



**Printing and Packaging Industry Council
Trinidad and Tobago**

Training Providers Study

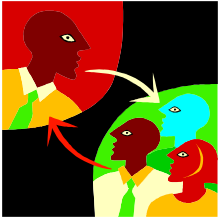


2008

**Revolutionizing the training and human resource capital of the
Printing and Packaging Industry**

2008

Introduction



BACKGROUND

The Printing and Packaging Industry Council (PPIC) is preparing a workforce development plan to revolutionize the training and human resource capacity of the printing and packaging industry in Trinidad and Tobago.

As part of the workforce development plan, the PPIC has completed an industry analysis and skills foresight report that identified the occupational areas for which there are skills shortages and where training is a high priority. For these key occupational areas, the PPIC has defined updated occupational classifications. These occupational classifications are benchmarked internationally to ensure that the local workforce can meet

the challenges of a modern global printing and packaging industry.

The PPIC has studied several local and international training providers and certification bodies in an effort to determine the capabilities of these institutions to develop and implement world-class training programmes to ensure the competence of workers in the priority occupations that were identified.

This training providers report outlines the findings of the study and proposes a plan for the PPIC, local and foreign institutions to work collaboratively in order to realize the objectives of the workforce development plan.

PROPOSED TRAINING PROGRAMMES

The skills foresight report recommended that programmes be designed and delivered to ensure the competence of workers in the following key occupational areas:

- Pre-press/Desktop Publishing
- Offset Printing Operators
- Supervisors
- Digital Printing Operators
- Flexographic Printing Operators
- Production Managers
- Binders
- Injection/Blow Molding Operators
- Screen Printing Operators
- Customer Service/Sales Personnel
- Plastic Bag Extrusion Operators

The design and delivery of these programmes should be done by both local and international institutions, with the requisite experience in these programme areas. The programmes will be delivered in institutions within Trinidad and Tobago that have the capability and resources to ensure global standards in train-

ing are maintained

This training providers study focuses on the following key areas:

-Training modalities

A study was conducted on several training modalities that may be applicable to the local printing and packaging industry, e.g., classroom-training, video/CD-based training, computer simulators and work-placements.

-Training Provider Capabilities

A study of the existing physical and staff resources of local institutions was undertaken to determine their capability to deliver the programmes nationally. In addition to resources, the availability and suitability of curriculum and training materials designed and implemented by local and foreign institutions were reviewed for applicability and global industry-relevance.

“The PPIC has studied several local and international training providers and certification bodies in an effort to determine the capabilities of these institutions to develop and implement world-class training programmes.”

Contents

- 1 Introduction
- 2 Training Modalities
- 3 Training Providers
- 4 Training Institutional Framework
- 5 Conclusions

Ray Consulting Limited (RCL) was contracted by the Ministry of Trade and Industry (MTI) to develop a work force development plan to be managed by the Printing and Packaging Industry Council (PPIC).

Training Modalities

The following training modalities were found to be applicable to the printing and packaging industry:

TRADITIONAL CLASSROOM TRAINING



Traditional classroom training is provided by a teacher utilizing textbooks and other training materials, such as multi-media, in accordance with industry-relevant curricula. This type of training is conducted in classrooms or conference rooms aided by white/blackboards and/or multimedia. Training materials (textbooks and other teaching aids) and curricula are fundamental to the delivery of classroom training.



The training materials and curricula are developed in conjunction with the industry and are updated periodically to maintain relevance to current practice.

MULTI MEDIA, INTERACTIVE CDs AND VIDEO



Multimedia and video provides a rich learning experience to students that will enhance their traditional classroom learning experience. Multimedia and video is becoming an increasingly popular and invaluable

tool in training, as students' learning, interest and motivation can be greatly increased by visual media. Multimedia training includes interactive CD-ROMs, audio visual material and web-based learning.

CLASSROOM PRACTICALS

Classroom practicals are used to simulate workplace equipment and processes under controlled conditions to facilitate training.



In order for institutions to provide classroom practicals, there must be the availability of equipment and a facility that closely reflects industry practice. Classroom practicals in the printing and packing areas are costly since the equipment, consumables and facility requirements are quite expensive. The cost for outfitting classroom labs would usually amount to millions of dollars.

COMPUTER-BASED SIMULATIONS

Computer-based simulations are created to replicate the operations of machinery on the personal computer. These simulations can be used to train students in the use of equipment and processes via computer generated graphics and 3-dimensional models.



There are a number of computer simulations available for the printing and packaging industry, most notably from the FTA, GATF and Paulson Training Programs Inc. These computer simulators are used to supplement the classroom practicals.

WORK-PLACEMENTS

Work-placements provide students with valid experience on the use of live equipment and working under real-life pressures. Work-placements are done in partnership with an administrator and an industry partner through mentorship and apprenticeship programmes.



Work-placements are invaluable in developing employment-ready graduates.



Training Providers



A study was conducted on local and international training providers to determine their capabilities to design and deliver training programmes for the printing and packaging industry. The following is a summary of the findings of the study:

COLLEGE OF SCIENCE, TECHNOLOGY & APPLIED ARTS OF TRINIDAD & TOBAGO (COSTAAT)

*9-11 Melville Street,
Port-of-Spain
Trinidad and Tobago*

COSTAAT currently provides a programme in desktop publishing at the Bishop's Secondary School in Trincity. The programme's duration is four (4) months and accommodates for part-time students. The classroom is well equipped with twenty two (22) Macintosh computers, digital tablets and a high gloss printer. Certification for the programme is offered by COSTAAT.

The training materials and curriculum are well established and industry-tested. The programme is fashioned from similar programmes offered at Savannah College of Art and Design, USA. The tutor is well-qualified and experienced in the field of desktop publishing. The

programme covers many of the industry-standard software utilized in desktop publishing both locally and internationally.

The programme may be expanded to accommodate for training in digital printing through the acquisition of a commercial wide-format digital printing machine.

METAL INDUSTRIES COMPANY LIMITED (MIC)

*Century Drive Macoya,
Trinidad and Tobago*

MIC has a fully functional manufacturing facility for the production of plastic packaging, i.e. plastic bottles and rigid plastic containers. However, the facility does not have the capability to produce plastic bags at this time. The facility is currently producing plastic packaging materials (both screen printed and unprinted) for sale to the public. The facility houses ten (10) injection-molding machines and six (6) blow-molding machines. The institution has recently acquired three (3) new blow-molding machines.

MIC is in the process of developing specific programmes for employees in the plastics industry in the following areas:

- Injection Molding
- Blow Molding

These programmes may be offered as specializations in its current Journeyman programme.

The curriculum and training materials are at the design phases. MIC is also considering the use of computer-based simulators designed by Paulson Training Programs Inc to supplement its traditional classroom training. MIC intends to utilize trainers with the relevant qualifications and job experience when the programme is launched.

The programme will be certified by the MIC. Joint certification with an international body, e.g. SPI, will be taken into consideration by the MIC.

MIC's proposed programme can be extended to include blown-film-extrusion for plastic bag production with the acquisition of a blown-film-extrusion machine.

John S. Donaldson Technical Institute (JSDTI)

*Wrightson Road,
Port-of-Spain
Trinidad and Tobago*

JSDTI initiated a printing technicians programme in the 1960s, and this programme was the only one of its kind nationally. However, in recent times, the paucity of equipment has plagued the institution and the last batch of participants in this programme graduated in 2003. Several pieces of printing equipment have been purchased for JSDTI to re-start the programme; however, the facility to house the equipment at JDSTI is

currently unfinished. The equipment includes an image setter, plate maker, 2-colour offset printer, guillotine, folder, saddle stitcher and binder. The equipment is currently warehoused at the local distributor, Scheilber and Company, at El Socorro. There is concern about the length of time the equipment has been in storage (for over 3 years now) and that the functionality of the equipment, especially the electronic devices, may deteriorate.

The UTT, which is the agency with responsibility for JSDTI, is in the process of finalizing a building plan for the training facility. Once the training facility is completed, the programmes can be launched.

The JSDTI is in the process of upgrading its curriculum and training materials to ensure that they are industry-relevant. It also proposes to hire trainers with the requisite experience and qualifications for part-time and full-time programmes. The programme will be certified by UTT. The programme may also be jointly certified by an international agency, such as the GATF or NCSSGC, once a mutual agreement is reached between UTT and an international certification agency.

The proposed programme will cover the following areas of study:

Training Providers

- Imaging/Pre-Press
- Offset Printing
- Binding

The programme will also provide an introduction to other printing processes such as flexographic, digital and screen printing. JSDDTI does not currently have the equipment to deliver training in Computer to Plate (CTP) or flexographic printing. It was noted that the equipment to deliver this training is expensive and would cost the institution in excess of a million dollars.

UNIVERSITY OF TRINIDAD AND TOBAGO (UTT)

*TTMA Building
42 Tenth Avenue,
Barataria
Trinidad and Tobago*

The UTT currently offers programmes in supervisory management and customer relations management. These programmes are run as short courses and are geared towards organizations. The programme accommodates for part-time employees. The curriculum is well established and industry-tested. The programmes are currently being delivered by the institution at the Pasea campus. Both programmes are certified by the UTT.

MSTTE ON-THE-JOB TRAINING (MSTTE OJT)

*Corner Agra and Patna Streets, St. James
Trinidad and Tobago*

The MSTTE OJT provides work-placements for graduates in work environments that they monitor. Life-skills training is provided to graduates by the OJT. The OJT provides the following work-placement services:

- Screen potential employers before work-placements
- Monitor persons in work-placements
- Provide stipends to persons in work-placements
- Provide insurance to persons in work-placements

The OJT has the capability to manage the work-placements of apprentices within the printing and packaging industries.

YOUTH TRAINING AND EMPLOYMENT PARTNERSHIP PROGRAMME LIMITED (YTEPP)

*22-24 St. Vincent Street,
Port-of-Spain
Trinidad and Tobago*

YTEPP is in the preliminary stages of considering the development of programmes in flexographic printing and plastic extrusion. The curriculum documents and teaching materials are still to be prepared. YTEPP does not have the physical resources to deliver training in printing or extrusion molding at this time.

SCHEIBLER AND COMPANY LIMITED

*Chootoo Road,
El Socorro
Trinidad and Tobago*

Scheibler and Company limited is desirous of conducting printing programmes as a private non-governmental provider. The curriculum and textbooks for the programme are still to be designed. There exists a one colour press designated for the training facility and other pieces of equipment will be sourced in the future as the programme is launched. The certification for the programme is yet to be decided.

ROCHESTER INSTITUTE OF TECHNOLOGY (RIT)

*Printing Industry Center
at RIT College of Imaging
Arts and Sciences
Rochester Institute of
Technology
55 Lomb Memorial Drive
Rochester, NY 14623
USA*

The Printing Industry Center at RIT addresses the concerns of the printing industry through research initiatives and educational outreach. RIT provides curriculum and training materials relevant to the following programmes:

- Desktop Publishing
- Imaging/Pre-press
- Offset Printing
- Flexographic Printing

The curriculum and training materials are well established, industry-tested and are currently being used in the USA, as well as, internationally. RIT provides assistance to institutions outside of the USA to set up training institutions for printing. RIT certifies all of their programmes.

GRAPHIC ARTS TECHNICAL FOUNDATION (GATF)

*200 Deer Run Road,
Sewickley, PA 15143
USA*

PIA/GATF offers full-scale courses covering both knowledge (concepts) and operations (operating procedures). These comprehensive courses include:

- Sheetfed Offset Press Operating
- Web Offset Press Operating
- Bindery

The PIA/GATF curriculum and teaching materials are designed for training and re-training staff quickly and effectively. They are well organized and timely content brings credibility and convenience to the classroom. All of the program packages contain the elements needed to prepare, organize, and implement in-house and classroom training programs.

The Instructor's kit includes the Instructor's Training Manual with in-

Training Providers

structional CD-ROM. The Trainee's kit includes the Trainee's Workbook and Trainee *Record Booklet* plus related textbooks. An audio-visual kit including videotapes and a reference library are included. The GATF also provides computer-based simulators.

After completing the courses, students can take a final Comprehensive Examination offered by PIA/GATF. The exam is returned to PIA/GATF and graded. Those students/trainees who pass with a score of 80% or better will receive a PIA/GATF Certificate of Completion. The GATF programmes are world-renowned and are used internationally as a best practice.

FLEXOGRAPHIC TECHNICAL ASSOCIATION (FTA)

900 Marconi Avenue
Ronkonkoma, NY 11779-7212
USA

The FTA programme will give trainees a great base to develop a solid technical understanding of the entire flexographic printing process. The FTA develops curriculum kits that contain:

- Trainee Workbooks
- Leader's Guide- the "how-to" handbook for a trainer
- Flexography: Principles & Practices, 5th Edition on CD-ROM

Certificate of Completions are provided for each trainee successfully completing the FTA programme.

The FTA also provides computer-based simulators and interactive CDROMs to supplement its classroom training materials and curriculum.

NATIONAL COUNCIL FOR SKILL STANDARDS IN GRAPHIC COMMUNICATION (NCSSGC)

Harry V. Quadracci
Education & Technology
Center 800 Main Street –
Building Q, USA

The National Council for Skill Standards in Graphic Communications is a non-profit organization in the USA that seeks to define the competency requirements for successful performance of tasks associated with the graphic arts industry. Skill Standards were developed by a collaborative group of concerned leaders from industry management, associations, education and labour. The following certification examinations are available from the NCSSGC :

- Flexographic Press Operator's Multi-color Certification Examination
- Sheetfed Offset Press Operator's Multi-color Certification Examination
- Web Offset Press Operator's Multi-color Certification Examination

Successful graduates are awarded Certificates (for

framing) indicating National Council Certified Operator (NCCO) and a personal letter of commendation from the NC managing director. Candidates can utilize the training materials designed by the GATF and FTA to prepare for the NCSSGC examinations.

PAULSON TRAINING PROGRAMME INC. (PAULSON)

3 Inspiration Lane
P.O. Box 366
Chester, CT 06412-0366
USA

Paulson Training Programs Inc. provides interactive CDROM based courses that can be used by itself or to supplement traditional classroom training. The following courses are available:

- Injection Molding
- Blow Molding
- Extrusion

THE SOCIETY OF THE PLASTICS INDUSTRY, INC. (SPI)

1667 K ST NW
Suite 1000
Washington DC 20006
USA

The Society of the Plastics Industry (SPI) has developed national, voluntary certification examinations that assess and certify the knowledge and skills of plastics operations employees. The universal designation of NCP Certified Operator can be achieved through one of four test versions. The NCP exams are delivered by two methods –

online or at a testing center. Exam versions are available in:

- Blow Molding
- Extrusion
- Injection Molding
- Thermoforming

The research for National Certification in Plastics revealed a "body of knowledge" that plastics processing personnel should have. Working with the Polymers Center for Excellence, SPI has developed a detailed NCP Study Guide based on this body of knowledge. Each section is color-coded (blue for blow molding, green for extrusion, red for injection molding and yellow for thermoforming). This allows the reader to quickly focus on the information for the appropriate process.

It provides an excellent overview for anyone in plastics processing and is especially useful resource for those employees taking the NCP exam.

Institutional Framework

Programme	Provider	Can Programme be delivered immediately?	What further work is necessary	Certification Provider	Curriculum resources available	Textbooks available	Interactive CDs, audio-visual available	Computer-Based Simulations available
Desktop Publishing	COSTAAT	Yes	None	COSTAAT	COSTATT	COSTAAT	-	-
Imaging/Pre-Press	JSDTI	No	Facility, Curriculum, Equipment	UTT/GATF/NCSSGC	GATF	GATF	GATF	GATF
Sheetfed Offset Printing	JSDTI	No	Facility, Curriculum	UTT/GATF/NCSSGC	GATF	GATF	GATF	GATF
Flexographic Printing	JSDTI	No	Facility, Curriculum, Equipment	UTT/FTA/NCSSGC	FTA	FTA	FTA	FTA
Digital Printing	COSTAAT	No	Equipment	COSTAAT	COSTAAT	COSTAAT	-	-
Screen Printing	JSDTI	No	Facility, Curriculum, Equipment	UTT	-	-	-	-
Bindery	JSDTI	No	Facility, Curriculum	UTT/GATF/NCSSGC	GATF	GATF	GATF	-
Injection Molding	MIC	No	Curriculum	MIC/SPI	SPI	SPI	Paulson	Paulson
Blow Molding	MIC	No	Curriculum	MIC/SPI	SPI	SPI	Paulson	Paulson
Blown Film Extrusion	MIC	No	Curriculum, Equipment	MIC/SPI	SPI	SPI	-	-
Supervisory Management	UTT	Yes	None	UTT	UTT	UTT	-	-
Customer Relationship Management	UTT	Yes	None	UTT	UTT	UTT	-	-

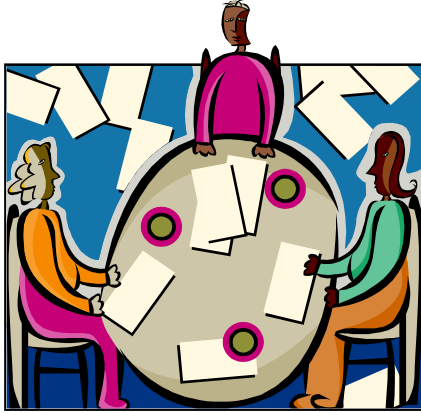
Legend

Facility = Training facility has to be suitably prepared to house the equipment for the programme
 Curriculum = Programme curriculum and teaching materials are to be designed and implemented
 Equipment = Equipment and consumable are to be acquired to deliver the programme

JSDTI = John S Donaldson Technical Institute
 MIC = Metal Industries Company Limited
 GATF = Graphic Arts Technical Foundation
 SPI = The Society of the Plastics Industry, Inc
 NCSSGC = National Council for Skill Standards in Graphic Communication

COSTAAT = College of Science and Applied Arts of Trinidad and Tobago
 UTT = University of Trinidad and Tobago
 FTA = Flexographic Technical Association
 Paulson = Paulson Training Programs, Inc

Conclusions

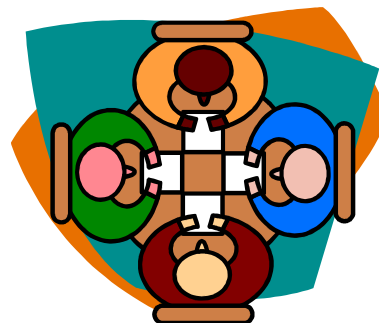


The training provider's study provided the following insights into the training environment that presently exists for the printing and packaging sector:

- Providers with demonstrated capabilities to deliver specific programmes for the occupations identified in the skills foresight report should be selected to partner with the PPIC to achieve its workforce development objectives.
- There are a number of providers with different capabilities in distinct areas of expertise. There is a clear need to coordinate the efforts of each provider working together in a synergistic fashion to deliver the training programmes in a coherent manner. The PPIC should assume the responsibility for this overall coordination and manage the implementation of the workforce development plan as a project. The providers would concentrate on programme design, delivery and certification.
- There is a need to assist training providers, where necessary, to acquire and upgrade their equipment and facilities through adequate funding from the relevant governmental agencies and ministries.

Conclusions

- Training providers that are in the process of curriculum design should pursue collaborative efforts with international providers who have well established curriculum, training materials and certifications that are industry-tested, relevant, up-to-date and internationally recognized as best-practice.
- The PPIC should assume responsibility for the ratification and advice on curriculum and teaching materials to ensure that programmes are relevant to the industry that it represents and are globally benchmarked to produce a world-class printing and packaging industry.





**Printing and Packaging Industry Council
Trinidad and Tobago**

The PPIC would like to thank the Permanent Secretary of the MSTTE for facilitating this training providers study and the following training providers who have assisted us:

COSTAAT
JSDTI
MIC
UTT
MSTTE OJT
YTEPP
Scheibler and Company Limited



PPIC
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MTI
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Industry

RCL
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