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The changing economies in many developing countries have forced governments and educators to place a high priority on entrepreneurial training and development. The Jamaican economy, for example, depends greatly on what are known as "own account workers;" that is, workers who start and run their own small businesses. Forty percent of jobs generated in the Jamaican economy are dependent on "own account business" (Thwaites, 1999). Echoing the need for such workers with entrepreneurial competencies for the building of the Jamaican economy, then Senator N'dombet-Assamba urged some 500 graduates from the training academies of the National Training Agency of Jamaica (Human Employment and Resource Training (HEART) Trust /NTA) to transform the Jamaican economy into a more indigenous one by forming their own businesses ("The Jamaica Gleaner," 2001).

Entrepreneurial competency refers to the sum of the entrepreneur's requisite attributes for successful and sustainable entrepreneurship (Kiggundy, 2002). According to Kiggundy, these attributes include attitudes, values, beliefs, knowledge, skills, abilities, personality, wisdom, expertise (social, technical, and managerial), mindset, and behavioral tendencies. Cunningham and Lischeron (1991) identified six schools of thought on entrepreneurship that explain what constitutes an entrepreneur. Of the six schools, three assert that entrepreneurial traits are innate

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and cannot be developed or trained in the classroom. The other three schools of thought hold that entrepreneurial skills and competencies can be acquired through formal training.

The Problem and Its Background

Responding to the need to produce workers with the necessary entrepreneurial competencies, training academies of the Jamaican HEART Trust /NTA operate institution-based commercial enterprises. These enterprises provide work-based learning programs in order to simulate an environment in which these competencies can be developed. One essential element in this skills development process is the modeling of effective entrepreneurial competencies by the instructors who deliver training at the institutions. To that end, HEART Trust established joint initiatives such as Competency-Based Economics through the formation of Entrepreneurs to provide training for instructors in entrepreneurial skills (Spence, 1999).

The 1982 HEART Act established the HEART Trust with the following objectives: (a) to develop, encourage, monitor and provide finance for training schemes for employment of trainees; (b) to provide employment opportunities for trainees; (c) to direct or assist in the placement of persons seeking employment in Jamaica; and (d) to promote employment projects. At the time of establishment, the Trust began to receive funds from a 3% payroll levy which was applied to all companies whose payroll exceeded $14,444 per month.

In 1994, an amendment to the HEART Act expanded the responsibility of the HEART Trust to enable it to function as the National Training Agency (NTA), thus underscoring the Trust's role as coordinator of the Jamaican Technical Vocational Education and Training system (Hitchman, Lindo, McArdle, and Woolery, 2001). Among the training entities that are operated by the HEART Trust /NTA are ten training academies. They deliver training and produce workers for specific industries. The academies have a total enrollment capacity of 9,000 persons annually. The categories of skills training offered by the ten academies are listed in Table 1.

Each training academy operates a commercial, school-based enterprise that reflects the sectoral skills that are offered at the institute. According to the HEART Trust/ NTA's Institutions-Based

Table 1

Skills Distribution of HEART Trust/NTA Training Academies

Name of Training Academy	Skills Training
Ebony Park Academy	Agriculture
Garmex Academy	Apparel, Textile
Jamaica and German Automotive School	Automotive Maintenance/Repairs
Cornwall Automotive Training	Automotive Maintenance/Repair
School of Cosmetology	Beauty Services
Portmore Academy	Construction Skills
Runaway Bay Hotel and Training Institute	Hospitality and Tourism Skills
National Tool and Engineering Institute	Industrial Maintenance
Stony Hill Academy	Commercial Skills, Information Technology
Kenilworth Academy	Hospitality, Commercial Skills, Information Technology

Enterprises policy document (2002), the main objectives of these enterprises are to (a) develop a culture of enterprise among the trainees and instructors and provide experience and orientation for entrepreneurs, (b) provide an industry-based environment where trainees can gain workplace-type experience at the training institutions, (c) generate income as part of an effort to broaden the income base of the organization, (d) enhance the training and learning process in order to overcome the limitations of institution-based training, and (e) provide an opportunity for those trainees who are experiencing financial difficulties and who demonstrate the competence and motivation to participate in enterprise activities in order to support their training endeavors.

Recently, the Director of Academies of the National Training Agency of Jamaica expressed concern about the failure of some of

the commercial enterprises that are operated by the training academies to produce goods and services within the time frame agreed upon with customers. She stated that there may be deficiencies in the entrepreneurial competencies of the staff of some training academies, which may account for the products and services not being produced on schedule (A. Sewell, personal communication, February 21, 2003). Since up to 40 percent of the employment created in Jamaica is through self- or "own account" employment, it is vital that trainees who graduate from these academies are prepared to create their own employment. Therefore the training academies must not only provide the trainees with the essential technical and vocational skills needed for employment but also with the ability to create their own businesses (A. Sewell, personal communication, February 21, 2003). The concerns expressed by the Director of Academies highlight perceptions of problems in (a) the instructors' entrepreneurial competency, which may account for their failure to meet customer schedules and (b) the ability of the instructors to act as entrepreneurial models for trainees (HEART Trust/NTA, Monthly Report of Academies, October and November 2003). These concerns prompted this study of the critical entrepreneurial competencies that are needed by instructors to function successfully in school-based enterprises.

Purpose of the Study

This study addressed a major concern expressed by the Director of Academies of The HEART Trust/ NTA Jamaica. Its purpose was to identify the entrepreneurial competency gaps that may exist between the desired behavior of training instructors and the behavior that presently exists among the instructors who participate in institution-based enterprise activities. This study first identified the entrepreneurial competencies that the Jamaican training academy managers considered either very important or critically important in order for training instructors to operate successfully in institution-based commercial enterprises. The focus then shifted to examining the Jamaican training academy managers' perceptions of the training instructors' levels of performance in these competencies. These two procedures provided the information needed to identify the instructors' most serious entrepreneurial performance gaps.

The study was limited in the following ways: First, the training programs offered at each institute are different, so the natures of the commercial enterprises also differ. This could influence the types of entrepreneurial competencies displayed at the various academies. Second, some institutes have semi-autonomous status while others do not. These differences may influence the efficiency of administrative procedures in the commercial enterprises and possibly affect the perceptions of the level of performance of some of the entrepreneurial competencies.

A delimitation of this study was that it was restricted to the perceptions of the managers and deputy managers of the HEART Trust / NTA training academies. This study took for granted two underlying assumptions: first, that the instructors participate in programs that require them to be exposed to industrial/ commercial settings in order to gain experience to improve their instructional skills and second, that the instructors possess and demonstrate the entrepreneurial competencies that are required to teach trainees who work in the institution-based enterprises.

Methodology

To research this study, training academy managers and deputy managers completed questionnaires that asked them for their perceptions of the critical entrepreneurial competencies necessary for instructors to function in school-based enterprises. The study also gathered data that identified competencies which training academies managers perceived as needing performance improvement.

Population and Sample

The population of the study was managers and deputy managers of the training academies operated by the National Training Agency of Jamaica. Presently, there are ten such training academies in Jamaica, three in the parish of Kingston, two in the parish of St. Andrew, and one each in the parishes of St. Catherine, St. Ann, Hanover, St. James and Clarendon.

Krejcie and Morgan (1970) indicated that for a population size of $N = 100$ or fewer, there is little point in sampling; the entire population should be surveyed. The ten training academies of the National Training Agency have a total of 10 managers and 10

deputy managers giving a combined total of 20 managers. Since data were solicited from the entire population, a census survey was used (Borg and Gall, 1983).

Instrumentation

The questionnaire was developed in three stages in order to generate a comprehensive list of entrepreneurial competency items. In the first stage, a competency profile for entrepreneurs was developed by a synthesis of the reviewed literature. This initial profile reflected the knowledge, skills, and attitudes that entrepreneurs require to be successful. A total of 53 competencies was identified in the first stage of the questionnaire development.

During the second stage of the development of the questionnaire, the affinity analysis tool from the Hoshin process (Bechtell, 1995) was employed by a panel of seven entrepreneurs and managers from the cities of Normal and Bloomington, Illinois, USA. The rationale for using this process was to identify any recent competencies that needed to be added to the preliminary list and to eliminate any competencies that were considered irrelevant. The affinity analysis resulted in the identification of thirteen additional competencies. A total of 66 entrepreneurial competencies was identified by both the literature review and the affinity analysis. These competencies reflected the range of attitudes, attributes, knowledge, and strategic and tactical skills that successful entrepreneurs possess.

In the third stage of instrument development, a survey consisting of the 66 competencies identified in the first two stages was sent to five entrepreneurs for validation. The five entrepreneurs, all of whom own and manage small businesses in Jamaica, were selected from the Lead Group of the National Tool and Engineering Institute. They were asked to indicate, by rating each survey item as either important or not important, which competencies, in their view, are required of entrepreneurs in Jamaica. They were also asked to list any competencies that should have been included but which were not listed in the survey. All five individuals completed and returned their validation survey. The data from the survey indicated that all 66 of the competencies on the survey form were considered important by the Jamaican entrepreneurs. No additional competencies emerged.

Competency Clusters

After the surveys were completed and returned, a panel of experts grouped the 66 competencies into clusters that they considered to be conceptually related and assigned a general heading that best described each cluster. Each cluster group and its heading was determined by a general consensus among the panel. A total of eight clusters, or categories, emerged. They were Team Leadership, Perception of Trustworthiness, Planning and Organizational Skills, Basic Business Skills, Problem Solving Skills, Communication Skills, Personal Traits, and Creativity. The purpose of this clustering was to facilitate the reporting of the findings from the survey. Table 2 lists all 66 competencies under their respective cluster headings.

On the final questionnaire, each competency item was accompanied by two 6-point rating scales (Gay and Airasian, 2003). On one 6-point scale, the importance scale, participants were asked to rate the importance of the corresponding competency from 6 (most important) to 1 (least important). On the other scale, performance was measured by asking participants to rate the group of instructors as a whole and score them as a group on their "average" (i.e., overall) proficiency for each competency. The performance rating scale for each competency ranged from 6 (excellent performance) to 1 (poor performance) (Meier, Williams, and Humphrey, 2000). The one-to-six-point rating scales were used in order to eliminate any neutral position a respondent might take since a middle score was not considered meaningful.

Twenty questionnaires were sent to the ten training academies. Each training academy employs a manager and a deputy manager. Fifteen managers or deputy managers completed and returned their questionnaires. This represented a 75% response rate.

Importance Index, Performance Index, and Performance Gap, and Priority Scores

The questionnaire responses were first tabulated by competency for each variable, importance and performance. For each individual competency, a mean score for importance was computed by summing all the respondents' scores on the

Table 2
The 66 Entrepreneurial Competency Items by Cluster Category

Survey Question #	Competency
Team Leadership Cluster	
62	Minimizes Politics in the Workplace
52	Expects Excellence From All Employees
56	Shares Information with Employee
31	Demonstrates Good People Skills
13	Takes Charge Mentally
60	Is a Good Coach or Mentor
34	Is a Good Leader
17	Is a Team Builder
18	Is a Consensus Builder
22	Makes Good First Impression Evaluation
Communication Skills Cluster	
30	Is Willing to Listen to Others
26	Possesses Good Written Communication Skills
29	Is Persuasive
40	Possesses Good Interpersonal Skills
49	Can Sell Ideas to Others
27	Possesses Good Verbal Communication Skills
28	Makes Good Presentations
Perceptions of Trustworthiness Cluster	
10	Is Dependable
8	Has Integrity
55	Follows Through with Commitments
57	Possesses Loyalty and Commitment
63	Is Responsible
54	Is Honest
53	Is Trustworthy
Planning and Organizational Skills Cluster	
39	Is Not Afraid Of Mistakes
64	Has the Ability to Assess Risks
32	Possesses Good Organizational Skills
65	Knows How to Prioritize and Manage Risks
38	Is Agile in Thinking and Planning
19	Has the Ability to Multi-Task
25	Is a Good Planner
24	Takes Risks

Survey Question #	Competency
Basic Business Skills Cluster	
47	Can Meet Deadlines
9	Is Committed to the Business
51	Can Manage Money
66	Is Aware of Health and Safety Regulations
42	Reacts Quickly to Correct Negative Situations
61	Understands What Processes Add Value
50	Demonstrates Good Supervisory Skills
Problem Solving Skills Cluster	
36	Demonstrates Good Analysis Skills
15	Is a Problem Solver
46	Can Prioritize Problems
37	Has the Ability to Prioritize Problems
35	Has Good Critical Thinking Skills
47	Uses Information to Make Decisions
59	Has Good Day to Day Troubleshooting Skills
Personal Traits Cluster	
21	Is Goal Oriented
2	Wants to Succeed
5	Maintains High Self-Esteem
58	Has a Positive Outlook on Life
3	Is Self-Confident
7	Sustain Self-Awareness
6	Sustains Self Actualization
14	Possess a High Level of Energy
11	Wants to Learn
1	Can Do Attitude
4	Maintains Self-Efficacy
12	Is Charismatic
Creativity Cluster	
43	Has Good Visualization Skills
22	Is Creative
44	Demonstrates Forward Thinking
20	Can Transfer Knowledge & Ideas
45	Demonstrates a Willingness to Take Chances
16	Tries New Ideas
41	Reacts Quickly to Good Opportunities
23	Actively Seeks New Opportunities

importance rating scale for that particular competency and dividing the total by the number of respondents. In a similar manner, a mean score for performance was calculated for each individual competency item.

For ease of comparison, these two means were converted to equivalent index scores of 0 to 100 for each competency item. This resulted in an importance index score and a performance index score for each individual competency. The difference between a competency's importance index score and its performance index score provided the competency's performance gap score. In addition a priority score, which was used to rank order the competencies in terms of highest importance but lowest performance, was obtained for each competency by adding its performance gap score and its importance index score and then dividing this sum by two (Meier, Williams and Humphrey, 2000) (see Table 3).

Finally, overall mean scores and standard deviations were calculated in each of the four criteria of importance, performance, performance gap, and priority. To find the mean importance index score, the importance index scores of all 66 competencies were added and then divided by 66. The other three mean scores were found in a similar fashion. These four overall mean scores are denoted mean importance index score, mean performance index score, mean performance gap score, and mean priority score and are recorded in the heading of Table 3.

The data was also summarized using similar descriptive statistics for each of the eight competency cluster categories. For example, a mean score for importance was calculated for each cluster by adding the individual importance index scores for each of the competencies grouped in the cluster and dividing the sum by the number of competencies contained in that cluster. The same process was used to compute cluster means for performance, performance gap, and priority scores. Scores which apply to cluster means are referred to as cluster scores.

Table 3

Importance Index Scores, Performance Index Scores, Performance Gap Scores, and Priority Scores by Competency Item

#	Competency	Importance Index Score *M*=86.44 *SD*= 4.57	Performance Index Score *M*=69.92 *SD*=6.33	Performance Gap Score *M*=15.92 *SD*=4.56	Priority Score *M*=51.48 *SD*=3.29
1.	Can Do Attitude	82.67	73.33	9.33	46.00
2.	Is Self-Confidence	89.33	76.00	13.33	51.33
3.	Wants to Succeed	92.00	76.00	16.00	54.00
4.	Maintains Self-Efficacy	81.43	74.67	6.76	44.10
5.	Maintains High Self-Esteem	89.33	70.67	18.67	54.00
6.	Sustains Self Actualization	84.29	71.43	12.86	48.57
7.	Sustains Self-Awareness	86.67	71.43	15.24	50.95
8.	Has Integrity	92.86	81.43	11.43	52.14
9.	Is Committed To the Business	90.67	71.43	19.24	54.95
10.	Is Dependable	92.00	72.00	20.00	56.00
11.	Wants to Learn	82.67	72.00	10.67	46.67
12.	Is Charismatic	70.67	61.43	9.24	39.95
13.	Takes Charge Mentally	85.33	65.33	20.00	52.67
14.	Possesses a High Level of Energy	80.00	64.00	16.00	48.00
15.	Is a Problem Solver	86.67	64.00	22.67	54.67
16.	Tries New Ideas	84.00	62.67	21.33	52.67
17.	Is a Team Builder	85.33	72.86	12.48	48.90
18.	Is a Consensus Builder	80.00	65.71	14.29	47.17
19.	Has the Ability to Multi-Task	86.67	70.67	16.00	51.33
20.	Can Transfer Knowledge & Ideas	90.67	73.33	17.33	54.00
21.	Is Goal Oriented	90.67	70.00	20.67	55.67
22.	Is Creative	87.14	65.71	21.43	54.29
23.	Actively Seeks New Opportunities	82.67	65.33	17.33	50.00
24.	Takes on Risks	76.00	57.33	18.67	47.83
25.	Is a Good Planner	78.67	61.33	17.33	48.00
26.	Good Written Communication Skills	88.00	70.67	17.33	52.67
27.	Good Verbal Communication Skills	86.67	76.00	10.67	48.67
28.	Make Good Presentations	82.67	68.00	14.67	48.67
29.	Is Persuasive	82.67	62.67	20.00	51.33
30.	Is Willing to Listen to Others	90.67	74.67	16.00	53.33
31.	Demonstrates Good People Skills	90.67	73.33	17.33	54.00
32.	Has Good Organizational Skills	85.33	65.33	20.00	52.67
33.	Good First Impression Evaluations	80.00	66.67	13.33	46.47
34.	Is a Good Leader	84.00	64.00	20.00	52.00
35.	Has Good Critical Thinking Skills	88.00	70.67	17.33	52.67
36.	Demonstrates Good Analysis Skills	89.33	66.67	22.67	56.00
37.	Has the Ability to Prioritize Problems	88.57	70.67	17.90	53.24
38.	Is Agile in Thinking and Planning	85.33	67.14	18.19	51.76
39.	Is Not Afraid Of Mistakes	86.67	64.00	22.67	54.67
40.	Possesses Good Interpersonal Skills	88.00	74.67	13.33	50.67
41.	Reacts Quickly to Opportunities	82.67	65.33	17.33	50.00
42.	Corrects Negative Situations	84.00	67.14	16.86	50.43

#	Competency	Importance Index Score	Performance Index Score	Performance Gap Score	Priority Score
43.	Has Good Visualization Skills	88.00	60.00	28.00	58.00
44.	Demonstrates Forward Thinking	85.33	62.67	22.67	54.00
45.	Shows Willingness to Take Chances	86.67	68.00	18.87	52.6
46.	Can Prioritize Problems	88.00	69.33	18.67	53.33
47.	Can Meet Deadlines	89.33	65.33	24.00	56.67
48.	Uses Information to Make Decisions	86.67	70.67	16.00	51.33
49.	Can Sell Ideas to Others	85.33	70.67	14.67	50.00
50.	Has Good Supervisory Skills	78.67	64.00	14.67	46.67
51.	Can Manage Money	84.00	65.33	18.67	51.33
52.	Expects Excellence from Employees	92.86	72.00	20.86	56.86
53.	Is Trustworthy	94.67	88.00	6.67	50.67
54.	Is Honest	96.00	90.67	5.33	50.67
55.	Follows Through with Commitments	89.33	74.67	14.67	52.00
56.	Shares Information with Employees	88.00	68.00	20.00	54.00
57.	Possesses Loyalty and Commitment	92.00	81.33	10.67	51.33
58.	Has a Positive Outlook on Life	89.33	75.71	13.62	51.48
59.	Has Good Troubleshooting Skills	84.00	73.33	10.67	47.33
60.	Is a Good Coach or Mentor	86.67	68.57	18.10	52.38
61.	Understands What Process Adds Value	86.67	73.33	13.33	50.00
62.	Minimizes Politics in Workplace	92.86	71.43	21.43	57.17
63.	Is Responsible	86.67	70.67	16.00	51.33
64.	Has the Ability to Assess Risks	86.67	66.67	20.00	53.33
65.	Can Prioritize & Manage Risks	84.00	62.86	21.14	52.67
66.	Is Aware of Health/Safety Regulations	93.33	85.33	8.00	50.67

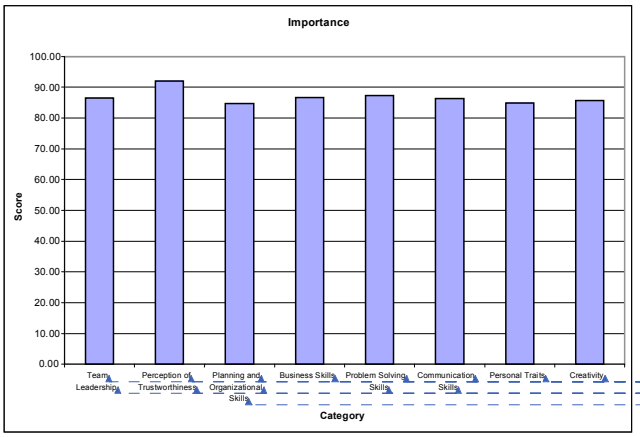
Summary of Findings

Comparison of Cluster Scores

When the respondents' ratings of the importance of the competencies were grouped and compared by cluster, all of the cluster categories had cluster importance index scores between 80 and 92 (see Figure 1).

When comparing the cluster performance index scores, the cluster category, Perception of Trustworthiness had a cluster performance index score of 79.82 making it the highest rated of all the cluster categories. This suggested that the managers of the training academies believed that overall, instructors performed better in the entrepreneurial competencies that related to trustworthiness. The cluster category of Planning and Organiza-

Figure 1
Cluster Importance Index Scores



tional Skills had the lowest cluster performance index score of 64.42 (see Figure 2).

An examination of the cluster performance gap scores showed the cluster category of Creativity with the highest cluster performance gap score, 20.50, followed by Planning and Organizational Skills with a cluster performance gap score of 19.25. Perception of Trustworthiness had the lowest cluster performance gap score, 12.11. The range between the highest and the lowest cluster performance gap scores was 8.39, indicating that the cluster performance gap scores were not widely dispersed. The category, Perception of Trustworthiness, while having the lowest cluster performance gap scores, had one competency, "Is Dependable," with a cluster performance gap score of 20.00 which was high when compared to the mean performance gap score of 15.92 and standard deviation of 4.56. Figure 3 illustrates the cluster performance gap scores.

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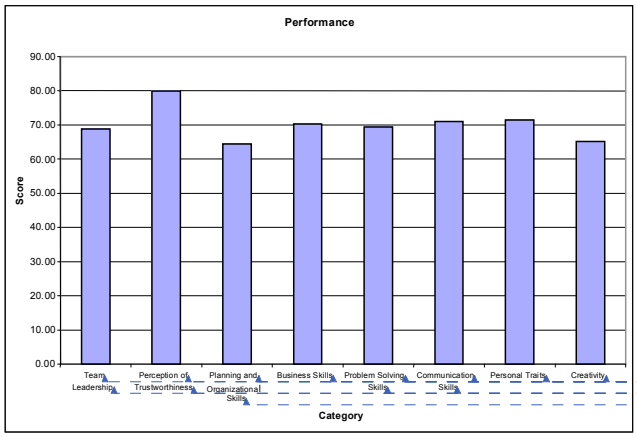
Figure 2
Cluster Performance Index Scores



Comparing cluster priority scores, the categories Creativity and Problem Solving Skills had the two highest cluster priority scores, 53.10 and 52.65 respectively. Personal Traits had the lowest with 49.22. A small range of 4.00 existed between the highest and lowest cluster for priority scores.

The data showed that the cluster priority scores were influenced by competency items with extreme priority scores in each category. For example while the cluster category Creativity had the highest cluster priority score, only the competency "Has Good Visualization Skills" in the Creativity category had a priority score more than one standard deviation above the mean priority score of 51.48. The priority score for visualization skills was 58.00, giving it the highest priority score for any individual competency.

Determining Critically Important or Very Important Competencies

This study sought to identify the entrepreneurial competencies that were viewed by the managers of the training

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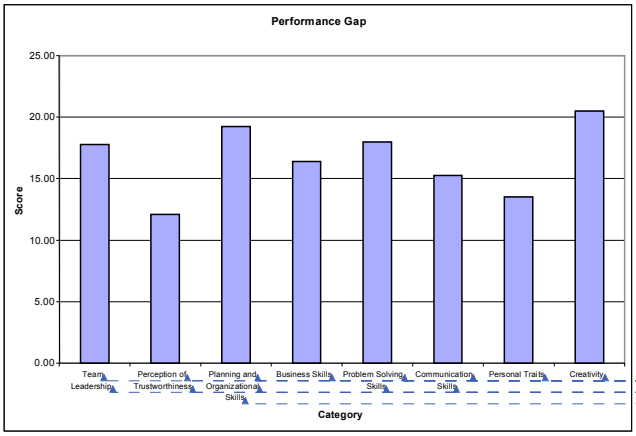
Figure 3

Cluster Performance Gap Scores



academies as very important or critically important for instructors in order for them to function effectively in institution–based enterprises. To address this question, competency items with importance index scores that fell at or between the mean importance index score (86.44) and one standard deviation above the mean importance index score (91.01) were designated as very important. A competency item with an importance index score equal to or more than one standard deviation above the mean importance index score (i.e., greater than or equal to 91.01) were viewed as critically important. Competencies with importance index scores between the mean importance index score and one standard deviation below the mean importance index score, that is, from 81.87 to 86.44, were viewed as somewhat important while those with importance index scores less than one standard deviation below the mean importance index score (i.e., below 77.30) were designated as least important. Table 4 lists the 39 thematically grouped competencies deemed very important or critically important. It should be noted that 27 competencies had importance index scores below the mean importance index score

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of 86.44. These competencies were not discussed any further in this paper. For comparison, the performance index scores of each of the 39 critically important or very important competencies are also given in Table 4.

Table 4

Managers' and Deputy Managers' Perceptions of the 39 Critically Important or Very Important Entrepreneurial Competencies by Cluster Category

#	Competency	Importance Index Score	Performance Index Score
	Team Leadership		
62.	Minimized Politics in the Workplace	92.86**	71.43*
52.	Expects Excellence from All Employees	92.86**	72.00*
31.	Demonstrates Good People Skills	90.67*	73.33*
56.	Shares Information with Employees	88.00*	68.00
60.	Is a Good Coach or Mentor	86.67*	68.57
	Planning and Organizational Skills		
39.	Is Not Afraid of Mistakes	86.67*	64.00
64.	Has the Ability to Assess Risks	86.67*	66.67
19.	Has the Ability to Multi-Task	86.67*	70.67*
	Perceptions of Trustworthiness		
54.	Is Honest	96.00**	90.67**
53.	Is Trustworthy	94.67**	88.00**
8.	Has Integrity	92.86**	81.43*
10.	Is Dependable	92.00**	72.00*
55.	Follows Through with Commitments	92.00**	74.67*
57.	Possesses Loyalty and Commitment	89.33*	81.33*
63.	Is Responsible	86.67*	70.67*
	Basic Business Skills		
66.	Is Aware of Health and Safety Regulations	93.33**	85.33**
9.	Is Committed to the Business	90.67*	71.43*
47.	Can Meet Deadlines	89.33*	65.33
61.	Understands What Processes Add Value	86.67*	73.33*
	Problem Solving Skills		
36.	Demonstrates Good Analysis Skills	89.33*	66.67
37.	Has the Ability to Prioritize Problems	88.57*	70.67
46.	Can Prioritize Problems	88.00*	69.33
35.	Has Good Critical Thinking Skills	88.00*	70.67*
15.	Is a Problem Solver	86.67*	64.00
48.	Uses Information to Make Decisions	86.67*	70.67*

#	Competency	Importance Index Score	Performance Index Score
	Communication Skills		
30.	Is Willing to Listen to Others	90.67*	74.67*
26.	Has Good Written Communication Skills	88.00*	70.67*
40.	Has Good Interpersonal Skills	88.00*	74.67*
27.	Has Good Verbal Communication Skills	86.67*	76.00*
	Personal Traits		
21.	Is Goal Oriented	92.00**	70.00*
2.	Wants to Succeed	90.67*	76.00*
5.	Maintains High Self-Esteem	89.33*	70.67*
58.	Has a Positive Outlook on Life	89.33*	75.71*
3.	Is Self-Confident	89.33*	76.00*
7.	Sustains Self-Awareness	86.67*	71.43*
	Creativity		
20.	Can Transfer Knowledge & Ideas	90.67*	73.33*
43.	Has Good Visualization Skills	88.00*	60.00
22.	Is Creative	87.14*	65.71
45.	Shows a Willingness to Take Chances	86.67*	68.00

* Indicates competencies with scores at or between the mean and 1 *SD* above the mean.

** Indicates competencies with scores greater than 1 *SD* above the mean.

As shown in Table 4, three Team Leadership competencies had importance index scores that fell between the mean importance index score (86.44) and one standard deviation above the mean importance index score (91.01) and thus were considered very important. Two additional Team Leadership competencies scored in the critically important category. Those competencies were 'Minimizes Politics in the Workplace" and "Expects Excellence from All Employees."

Table 4 also depicts three competencies in the Planning and Organizational Skills cluster that were viewed as very important by the managers. All three had the same importance index score of 86.67. Five competencies from the cluster category Perceptions of Trustworthiness were perceived by the managers of the training academies to be critically important. These competencies were "Is Honest," "Is Trustworthy," "Has Integrity," "Is Dependable," and

"Follows Through with Commitments." Two competencies in this cluster were viewed as very important.

Three entrepreneurial competencies grouped in the cluster category Basic Business Skills were ranked by managers as very important. The competency "Is Aware of Health and Safety Regulation," was the only competency in this cluster which ranked as critically important, with an importance index score of 93.33. The Problem Solving Skills cluster category had six competencies that were ranked by managers as very important for instructors. No competencies in this cluster had scores that ranked them as critically important.

Four entrepreneurial competencies from the Communication Skills cluster category were identified as very important by the managers, although no competency in this cluster was ranked as critically important. In the Personal Traits cluster category, one competency, "Is Goal Oriented," was perceived by the managers as critically important while five were ranked as very important. Four competencies in the Creativity cluster category scored as very important. This cluster had no competency that was ranked as critically important.

Conclusions

Based on a synthesis of the data and the literature reviewed relative to this study, the following conclusions were reached: The Jamaican training academy managers believed that 39 of the 66 entrepreneurial competencies listed in the survey instrument were critically important or very important in order for instructors to function successfully in institution-based enterprises. The training academy managers also viewed the instructors' performances as commendable in over one-half of the entrepreneurial competencies. Commendable competencies were operationally defined as those competencies with importance index scores at or above the mean importance index score and performance index scores at or above the mean performance index score. The data also revealed that a total of 18 competencies in all the categories need to be targeted for performance improvement. Those competencies targeted for improvement had importance index scores at or above the mean importance index score and

performance index scores below the mean performance index score.

From this study, it appears that the failure of some academy-based enterprises to produce goods and services on time may be due at least in part to instructors' deficiencies in planning and organizational competencies, such as the ability to assess risks and multi-task; lack of problem solving competencies, such as analytical skills or critical thinking skills; failure to use previous knowledge and experience to make proper decisions that relate to products, processes and services; or inability to prioritize problems. The findings indicate that some instructors were perceived to have low performance in the aforementioned competencies, despite the fact that these competencies are very important for the success of the institution-based enterprise.

Discussion

Team Leadership

Cunningham and Lischeron (1991) and Rabboir and Lang (1996) identified team leadership as a very important entrepreneurial competency. The findings from this study are in agreement with their views. The findings show that instructors may be more successful in institution-based enterprises if they demonstrate team leadership competencies such as "Minimizes Politics in the Workplace," "Expects Excellence from All Employees," "Demonstrates Good People Skills," "Shares Information with Employees," and is a "Good Coach and Mentor."

The nature of institution-based commercial enterprises in Jamaica and the extent to which activities therein have to be integrated with the curriculum may account for why managers view competency item "Minimizes Politics in The Workplace" as critical. The role of both instructing trainees as well as then working with them as a part of a commercial unit to produce goods and services may not be viewed by some instructors as a traditional teaching function. Some instructors may also lack a clear understanding of how academic content is applied in the workplace (Brown, 1995). Such circumstances may necessitate instructors putting aside any strong views they may have in order to work cooperatively with their students and to achieve institution objectives.

"Coaching and Mentoring "and "Sharing Information with Employees" were two competencies in the leadership category that were identified as needing improvement. Coaching in an enterprise environment can have its share of challenges. Lawson (1998) said that instructors who act as coaches would focus their activities on skill development, confidence building, and application. They would set high expectations, guide and coach the learners, and allow them the latitude to perform. However this may often have to be done at the expense of meeting time constraints imposed by production schedules. Therefore coaching and mentoring efforts will have to be properly balanced and managed so as not to totally undo production and service schedules.

Planning and Organizational Skills

The overall finding in the planning and organizational category agreed with the literature, which emphasized the importance of planning and organization skills for entrepreneurs (Lenko,1995: Rabbior and Lang 1996). Huck and McEwen (1991) showed that planning and organizational skills are important for Jamaican entrepreneurs. Stern (1991) also showed that one of the proven benefits of school-based enterprises is that it helps students to develop skills in the areas of planning and organization.

The three competencies viewed as important in the planning and organizational cluster—"Is Not Afraid of Mistakes," "Has the Ability to Multi-task," and "Has the Ability to Assess Risks,"—were also competencies that managers viewed as in need of performance improvement. The literature showed that a successful entrepreneur must demonstrate the willingness to make and learn from mistakes in order to progress. They must also be able to assess risks properly and carry out several tasks at the same time (Rabbior and Lang, 1996). The managers' perception in this respect is consistent with the literature.

Perceptions of Trustworthiness

The competencies believed by managers to be very important in the category of perceptions of trustworthiness were all consistent with the values identified in the literature as

important for those who want to be successful entrepreneurs (Lenko, 1995; Rabbior and Lang, 1996). Lenko showed that without a strong commitment to their goals entrepreneurs will likely fail. This commitment is often shown in the tenacity displayed to accomplish a task (Stevenson, 1995). The managers indicated that overall they thought the instructors were loyal, committed, dependable, trustworthy, and possessed integrity and honesty.

Basic Business Skills

The basic business skills that managers viewed as important for instructors contrasted to some degree with those identified in the literature as necessary for entrepreneurs. The literature identified business competencies such as preparing budgets, controlling inventory, setting and supervising schedules, interacting with customers, and controlling cash flow as important (Rabbior and Lang, 1996). The training academies' managers, however, indicated that meeting deadlines, being committed to the business venture, and understanding what processes add value are very important for the instructors. A possible explanation for this discrepancy between mangers' views and the findings of Rabbior and Lang is that the academy-based enterprises are supervised by a technical coordinator. This coordinator has the responsibility of carrying out most of the management and supervisory functions. So duties such as budget preparation, interaction with customers, inventory control, and cash control are carried out by him or her in conjunction with the accounting and administrative personnel. They are not considered to be mainstream duties of instructors in the enterprise (HEART Trust/NTA Policy document, 2002).

Problem Solving Skills

In this study, managers indicated that the category of "Problem Solving Skills" had the highest number of competencies that needed performance improvement. The literature showed that being able to think critically and analytically increases ones ability to solve problems (Rabbior and Lang, 1996). If instructors are not proficient in these abilities, then it may retard the efficiency with which they deal with problems encountered when

carrying out their functions in the enterprises. This in turn may lead to delays in their production and service delivery. The capacity to solve problems and respond to changes relates to the degree to which a person is able to draw upon and apply lessons learned from previous knowledge and experience. Additionally if instructors are not goal oriented and responsible then they will not be inclined to put the necessary things in place in order to meet deadlines. The data show that these types of competencies were in need of improvement in the training instructors' performance.

Communication Skills

School-based enterprises help to increase the social interaction and communication among students and teachers (Koppelmann, 2000: Stern, 1991). The communication skills believed by the training academy managers to be very important were consistent with the literature. For example managers believed that instructors should have good written, verbal, and interpersonal communication skills. According to the managers, instructors should also display a willingness to listen to others. For the entrepreneur who operates in an organizational context, as the instructor does, these skills are essential for successfully carrying out his/her duties.

Personal Traits

The personal traits and attributes that the managers of the training academies believed to be very important or critically important for instructors are also in harmony with the literature concerning entrepreneurs (Rabbior and Lang, 1996). The managers ranked traits such as "Wants to Succeed," "Has a Positive Outlook on Life," "Is Self-Confident," and "Sustains Self-Awareness" as very important. Managers believed the trait "Is Goal Oriented" was critically important.

Creativity

In accord with the literature, training academy managers see creativity and those competencies associated with creativity as very important entrepreneurial skills. A creative person's willingness to take chances usually singles him or her out as an

astute problem solver (Rabbior and Lang, 1996). Successful entrepreneurs must be willing to accept moderate risks and demonstrate the willingness to make and learn from mistakes in order to progress (O'Conner, 1999). The willingness to assume risks may also be important for the academy instructors because they may need to change from the traditional learning environment, find new ways to use resources and methods, challenge trainees continually, and take on challenges they have never taken on before (Rabbior and Lang, 1996). The managers of training academies in Jamaica viewed the taking of risks and the willingness to make mistakes by instructors, which both had importance scores within one above the mean, as very important. The managers did not, however, consider these two competencies as critically important. The nature of the Jamaican institution-based enterprises may account for this difference, because the final decisions about risks are usually made by the managers, rather than the instructors, and it is the managers who are ultimately responsible for any serious mistakes made in the commercial units.

Both problem solving and creativity are linked to an individual's visualization skills. Often what may appear unclear to others is easily visualized by creative individuals. In turn, the drive of the creative person to achieve a goal that is clearly focused in his or her mind will allow him or her to take calculated risks to achieve it (O'Conner, 1999; Rabbior and Lang, 1996). An individual who can visualize a problem from a variety of dimensions or who can identify and conceptualize opportunities that others might not see, is more able to solve the problem in unique and creative ways. Visualization skills also enhance an individual's ability to conceptualize personal goals, as well as the goals and objectives of an organization and the needs of customers. Visualization and creativity are skills that may be developed through experiential-based formal training. This training requires a training organization culture which encourages creative risk-taking and promotes understanding of the needs and perspectives of students, customers, and other key stakeholders.

The training academy managers believed that competencies such as acting creatively, displaying good

visualization skills, and showing a willingness to take chances are in need of performance improvement among the academies' instructors.

Not to be overlooked is that certain aspects of organizational culture may stifle creativity among workers. According to Rabbior and Lang (1996), creativity stifling organizations are typified by such practices as surveillance and close monitoring, over-control by management, promotion of competition which produces win or lose conditions, use of evaluation systems that create over-concern about the opinion of others. A deeper examination of the environment and organizational cultures of the academies may be warranted to determine if conditions exist that impede creativity among the academy instructors.

Implications

The results of this study have several implications for training academies and teacher training institutions in Jamaica. First, the curriculum at teachers training colleges should include instruction in entrepreneurship. This instruction must specifically address issues that relate to instructors working in institution-based enterprises in Jamaica and also focus on teaching instructors the entrepreneurial skills identified by managers as very important or critically important.

Second, developmental programs in team leadership and creativity may need to be encouraged at the training academies with specific emphasis on competencies that were identified as having high importance but low performance. Entrepreneurial skills that should be given priority attention by the managers of the training academies include coaching and mentoring, effective sharing of information, thinking in new ways, seeing opportunities that others do not, seeing the need for something not produced, innovating and using new and existing technology in new ways, considering more than one solution to a problem, seeing problems as opportunities in disguise, and recognizing trends and changes (Rabbior and Lang, 1996).

Third, the National Training Agency may need to carry out performance improvement analyses at the various training academies to determine if the performance gaps in

entrepreneurial competencies which were identified in this study are caused by environmental issues or by deficiencies in the instructors' knowledge and skills. And finally, prospective instructors for the training academies may need to be screened during the interview process to ensure they possesses suitable levels of the entrepreneurial competencies that managers viewed as very important and critically important for success in the institution-based enterprises.

Recommendations for Further Research

This research effort gathered pertinent data regarding what managers of training academies in Jamaica believed to be the critical competencies that instructors should possess in order to carry out their functions effectively in the institution–based enterprises. It also gathered data about the competencies in which the academies' training instructors' performance required improvement.

Some of the results and conclusions suggested a need for further study. One limitation of this study was that the research asked the managers to approximate average instructor values. In future studies, data could be collected through direct observation of instructor performance. The following additional areas could be considered for further research. What are instructors' perceptions of the entrepreneurial competencies that are required for them to perform their job functions effectively in institution-base enterprises? What are trainees' attitudes toward working in institution-based enterprises? What is the relationship between trainees' performance in institution-based enterprises and their performance in the world of work? What are the environmental factors that hinder the development of an entrepreneurial culture among instructors?

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