• Workbooks (B) • Results orientated (B) • Practical lessons (B) • Projects (B) • Models (B) • Manuals (B) • Step-by-step directions (B) • Programmed instruction (B) • Direct application problems (B)	• Experiments (B) • Critical issues (B) • Problem-solving curriculum (B) • Computer and other games (B) • Trial and error discovery (B) • Stress challenges and probing questions (B)	• Audiotapes (B) • Documented evidence (B) • Study carrels (B) • Likes scope & sequence (B) • Evaluate by formal testing (B) • Intellectual debate (B) • Guide individual study (B) • Likes long-range plans (B) • Teach from a base of content expertise (B) • Supplemental reading assignment (B)	• Use media (B) • Flexible with time demands (B) • Use thematic approach to content (B) • Assign group rather than individual activities (B)
Cost band C	• Computer-aided information (C) • Hands-on practice (C)	• Simulations(C) • Interactive video (C) • Invent new ways of doing things (C)	• Develop blueprint from an idea to visualize final produce (C)	• Personalized classes (C) • Create aesthetic or interpretative products (C)

Table 4

Although the allocation in terms of cost bands is debatable, the underlying merits are clear, therefore developing the example above further, i.e. a team requiring capacity development for monitoring and with team member that favour the following learning styles CS, AS and AR. Alternatively, sub-teams can be created with these learning bias with the view to assuming the monitoring or innovation port-folios.

Applying this framework would generate possible pedagogic options such as:

Frame of reference	CS (Concrete Sequential)	AS (Abstract Sequential)	AR (Abstract Random)	CR (Concrete Random)
Cost Band A	Orderly classroom	Mini-lectures	Textbooks	Group discussion
Cost Band B	Workbooks	Computer and other games	Intellectual debate	Assign group rather than individual activities
Cost band C	Computer-aided information	Invent new ways of doing things	Develop blueprint from an idea to visualize final produce	Personalized classes

Table 5

Herod (2004) offers further refinement in terms of planning the teaching and learning methodological environment against the learning styles, by adding this loop the enterprise educator can ensure the widest impact for each cost band.

Using CS learners as an example Herod delivers the following table:

CS learners can be described as...	CS learners have natural abilities as...	CS learners work best when they...	CS learners may have difficulty with...	CS learners can stretch their style by...
• habitual • particular about their appearance • punctual • rarely giving compliments • having high expectations • disciplinarians • having keen sensory perceptions • seeing issues as black or white	• focus on details and specific results • like to work with facts • carry out tasks in a step-by-step way • plan their time • are accurate and precise • prefer working under structured conditions	• know the accepted way of doing things • are given exact directions and examples • can apply ideas in a practical, hands-on way - are given approval for specific work done • can be • consistent and efficient	• choosing from many options • acting without specific directions • with change if a reason is not given • taking new approaches • dealing with opposing views • interpreting abstract ideas • relating to feelings • waiting, sitting still • answering "what if" questions	• seeing the "big picture" • not reacting to first impressions • expressing their feelings • considering the means as well as an end result • working with an organized, divergent thinker • accepting less than immediate answers or results • considering others' points of • view • lowering expectations

Table 6

Similar tables could be developed for the other three styles.

Therefore in accepting the cost band table above, the curriculum design scope for each using selected aspects from Herod's table, generates a number of possibilities in terms of informing curriculum design framework. The CS learning style can be argued to be the default design for pedagogic activities, i.e. responds to structure, clarity of outcome, efficiency, etc. The demands of entrepreneurship may not be ideal for someone with CS learning preferences, however, their role within a team and potential contribution to an intrapreneurial structure, while offering support to the rest of the team, could be key to overall success of any group. It is unlikely that a CS learner can drive the innovation, without clear pedagogic focus on stretching them which will add pressure to resources and move up the cost band structure.

Enterprise education continues to present many challenges for educators and administrators alike, for the former, the lack of experience in terms of developing and managing businesses continues to be a serious short coming of designing and delivering effective entrepreneurial outcomes, while for the latter, creating an entrepreneurial ethos in the face of the historical soft funding environment has created an situation that requires extensive transformation. The changing financial arrangement at higher educational institutions in the United Kingdom and beyond, coupled to growing levels of graduate unemployment, has placed extensive pressure to deliver to concrete entrepreneurial outcomes for the students.

2. Conclusion

Therefore it can be seen that the role of the educator in entrepreneurship education falls a little outside the scope of traditional teachers. The nature of the nascent entrepreneur is formed by inner drive and moderated by the external environment; this can vary due to different geographical locations or economic imperatives. The teaching role then becomes one of facilitator. This will then have an impact on the 2 major challenges faced by the educator, firstly in pedagogy and curriculum development and secondly in organisational management and change.

Utilising Gregorc learning style delineators, educational methodologies and the cost bands outlined above as a reference base offers possibilities to model entrepreneurship learning by merging the above with both motivational drivers and informational roles to generate for each potential frame of reference not only profiles of relevant learners but informs classroom methodologies with the corresponding costing model. This then will allow not only for effective pedagogical development in both class room and group formation academia but also be based within a notional costing parameter. This allows for potentially a greater degree of success within the nascent entrepreneurial groups but also offers a strategic fit with the financial constraints within HE establishments.

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