



CPISC • CSIC

people in print

SKILLS FOR THE FUTURE

National Skill Standards for the Printing and Graphic
Communications Industry



June 2007

Canadian Printing Industries Sector Council



ABOUT CPISC

The Canadian Printing Industries Sector Council (CPISC) provides a national forum for collaboration on human resource and workforce development issues within the printing and graphic communications industry. Incorporated in April 2006, CPISC's mission is to identify and implement strategies to address skills development and learning within the sector. Our overall goal is to improve the quality of the sector's labour force.

The guiding principle within CPISC is partnership. We bring together employers, employees, education and government to develop innovative approaches to skills development for the current and future workforce of this technology-based industry. The intent of CPISC is not to duplicate what exists but to build on what is currently being done and to develop on a national basis the programs and services that will meet the human resource development needs of the industry as a whole.

INTRODUCTION

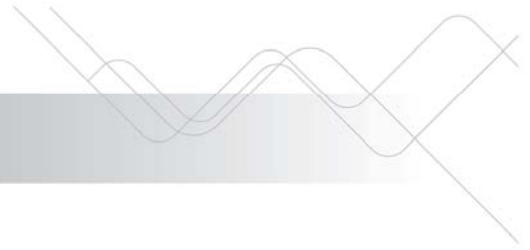
The past two decades have been characterized by rapid changes in technology, increasing global competitiveness and the restructuring of business practices. Despite this, the Canadian printing and graphic communications industry has continued to grow and flourish.

The printing and graphic communications industry has embraced technology. This has resulted in a constant need to upgrade and retrain the current workforce while ensuring that bright, motivated young people are attracted to this vibrant industry. All workers – current, new and potential – need to have opportunities to acquire the high level of skills they will need to succeed in the future.

Jobs within the printing and graphic communications industry fall into the following production process areas.

Pre-press – Pre-press includes preparing digital and traditional material for the press, according to customer's specifications. Traditionally, pre-press occupations included typesetters, scanner and camera operators, plate makers and film strippers – we used to talk about proofing the blues, going to film and preparing a camera-ready version. However, digital technologies and increased customer participation in pre-press activities have blurred previous traditional classifications. Responsibilities now include revisions and corrections of customer files, digital creation of type, page layout, scanning, imposition, colour separation, film and plate preparation and digital asset management. The majority of the work performed during the pre-press process requires highly sophisticated software.

Press – Press involves the actual printing of the document on a sheet-fed or web offset press. A sheet-fed press is just what the name implies – sheets of paper being fed into a printing press. Web presses operate with rolls of paper rather than single sheets – for example, newspapers are usually printed on web presses. This process area includes press operation and troubleshooting.



Employees install and adjust plates, prepare blankets and cylinders, select and mix inks, run the press, monitor print quality and press performance, troubleshoot problems, ensure a safe operating environment and perform preventive maintenance on presses. As well, two other press systems – flexographic printing and digital printing – are rapidly growing areas that warrant particular attention.

Finishing and bindery – Finishing, bindery and distribution are the final steps in the production process. They include the assembly of finished products for the customer or consumer. Employees collate and bind printed sheets, perform finishing operations such as drilling, embossing and laminating, and prepare the final product for mailing and distribution. This process area now frequently includes the creation of a website that can host catalogues, databases and even e-commerce. As such, aside from the traditional occupations involved in finishing and binding a document together, this area now also includes a rapidly growing graphic communications component.

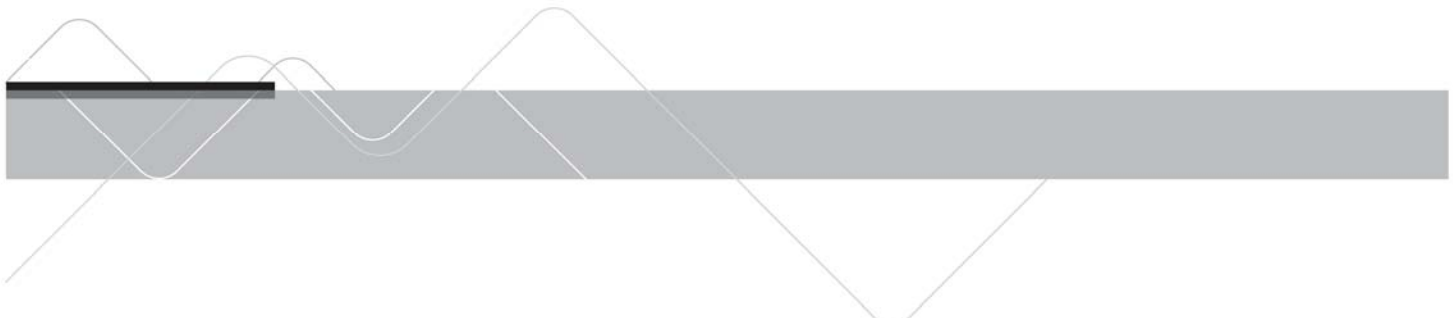
In addition, there are a number of jobs that support the production processes. **Production support** occupations include customer service and sales representatives, estimators, production managers and schedulers, and plant supervisors, as well as accounting and office staff, mechanics, electricians and material handlers.

DEVELOPING SKILL STANDARDS AND PROFILES

The industry determined that there is a need for agreed-upon standards to inform and support quality training and retraining and the links between employers and employees and education and training providers. There is little consensus among educators and industry on the definition of a standard. Most definitions concur, however, on certain basic elements – standards should include a statement of what a person should know and be able to do as well as some indication of the level of performance required for the job.

As Canadian industries shift from their industrial base to meet the needs of an information society, few have been as affected as dramatically – or have responded as overwhelmingly – than the printing and graphic communications industry. All aspects of the industry, from pre-press through to finishing, are undergoing change.

Contrary to most other sector councils, CPISC represents a manufacturing sector. The three production process areas identified above – pre-press, press, and finishing and bindery – and the production support area are each highly complex and integrated, and vary widely in size of company, types of presses, range of job titles and production output. The demands of technology will require a more broad-based, holistic approach to training all front-line workers. In other words, workers in printing and graphic communications will require education and training in all aspects of the industry. New technology will only increase the interaction among the three printing production process areas. This increased interaction also carries over into relationships with customers and suppliers. The



implication is that all workers will need to be multi-skilled in the future and that their knowledge of technology will need to expand beyond their own part of the printing process.

To compete effectively in the emerging environment, printing and graphic communications firms need a highly skilled workforce – one in which workers hold a broad range of skills and knowledge, including higher technical skills. Specifically, firms will increasingly require adaptable, multi-skilled workers who can operate computers, analyse problems, make decisions, work cooperatively, interact with customers and who have a solid understanding of the entire printing production process. Operations in printing and graphic communications firms vary widely in size, type of presses, range of job titles and production output. For skill standards and profiles to be useful, they must reflect this change in the industry by covering all aspects of the industry in an integrated manner.

As with all manufacturing sectors, the functions along the printing production chain are highly integrated. As well, production support functions contribute to the overall production chain. It would therefore not serve the sector to develop skill standards by occupation.

For this reason, CPISC will use a unique approach to the development of skill standards that mirrors the way the industry is organized and functions. For each process area, CPISC will develop three types of skill standards:


- essential skills
- core skills
- operating skills

The attached diagram provides a schematic representation of these three types of skills, with some examples of the types of specific essential, core and operating skills that could be developed for the press production area.

Essential skills are basic or “essential” to all occupations. They include literacy, numeracy, oral communications, problem-solving, critical thinking, decision-making and inter-personal skills (ref. Conference Board’s Employability Skills and the profiles developed by Skills Canada). The essential skills will, in all likelihood, be fairly consistent for all process areas.

Core skills cover those elements that comprise a broad-based knowledge of the industry. For the most part, some core skills will cut across process areas, although some may be more relevant to a particular process area. For example, core skills could cover workflow knowledge, printing knowledge, statistical process control skills, measurement skills, printing safety, prevention measures and quality control.

Operating skills relate to specific operating functions within a process area. A function is defined as a set of related work activities organized in either chronological or operational order that often cut



across occupations. In other words, functions are not highly specific job tasks but groups of related activities that often cut across job titles. For the press process area, for example, operating skills could include such basic operations as preparing ink and inking systems, preparing cylinders, monitoring colour quality and performing wash-up, as well as operating skills pertaining to a particular type of printing such as sheet fed, web, flexographic or digital.

Core and essential skills will be developed for the sector as a whole and will be included in the skill standards for a particular area, i.e. pre-press, press, finishing and bindery and production support. It is therefore imperative that the core and essential skills be developed first.

The development of essential, core and operating skills will provide a solid foundation for the development of profiles of key occupations within each process area. Occupation is a generic term corresponding to a group of work activities involving a homogeneous set of knowledge and competencies.

CPISC proposes to build on the work done by the Comité sectoriel de main-d'œuvre des communications graphiques du Québec and the Printing Industries of America in the United States. The skill standards and profiles will cover occupations under the following NOC categories: 9471, 9472, 9473, 9474, 7218, 7381, 1473, 1474, 2233, 0016, 0611, 0911, 1452, 5223, 5241, 6411, and 7311. The skill standards and profiles will also be relevant to occupations in the following NAICS categories: 323, 3222, 5111, 54143, 56143, and 561990.

PROJECT OBJECTIVES

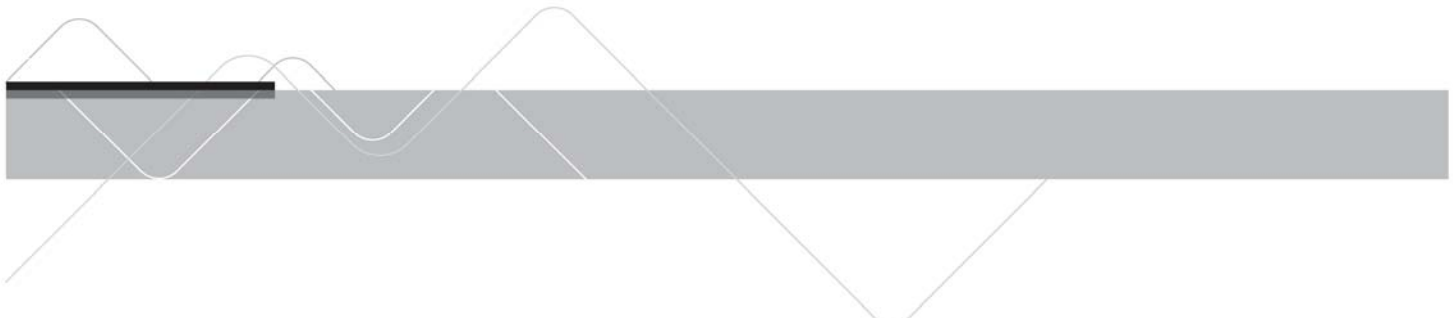
The objective of this project is to develop skill standards and profiles for key occupations within the three production areas that comprise the printing process: pre-press, press and finishing and bindery.

PROJECT ACTIVITIES AND TIMELINES

The project will run from June 1, 2007 to March 31, 2009. In 2007-2008, CPISC will develop core and essential skill standards for the printing sector as a whole and skill standards and profiles for the press production process area. In 2008-2009, we will develop skill standards and profiles for the pre-press and finishing production process areas.

Skill standards and profiles will be developed separately for each production process area. Each one will operate with its own working group, consultant and validation focus groups.

The development of skill standards and profiles involves five general phases for each production area. It is assumed that all phases will be conducted simultaneously in both official languages.

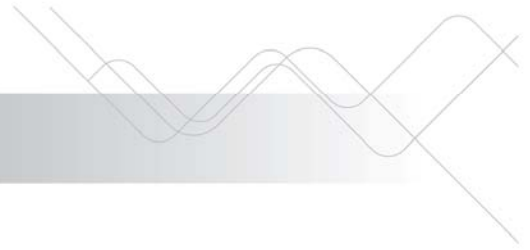
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- Phase 1 - Based on research, existing examples and input from the Project Working Group, preliminary core and industry related skill standards will be developed. The Project Working Group comprises industry experts i.e. the people who work in the relevant process area. In the case of the core and essential skills, representation on the working group will be sought from the entire printing sector.
- Phase 2 - The skill standards will be validated by industry experts and stakeholders across the country. The validation process will include focus groups as well as an online validation questionnaire.
- Phase 3 - The skill standards will be revised as per comments received and will be reviewed once again by the Project Working Group.
- Phase 4 - Using the essential, core and operating skill standards as a starting point, profiles will be developed for key occupations within each process area. The profiles will be reviewed by the Project Working Group and validated by industry experts and stakeholders.
- Phase 5 - The skill standards and profiles will be finalized and disseminated both in print and on the CPISC website.

AND THIS PROJECT WILL LEAD TO...

Skill standards for the printing and graphic communications industry constitute one of the three building blocks upon which all of CPISC's future activities rest. It is not possible to effectively recruit new employees or to train existing employees until clear skill standards have been developed that describe and define what an employee should know and be able to do.

A set of agreed-upon skill standards and profiles will play a key role in improving workforce development. Chief among the benefits is the potential to unify the current system of occupational preparation by setting a single set of standards for all training institutions. Secondary and postsecondary technical training programs will be able to coordinate their teaching around standards that the industry deems necessary for the success of new workers. Young people will be able to judge their progress toward meeting occupational goals by their demonstrated success in meeting the skill standards. Employers will be assured better trained workers. Workers will understand better the nature of the training with which they need to stay current and will be assured of the portability of their skills if they change firms or move to other provinces.

Standards cannot be developed – and they will not be used – unless a reasonable degree of consensus is reached among all parties with an interest in them. This includes current workers, employers, learners preparing for careers in printing and graphic communications, and education and training providers. The validation process will ensure that as broad a cross-section as possible of the industry is consulted and buys in to the skill standards and profiles. As well, as part of the outreach for this project, CPISC will initiate discussions with provincial and territorial ministries and



departments of education and with training institutions and other training providers, in order to ensure buy-in to the skill standards and profiles.

Skill standards will have a significant impact on each of these groups.

For **current workers**, a system of skill standards will provide a portable credential, allowing them to change employers and even provinces to find work for which they are qualified. They will also be a useful tool for current workers to assess their own knowledge and skills and seek further training as needed to improve them.

For **employers**, agreed-upon skill standards will serve as a reliable gauge of potential employees' proficiency, one which is outcome-based and is independent of individual training providers. Skill standards will also be used by employers to assess and modify their own in-house training. As well, skill standards will become part of individual employee development plans and will help small businesses – comprising the majority of the sector – to develop and refine cross-firm training.

In the short term, **learners** will be able to use the skill standards to better understand the available career pathways and to determine if printing and graphic communications is a sector that matches their personal goals and skill areas. In the long term, a nationally recognized set of skill standards will help learners by making learning goals more explicit and by clarifying the steps they must take to prepare to enter into the printing and graphic communications industry.

A national system of skill standards will provide **education and training providers** with important information about the direction in which the industry is headed. The skill standards will become the basis for revising curriculum and developing new assessment tools and methods. But more importantly, because the standards are industry-based, they will contribute to the development of a closer relationship between industry and education, fostering greater collaboration.

SKILL STANDARDS FOR PRESS PROCESS AREA

