TCF Inquiry -Productivity Commission Post 2005

The Impact of High Level Technical Skills on Clothing Production

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The impact of High Level Technical Skills on Clothing Production in Australia

With the decades of mass manufacturing, there has been a loss of high level technical skills and there is a shortage of skilled patternmakers in the clothing production sector. Now the market shift to fitted basic shapes and increased individuality has uncovered a large technical skill gap at AQF levels 4-6 in drafting patterns from scratch using a specific set of body measurements. It is this skill which gives industry control over sizing issues and improves the speed of seasonal turnaround times for each range.

In terms of consumer satisfaction "Good Fit" ranks as the number one criterion with Design as the second favourite and Good Fit can only be achieved with qualitative patternmaking skills based on an understanding of the dynamics of the human body .

The key to good garment design is the ability to interpret a design using an original pattern block with given body measurements which include both the **chest and the bust**.In this way the fullness can be built into the garment according to the chest - bust difference rather than being added to the edge which ensures a good fit at the pivotal points of the body. This pattern drafting skill is critical to the production of fitted clothing and differs significantly from the current industrial method which uses standard blocks based on generic sizes from the Australian standard sizings which are fatally flawed in terms of good fit as they include only the bust, waist and hip with **no chest measurement.**

One of the major frustrations in the clothing industry for both short run production and high volume is achieving GOOD FIT for the consumer and yet current training methods for patternmaking in TAFE Colleges and the workplace practices are still based on tracing around existing pattern blocks which use Australian standard sizing with no chest measurement (and in many cases no known body measurements) The patternmaker then attempts to convert old generic blocks into new styles. Unless the patternmaker has the skills to quickly draft a pattern block from given body measurements for each new style the process will take many hours and in many cases the original design idea is abandoned as being too difficult!! The testing of the pattern in the toile also becomes a lengthy process as the 'nip and tuck' method requires the alterations to be transferred to the old pattern block and a new toile constructed.

This unskilled process means that the interpretation of new designs are limited by the fit of older ones and that even if there is no original block construction involved patternmakers may take up to 16 hours in an attempt to 'restyle' an old block into a 'new' design which may not necessarily fit.

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There is a need for a common methodology in training for patternmaking and design development as an aid to best practice procedures for training institutions and workplace delivery to replace the current skill gap due to the over reliance on generic standard sizing pattern blocks with a 'one size fits all" approach.. The standardizing of procedures and skills training would provide a common terminology to demystify the current patternmaking confusion and give the patternmaker greater flexibility which would in turn resolve the controversial problem of the Australian sizing standards and give the company greater control over production decisions related to creative development and production cycles to compete in a global market.

Such a methodology is now available in Australia as a modern e-learning program for manual patternmaking known as *TELESTIA AB: Interactive Training and Development Method* which records and visually simulates all steps involved in patternmaking from simple to complex garments thereby enabling on-site workbased learning and/ or institutional group training This program uses interactive CD ROMS which have been produced as part of a European Union vocational training pilot project in 2001 known as "Leonardo Da Vinci" which encourages the development of on-line learning solutions **.**

The aim of this project was to "host old knowledge in a modern format' in a non-linear multi-level approach to make learning easy and enjoyable in an animated visual form. The program is based on innovative methodology used by a training institution known as SITAM AB School of Fashion Design in Greece which has since 1980 developed books, tools and a methodology to simplify training for Pattern Construction, Grading and Fashion Design These teaching materials have been available in Australia since 1997 in print format and used by Enterprise Skills, a Registered Training Organisation in Victoria for the effective delivery of the Certificate IV in Clothing Production (LMT 40300)

SITAM-AB Greece, as author of the pedagogical content was the lead partner in this project in collaboration with Hollings Faculty of Clothing Technology , University of Manchester, UK and the Fachhochsule Albstadt-Sigmaringen University in Germany.The National Training Organisation for the British Apparel Industry (now known as Skillfast-UK) has evaluated these resources and certify that the TELESTIA AB CD ROMS provides the "necessary underpinning knowledge towards the UK/SVQ (National/Scottish Vocational Qualification) at Level 3 titled `Apparel Manufacturing Technology`.

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The EUROPRIX 2002 Quality Seal has been awarded for the multi-media learning program for *TELESTIA AB:Pattern Construction* and *TELESTIA AB:Fashion Design* by an independent expert jury in the Category of Learning and e-Education. The materials were evaluated in two rounds by two different panels of jurors and they received a total technical score of 3.5 or above and were evaluated according to the following technical criteria:

- quality and comprehensiveness of content
- ease of use:functionality,navigation and orientation
- value added through hypermedia (interactivity)
- attractiveness:aesthetic value
- quality of technical realisation
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At present only four organisations are registered as examination centres for distance learners using the interactive resources. They are:

- Hollings Faculty, Manchester, UK
- Fachhochschule Albstadt-Sigmaringen, Germany
- SITAM-AB, Greece
- Enterprise Skills, Australia

In 2001 Enterprise Skills was granted funding for a " Partners for Quality Project" as part of an initiative by the Victorian Minister for Post Compulsory Education and Training, Lynne Kosky, MP to support the delivery of quality training outcomes within the Vocational Education and Training System. The aim of the project was to demonstrate good practice in innovative teaching learning materials used for training in Certificate IV in Clothing Production (LMT40300) in the delivery of custom made clothing competencies in the Textiles, Clothing and Footwear Training Package and evaluate the learning effectiveness and application to Australian training competencies of the *TELESTIA AB:Interactive Training and Development Method.*

A series of six learning trials were conducted with participants with little or no previous experience in patternmaking and various levels of language, literacy and numeracy skills to determine the learning effectivenss of these mult-media training tools. An independent evaluator monitored the trials and the feedback indicated that this instructional program is easy and practical and can be delivered as a distance learning self paced program and on-site as an electronic learning program using animated 'user friendly' graphics and sizing tool that teacher the learner to manually construct accurate patterns

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The contents of the *TELESTIA AB: Interactive Training and Development Methods* for Pattern Construction and Fashion Design were examined to determine if these resources were suitable support materials for the qualifications framework within the Australian Textiles, Clothing and Footwear Training Package.

The mapping process by the Australian Light Manufacturing Industry Training Board demonstrated that these resources support the delivery of both:

-**Certificate IV in Clothing Production (LMT40300**)

- Diploma of Textiles Clothing and Footwear (LMT 50300)

The 6 learning trials and 3 workshops conducted during the "Partners in Quality" project for the Victorian Learning and Employment Skills Commission , indicate that the training methodology employed systematically builds the underpinning knowledge and skills critical to the achievement of specific units of clothing production competencies at levels 4-6.

Related Training Package Competencies –Pattern Construction

LMTPDCL-06A	Constructing Pattern Blocks	AQF -level 5
LMTPDCL-03A	Select/Modify Patterns	AQF - level 4
LMTPRCL-12A	Measure, Lay-up and cut custom made garments	AQF - level 4

Related Training Package Competencies- Design Development

LMTPDCL - 01A	Assist in preparation of preliminary design concepts	AQF level 4
LMTPDCL - 02A	Assist with development of design concept	AQF level 4
LMTPDCL - 04A	Respond to design brief	AQF level 5
LMTPDCL - 05A	Develop/present design concept(s) within specified guidelines	AQF level 5
LMTPDCL - 08A	Manage design within specified guidelines.	AQF level 5
LMTPDCL – 09A	Agree design brief	AQF level 6
LMTPDCL – 10A	Manage concept development	AQF level 6
LMTPDCL – 11A	Manage design	AQF level 6

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The *TELESTIA AB Interactive Training and Development Method* was submitted to the Australian National Training Authority (ANTA) Quality Assurance Co-ordinator for Training Package Resource Materials to apply for the "noting" process .Unfortunately the outcome of this indicates that there is no vehicle to evaluate international best practice materials and that the ANTA 'noting' process is only suited to resources that are developed from initial contract to final product in Australia.

The process of evaluation while based on 10 quality principles is flawed as one of the main criteria is compliance with the ANTA 2001 Support Materials Guide (A Guide for Developers of Training Package support materials) which was designed only for funded projects for resource developers. Private developers of resource materials currently have no template or guidelines and the present evaluation method is based on the viewpoint of individual consultants with little or no experience in the industry .

As there is a critical shortage of training resources for training at the AQF levels 4-6 it is difficult to understand ANTA's inflexibility in being prepared to implement 'world best' training resources in an Australian training environment is an endeavour to save much needed funds which can be directed into other areas of skill. .

It is this culture of resistance to change and innovation that is duplicated at the individual training level and that enable old practices in patternmaking teaching to continue despite the consistent feedback from industry that there is insufficient skill development geared to complex patternmaking..

Three case studies are described below to demonstrate the effect of training using this patternmaking method on productivity within the company due to the skill and speed in making original pattern blocks to specific measurements .

Case Study 1

Sabrina commenced her apprenticeship with Helen Brownhill Couture in January 2000 at the age of 16 and trained one day a week with Enterprise Skills using the SITAM AB methodology and print manuals and templates for pattern construction and fashion design Within the year she was confidently making patterns for any body size or style straight from a photograph and/or drawing and in December 2000 Helen Brownhill was able to say:

> "*We feel that the SITAM method of patternmaking you are using has given Sabrina confidence and skills to make patterns understand how and why a garment is put together. Your training has been very relevant to our business in the couture made-to-measure field''*

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Since the completion of her apprenticeship in June 2002 Helen Brownhill has sufficient confidence in her skills to trust her to maike samples and individual garments from scratch for example she provided Sabrina with a picture of a style drawn by a client for 6 garments (3 skirts and 2 tops) which she redesigned according to notes , drafted the patterns and laid out and cut chiffon, satin and lace totalling $4000 with accuracy and speed.

As a result of the skills gained in Sabrina's apprenticeship Helen Brownhill has been able to develop a budget line for bridals and distribute samples make by Sabrina , all around Australia to 28 outlets. This initiative was a first in the bridal business as the lengthy and expensive process of patternmaking in the 'traditional' method made such a project such a business impossible.

This case study of apprenticeship using the manual methodology illustrates the accelerated nature of this patttern construction and fashion program and it is concluded that with the arrival of the interactive CD ROMS these materials would be suitable for on-site learning in the workplace.

Case Study 2

Similarly Faye Browne, Motto says in regard to the training for their apprentice:
"*We believe the SITAM patternmaking is perfect for the new individuality thinking now in the market place. It has the flexibility to draft for any size and style and is what we need to break down the barriers that have been holding back the clothing industry in Australia. The old method of "nipping and tucking"is too time consuming and costly It limits the range of designs that can be put into production. If other companies were prepared to take on this system and give up the old way of working it would make a big change in the whole industry/*

Case Study 3

Thai Phee is a Vietnamese industrial machinist with very limited English who began training in patternmaking in 1999 using one-on-one tutoring and the sizing template. Within three months he was able to make patterns to personalised measure for ladies wear suits, menswear and evening. He is now opening his own shop in Bridge Road Richmond and has manufactured his own range of quality mens tailoring service for suits made to individual measurements and style.

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This skills gap in high level technical skills has been clearly identified, firstly in 1994 in the TCF Future Strategies Report and again in 1997 when the TCF Industry Commission Report noted that there was in Australia a 'blindspot' in the training of qualitative skills in design, cutting, patternmaking and garment construction . The Commission notes :

> *"It is no coincidence that European countries such as Italy and Germany have been able to maintain apparel and footwear industries despite higher wage levels than those ruling in Australia as they have been based on the development and production of high value added garment, incorporating design and quality features with highly trained technical production staff."*

Similarly, Sally Weller in the Melbourne University report (1998) on the TCF industry notes that within the last ten years the markets within the TCF industry has become highly segmented with firms lining together in a global production network. This reports emphasises the need for specialised skills and innovative design and production techniques so that Australian firms **regardless of size** can control the design and sample development and compete with global brands and distribute their own products through the global supply chain.

She notes :

"....the local industry structure and the relationship of the local industry to the international environment has changed dramatically.Unless Australian firms have the skills to develop quality design garments and compete with international brand names the future globalisation trend will decimate parts of the fashion industry that rely on imitating overseas styles"

In Australia there is an increasing demand for skilled technicians with a sound knowledge of patterns and garment construction with accurate sizing specification and as the 1997 TCF Industry Commission report clearly indicates that while employment has been declining in the TCF industry it has been concentrated in the **low skill labour market** and that there are job and/or self employment opportunities for technically skilled, flexible workers in the clothing and fashion industry.

Despite this feedback the public training sector has continued to perpetuate the view that the clothing industry is unworthy of interest as far as future employment is concerned and has chosen to delivery generic training which is not specific to the technical needs of the clothing production sector.

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The media has reinforced the perception with continuing publicity in regard to tariffs, new technology, award re-structuring and offshore manufacturing. It has the effect of reinforcing a poor public image of the clothing sector which does not relect the true picture of an emerging vibrant Australian based industry especially in the small –to-medium sized sector.

There is a need to publicly promote the Clothing Industry without tying it to low skill employment statistics for manufacturing and there will need to be a major campaign to convince the public that there are increased opportunities for skilled flexible technicians in patternmaking and garment construction especially in the niche markets for fitted ladies'wear, mens' and childrens'wear.

This would also encourage senior secondary school students to promote the fitted fashion clothing industry as a serious careerpath with international opportunities rather than as 'sweated labour'for the high volume mass manufacturing market.

The Victorian Textiles Clothing Footwear and Leather Strategic Training Plan for 2001 notes that there is:

> "*..a new emphasis on encouraging and training a new generation of people into the industry.Companies are shifting from expensive recruitment for skill shortages to promoting the new profile of the TCF industries to attract and train young people. New firms and new sectors are beginning to change the profile of the industry"*

Enterprise Skills is an example of a small innovative business which has developed international best practice in training and education and is well placed to stimulate Australian clothing production houses in organizational innovation by introducing world best training procedures in-house to achieve the high quality level skills needed to secure their place in the global production chain in an increasingly competitive market post 2005.

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