

Delivering Fashion Knitwear training within Australian Fashion Design Education - now and the future



Rhonda Ingwersen

2012 Higher Education and Skills Group (formerly Skills Victoria)
Overseas Fellowship

Fellowship funded by Higher Education and Skills Group (formerly Skills Victoria) and the Department of Innovation, Industry and Regional Development, Victorian Government.



**International
Specialised
Skills
Institute**

ISS Institute
Level 1
189 Faraday Street
Carlton Vic
AUSTRALIA 3053

T 03 9347 4583
F 03 9348 1474
E info@issinstitute.org.au
W www.issinstitute.org.au

Published by International Specialised Skills Institute, Melbourne

Extract published on www.issinstitute.org.au

© Copyright ISS Institute September 2013

This publication is copyright. No part may be reproduced by any process except in accordance with the provisions of the Copyright Act 1968.

Whilst this report has been accepted by ISS Institute, ISS Institute cannot provide expert peer review of the report, and except as may be required by law no responsibility can be accepted by ISS Institute for the content of the report or any links therein, or omissions, typographical, print or photographic errors, or inaccuracies that may occur after publication or otherwise. ISS Institute do not accept responsibility for the consequences of any action taken or omitted to be taken by any person as a consequence of anything contained in, or omitted from, this report.

i. Executive Summary

With the need to focus on design-driven innovation it has become evident that there is a need to implement Fashion Knitwear into education nationally. Knits are a huge part of the apparel market of today that sees comfort as a priority as opposed to a previous world of non-stretch apparel. Hence, Australia must strive for a skilled Fashion Knitwear workforce that understands the technical skills, but more importantly has a design-driven focus; that is, can work backwards from the design and price point of the finished product whilst also designing within the technicalities and limitations of the machinery.

Previously knitwear has been taught within the Textile Design & Development sector of education, focusing on technology as opposed to designing fashion product. With industry supporting the need to train fashion knit specialist designers it is evident that knitwear must be included within the current Fashion Design programs nationally.

The Fellow visited universities that are leaders in the delivery of knit specialisation education to investigate current teaching strategies in Fashion Knitwear. Universities visited included Nottingham Trent, De Montfort and Central Saint Martins College of Art & Design in the United Kingdom and Hong Kong Polytechnic and Hong Kong Design Institute in Hong Kong.

Information gathered will be incorporated into teaching and learning strategies in Textiles, Clothing and Footwear (TCF) education nationally that will inevitably lead to increased innovation in the Australian TCF Industries knitwear sectors, thus ensuring Australia a more competitive edge internationally.

Table of Contents

i	ii. Abbreviations/Acronyms
ii	iii. Definitions
1	1. Acknowledgements
1	Awarding Body – International Specialised Skills Institute (ISS Institute)
2	Fellowship Sponsor
4	2. About the Fellow
5	3. Aims of the Fellowship Program
6	4. The Australian Context
7	SWOT Analysis
8	5. Identifying the Skills Enhancement areas needed
10	6. The International Experience
10	Visit One: Nicholas Atkinson, Knitwear Designer, London, United Kingdom
11	Visit Two: De Montfort University, Leicester, United Kingdom
13	Visit Three: Nottingham Trent University, Nottingham, United Kingdom
15	Visit Four: Central Saint Martins College of Art & Design, University of the Arts London, UK
16	Visit Five: Laura Francis, Knitwear Design Consultant, Nottingham, United Kingdom
17	Visit Six: Hong Kong Polytechnic University, Kowloon, Hong Kong
18	Visit Seven: Hong Kong Design Institute (HKDI), Kowloon, Hong Kong
20	Visit Eight: The Woolmark Company, Kowloon, Hong Kong
21	Visit Nine: Wiseknit Factory Limited, Kowloon, Hong Kong
22	Concluding remarks
24	7. Knowledge Transfer: Applying the Outcomes
26	8. Recommendations
28	9. References

ii. Abbreviations/Acronyms

AWI	Australian Wool Innovation Limited
BA	Bachelor of Arts
CAD	Computer Aided Design
CEO	Chief Executive Officer
HKDI	Hong Kong Design Institute
ISS Institute	International Specialised Skills Institute
MA	Master of Arts
P/L	Proprietary Limited
R&D	Research and Development
RMIT	Royal Melbourne Institute of Technology
TAFE	Technical and Further Education
TCF	Textiles, Clothing and Footwear
TFIA	Council of Textile and Fashion Industries of Australia Limited
USA	United States of America
VET	Vocational Education and Training
WGSN	Worth Global Style Network
3D	Three dimensional

iii. Definitions

Brother

Trade name for TCF sewing and knitting machinery

Dubiad

Trade name for hand driven, flat knitting machine manufactured in Switzerland

Gauge

The number of stitches per inch - measured by counting the number of needles on a knitting machine bed over several inches then dividing by the number of inches in the width of the sample

Knit Down

Trial of knitwear stitch formations to be used in given apparel product

Pitti Filati

Leading trade fair showcasing yarns for the knitting industry and technological innovations and services for the textile industry held in Florence, Italy

Stoll

German company that develop and manufacture flat knitting machines

Shima Seiki

Japanese company that manufactures computerised flat knitting machines, seamless glove and sock knitting machines, computer graphic systems and CAD/CAM systems

Silver Reed

Japanese manufactured - compact, lightweight, mid-gauge domestic knitting machine

Spin Expo

International trade show for fibres, yarns, knitwear and knitted fabrics

Stylesight

Web-based, forecasting and trend analysis site

WGSN

Worth Global Style Network - web-based, worldwide leader in fashion trend forecasting

1. Acknowledgements

Rhonda Ingwersen would like to thank the following individuals and organisations who gave generously of their time and their expertise to assist, advise and guide her throughout the Fellowship program.

Awarding Body – International Specialised Skills Institute (ISS Institute)

The International Specialised Skills Institute Inc is an independent, national organisation that for over two decades has worked with Australian governments, industry and education institutions to enable individuals to gain enhanced skills and experience in traditional trades, professions and leading-edge technologies.

At the heart of the ISS Institute are our Fellows. Under the **Overseas Applied Research Fellowship Program** the Fellows travel overseas. Upon their return, they are required to pass on what they have learnt by:

1. Preparing a detailed report for distribution to government departments, industry and educational institutions.
2. Recommending improvements to accredited educational courses.
3. Delivering training activities including workshops, conferences and forums.

Over 200 Australians have received Fellowships, across many industry sectors. In addition, recognised experts from overseas conduct training activities and events. To date, 22 leaders in their field have shared their expertise in Australia.

According to Skills Australia's 'Australian Workforce Futures: A National Workforce Development Strategy 2010':

Australia requires a highly skilled population to maintain and improve our economic position in the face of increasing global competition, and to have the skills to adapt to the introduction of new technology and rapid change.

International and Australian research indicates we need a deeper level of skills than currently exists in the Australian labour market to lift productivity. We need a workforce in which more people have skills, but also multiple and higher level skills and qualifications. Deepening skills across all occupations is crucial to achieving long-term productivity growth. It also reflects the recent trend for jobs to become more complex and the consequent increased demand for higher level skills. This trend is projected to continue regardless of whether we experience strong or weak economic growth in the future. Future environmental challenges will also create demand for more sustainability related skills across a range of industries and occupations.

In this context, the ISS Institute works with Fellows, industry and government to identify specific skills in Australia that require enhancing, where accredited courses are not available through Australian higher education institutions or other Registered Training Organisations. The Fellows' overseas experience sees them broadening and deepening their own professional practice, which they then share with their peers, industry and government upon their return. This is the focus of the ISS Institute's work.

For further information on our Fellows and our work see <http://www.issinstitute.org.au>.

Patron in Chief
Lady Primrose Potter AC

Patrons
Mr James MacKenzie
Mr Tony Schiavello, AO

Founder/Board Member
Sir James Gobbo AC, CVO

Chairman
Mr John Baker

Deputy Chair
Ms Rosemary O'Connor

Treasurer
Jack O'Connell

Board Members
Prof. Amalia Di Iorio
Ms Bella Irlicht AM, CEO
Mr Jon Only
Mr David Wittner AO

1. Acknowledgements

Fellowship Sponsor

The Victorian Government, Higher Education and Skills Group (HESG) formerly Skills Victoria, Department of Education and Early Childhood Development is responsible for the administration and the coordination of programs for the provision of training and further education, adult community education and employment services in Victoria, and is a valued sponsor of the ISS Institute. The Fellow would like to thank them for providing funding support for this Fellowship.

Supporters

- Sandra Blackburn, Recruitment Manager, Pacific Brands Limited, Melbourne
- Keith Cowlshaw, Head of School, School of Fashion & Textiles, Royal Melbourne Institute of Technology (RMIT) University
- Chris Davies, Product Development Manager, Yakka Proprietary Limited (P/L)
- Philippa Gilby, Women's wear Design Coordinator, Myer, Melbourne
- Michael Glunig, General Manager, Bizwear, Melbourne
- Tina Guglielmino, Deputy Head - Vocational Education & Training (VET), School Of Fashion & Textiles, RMIT University
- Frank Kisvarda, Chief Executive Officer (CEO), Apparel Management Proprietary Limited (P/L)
- Gemma Runting, Design Assistant, Metalicus, Melbourne
- Paul Saunders, Executive Officer, Curriculum Maintenance Manager (CMM), General Manufacturing, Chisholm
- Simon Smith, Managing Director, Toorallie Australia, Melbourne
- Fran Woodruff, Retail Consultant, Solo Voyager, Melbourne

Employer Support

The Fellow would like to acknowledge the support of RMIT University for providing the time required to undertake the Fellowship and associated activities.

- Keith Cowlshaw, Head of School, School of Fashion & Textiles, RMIT University
- Tina Guglielmino, Deputy Head Vocational Education & Training (VET), School Of Fashion & Textiles, RMIT University

1. Acknowledgements

Organisations Impacted by the Fellowship

Government

- Higher Education and Skills Group, Department of Early Childhood Development and Education, Victorian Government.

Industry

- Australian TCF Industry, in particular knitwear companies including Toorallie Australia, Melbourne; Fields Knitwear Australia P/L, Melbourne; Meredith, Melbourne; Kookai, Melbourne; and A&B Knitwear P/L, Melbourne.

Professional Associations

- Council of Textile and Fashion Industries of Australia Limited (TFIA) representing all TCF industry sectors, companies, organisations and individuals.

Education and Training

- Box Hill Institute
- Gordon Institute of TAFE
- Kangan Institute
- RMIT University – School of Fashion and Textiles
- All Australian Educational Institutes with Textiles, Clothing and Footwear sectors.

2. About the Fellow

Name: Rhonda Ingwersen

Employment:

Program Coordinator, School of Fashion & Textiles, RMIT University

Qualifications:

- Diploma of Fashion Design & Technology, Emily McPherson College, 1974
- Trained Technical Teachers Certificate, Hawthorn Teachers College, 1975
- Machinist Instructors Certificate, National Clothing Industry Training Committee, 1979
- Bachelor of Education, La Trobe University, 1993
- Certificate IV in Workplace Training (Category 2), RMIT University, 1998
- Certificate IV in Training & Assessment, RMIT University, 2011.

Membership:

Fashion Group International

Brief Resume:

Rhonda Ingwersen began her career in the TCF industry after completing her Fashion Design & Production Diploma at Emily McPherson College, Melbourne. She initially worked in a design, patternmaking and pattern-grading role in a large mass production enterprise, producing women's, men's and children's wear before commencing her long career in education.

After being awarded a teaching scholarship the Fellow undertook her teacher training and commenced her first posting in the Technical & Further Education arena at Bendigo TAFE College where she progressed to Program Manager.

Ingwersen continued her fashion teaching career in other specialised TCF colleges - working at Melbourne Institute of Textiles and then RMIT University, with her focus in the production, quality and garment engineering areas. She has now held a management position at RMIT University for fifteen years, within the School of Fashion and Textiles and has strived to ensure that the training being offered met the ever changing needs of the Australian fashion industry.

Ingwersen is a highly experienced educationalist who demonstrates skills in leadership, management of both students and staff and academic program design and delivery. The Fellow's role has seen her responsible for program development and delivery in the fashion design and technology programs including responsibility for staffing, students and achieving budget and delivery targets. She has been actively involved in workplace student placements, industry involvement in program delivery and assessment and ongoing networking with the TCF Industry and RMIT alumni.

Ingwersen has travelled to Fiji, Thailand, Amsterdam, France and the United Kingdom on behalf of RMIT University and has continued to develop and nurture global relationships for the benefit of the School of Fashion & Textiles.

Ingwersen is a member of the RMIT Learning & Teaching Committee, RMIT Student Staff Consultative Committee, RMIT Program Advisory Committee and Fashion Group International, Sydney Branch.

3. Aims of the Fellowship Program

The objective of the Fellowship was to undertake an overseas study of Fashion Knitwear design and technology in both the education and manufacturing sectors.

Hong Kong Polytechnic University and Hong Kong Design Institute, Kowloon, Hong Kong; Nottingham Trent University, Nottingham; De Montfort University, Leicester; and Central Saint Martins College of Art & Design, London, United Kingdom are leaders in the delivery of knit specialisation education. The Fellow visited these universities to investigate current teaching strategies in Fashion Knitwear.

Whilst in Hong Kong and the United Kingdom, Ingwersen visited knitwear designers/companies to:

1. View cutting edge technologies in Fashion Knitwear design and production
2. Acquire the industry relevant skills and descriptors in knitwear specifications and technologies with the aim of ensuring that Australian graduates are provided with the necessary skills and capabilities to be gainfully employed in the knitwear design sector of the industry.

Information gathered whilst overseas will be incorporated into teaching and learning strategies in TCF education nationally. This will inevitably lead to increased innovation in the Australian TCF Industries knitwear sectors, thus ensuring Australia a more competitive edge internationally.

The Fellowship provided the opportunity to establish an understanding of best practice in Fashion Knitwear globally and in particular:

- To raise the profile of the Australian fashion and textile industry internationally
- Identify new technologies and disseminate to TCF enterprises and educational institutes ensuring they maintain leading edge practices and cutting edge educational delivery
- To ensure Australian graduates trained in Fashion Knitwear have skills and capabilities that are benchmarked against international educational institutes, ensuring gainful employment in the TCF industry within a Fashion Knitwear specialism.

4. The Australian Context

Australia, and in particular the Australian textiles, clothing and footwear (TCF) sector, continues to face pressures to adapt to survive increasing global competition. Local manufacturers need to continue to move from commodity-driven products that are mass-produced at a cheaper rate globally to focus on design-driven innovation as a point of difference. The Fellow has long been of the opinion that it is only here that they will continue to survive.

Professor Roy Green highlighted in the 2008 TCF Review that, “The survival of the TCF industry is reliant on businesses being innovative - both in new technologies and business models. TCF industries play an important role in Australia’s economy and society – but to remain viable and competitive in the international market place, the industries need to forge ahead with essential reforms”. In this review Senator Carr noted, “The future of Australia’s TCF industries is underpinned by our high quality designers and manufacturers – and its promising future is evident in a wide range of great products”.¹

With the need to focus on design-driven innovation it has become evident that the industry must implement Fashion Knitwear into education nationally. Knits are a huge part of the apparel market of today that sees comfort as a priority as opposed to a previous world of non-stretch apparel. Hence, Australia must strive for a skilled Fashion Knitwear workforce that understands the technical skills, but more importantly has a design-driven focus; that is, can work backwards from the design and price point of the finished product whilst also designing within the technicalities and limitations of the machinery.

Previously knitwear has been taught within the Textile Design & Development sector of education, focusing on technology as opposed to designing fashion product. With industry supporting the need to train fashion knit specialist designers it is evident that knitwear must be included within the current Fashion Design programs nationally. Industry requires knitwear designers who will realise our innovative product internationally; but also understand the technical side of knit manufacture and have the skills and capabilities to communicate effectively with offshore manufacturers to ensure product is produced as per the initial design. If the industry chooses to ignore the skills gap in Fashion Knitwear this will see another part of the TCF industry decline. It is consequently important to develop and nurture this declining share of the industry.

Industry representatives initiated the idea and then supported the inclusion of a knit specific stream within the Associate Degree of Fashion Design & Technology program at RMIT University. TCF representatives from Toorallie Australia, Solo Voyager, The Ark, Kookai, Metalicus and Myer all advised of the lack of knitwear skills current fashion graduates had, where the focus of training was predominantly on woven product. Also discussed was the lack of knit design skills for apparel product that Textile design graduates had. These students understood the knit machinery but not the finished fashion product and it was seen as a huge skill deficiencies gap in fashion education. Hence, 2012 has seen the first cohort of students commence a two year Fashion Knitwear specialism in the Associate Degree in Fashion Design & Technology at RMIT University.

By observing and researching the Hong Kong & United Kingdom models, Ingwersen has returned to Australia with new knowledge and skills in regard to educational delivery. By transferring this acquired knowledge, the Fellow will offer advice for educational program structures and the introduction of new programs.

4. The Australian Context

SWOT Analysis

An analysis has been carried out to identify and categorise significant internal and external factors existing in the Australian Knitwear industry and identified the following Strengths, Weaknesses, Opportunities, and Threats in relation to Fashion education programs.

Strengths:

- Industry demand for knitwear design skill capabilities
- Consumer demand for creative knitwear product produced locally
- Consumer demand for innovative knitwear products
- Knitwear continues to grow as a priority consumer product.

Weaknesses:

- Lack of training in Fashion Knitwear design
- Lack of communication and collaboration between knit designers and manufacturers
- Designers with limited knowledge of knit specialism
- Need to collaborate with knitwear manufacturing companies offshore as only a very small onshore knitwear industry available.

Opportunities:

- Adapt international knitwear delivery to education within Australia
- Establish relationships and create networks with international knitwear universities
- Establish relationships and create networks with international knitwear manufacturers and designers
- Develop best practice knitwear education
- Develop Fashion Knitwear industry locally.

Threats:

- Uncertainty of ongoing government support in TCF education sector
- Uncertainty of ongoing government support for TCF industry
- Technology gap with overseas competitors.

5. Identifying the Skills Enhancement areas needed

There are examples of areas in Australian Industry where there is a weakness in the innovative skills, knowledge, experience, policies, and/or formal organisational structures to support the ongoing successful development and recognition of individuals and the particular sector.

The focus of all ISS Institute Fellowships is on applied research and investigation overseas, by Australians. The objective is to enable the required enhancement and improvement in the innovative skills not currently available in Australia, and the subsequent dissemination and sharing of those skills throughout the relevant Australian Industry, Government bodies, Education, and the Community.

Specific skill enhancement areas addressed through the Fellowship are as follows:

1. The gap in the skill requirements in Fashion Knitwear design best practice will be the link between establishing relevant training that will bridge the current training available (in either Textile design or Fashion design).
 - » Identify best practice models in relation to Fashion Knitwear education.
 - » Learn new methods of educational delivery in Fashion Knitwear.
 - » Identify current practices and quality standards of Fashion Knitwear design and production techniques.

Action: *Based on this research develop a recommended educational model to deliver high quality Fashion Knitwear training in Australia.*

2. Further enhance design and technical capabilities of graduates to include a specialist area of demand, i.e. Fashion Knitwear.
 - » Fashion education of the future must encapsulate the textile requirements of knitting as well as the design and development of the fashion product.
 - » Currently there is a gap in qualified graduates with capabilities in specifically Fashion Knitwear – graduates have Textile Design & Knit skills or Fashion Design & Production skills in predominantly woven or cut and sew knitted women's wear but do not address the specifics of Fashion Knitwear products.
 - » TAFE education in Fashion & Textiles has previously focused on woven and cut and sew knit women's product – the introduction of Fashion Knitwear within the new Associate Degree of Fashion Design & Technology has aligned education to the industry growth area where currently skilled graduates are minimal and hence training is occurring on site. The introduction of Fashion Knitwear has been supported in Program Advisory meetings from industry representatives that have reinforced the need for this skill.
 - » Knowledge/skills/understandings must be accessible trans-generationally through nationally accredited courses and not be reliant on individuals.

Action: *To ensure Australian graduates trained in Fashion Knit have skills and capabilities that are benchmarked against international educational institutes, allowing them to be gainfully employed in the TCF industry with a Fashion Knitwear specialism.*

5. Identifying the Skills Enhancement areas needed

3. Knowledge in the latest machine knitting technology and machinery particularly circular knitting and fully fashioned machinery.
 - » Identify and investigate new design techniques, technologies, fibres and yarn innovations and usage in Fashion Knitwear enterprises.
 - » Learn new methods associated with new technologies that will identify current gaps in training.
 - » Facilitate the introduction of new technologies and/or techniques into our fashion and textile industry through gaining direct contacts with specialised knitwear enterprises internationally.

Action: *To identify new technologies and ensure this information is disseminated to TCF enterprises and educational institutes to ensure Australia maintains leading edge practices.*

6. The International Experience

Visit One: Nicholas Atkinson, Knitwear Designer, London, United Kingdom

Objectives:

Nicholas Atkinson completed a Bachelor of Arts (BA) in Printed and Constructed Textiles at Trent University and a Master of Arts (MA) in Knitwear & Knitted Textiles, Loughborough University, United Kingdom in the 1980s. Since that time his fashion knit employment has spanned varied and prestigious companies including Nigel Hall, Pringle of Scotland, Gucci, Jaeger, Donna Karan, Diane Friesse and Zandra Rhodes as both a menswear and women's wear knit designer and also extensive teaching experience at Central St Martin's in the MA Fashion program. Due to Atkinson's broad experience in knitwear design, manufacture and education, the Fellow requested an appointment as his knowledge would prove beneficial to the research for this Fellowship in regards to knitwear skill requirements for a fashion graduate.

Outcomes:

Atkinson recalled the booming knitwear manufacturing industry of the 1980s in the UK that had a strong focus on technical knitting. Thirty years on, knitwear is predominantly manufactured in China with a focus on the shape of a garment rather than the texture of the yarn.

With the Australian offshore manufacturing focus, Atkinson advised that students studying fashion/knit need to have the skills to:

- Reference research correctly
- Draw a competent flat technical drawing
- Understand basic specification measurements
- Understand colour
- Explain terminology correctly to companies
- Have good fabric and yarn recognition – e.g. jersey, rib, intarsia, fair isle, jacquard
- Have domestic machine knit skills to understand knit formations/swatches/shaping.

Atkinson believed students need to be multi-skilled and not specialise in only one discipline in this ever decreasing manufacturing market. He reinforced the importance of having skills in both knit and woven product design and manufacture as knitwear was now just one product within a range of products. Previously knitwear specialist shops were abundant, but this is no longer the case.

In the past, Australian designers would travel overseas and purchase garments ahead of season to reproduce these designs locally. With the introduction of fast fashion and companies like Topshop and Zara into Australia, Atkinson commented that local designers were now forced to design without relying on overseas being a season in front. Hence, multi-skilled designers with both fashion and knitwear skills were an integral and vital component for small to medium enterprises that produced ranges incorporating woven and knit product.

Atkinson saw the benefits of including knitwear into a fashion design program, particularly for the Australian market with minimal onshore knit production and the need for students to be able to understand offshore production and the issues that pertain to that – e.g. fit, quality, specifications and supply chains.

6. The International Experience

Visit Two: De Montfort University, Leicester, United Kingdom

Contacts:

Della Swain, Programme Leader, BA Hons Fashion, Leicester, UK

Buddy Penfold, Senior Knit lecturer, BA Hons Fashion, Leicester, UK

Objectives:

As De Montfort University offers a Fashion Design program with a knitwear focus the Fellow's objective was to acquire educational information in regard to program content and delivery within a Fashion Design/Knitwear context

Outcomes:

This University offers fashion and textiles related undergraduate programs within the design specialisms of Fashion Buying, Fashion, Fabrics and Accessories all within the context of the fashion industry.

"Fashion Design at De Montfort University concentrates on the relationship between design and technology. This emphasis fosters creativity within a theoretical and philosophical framework supported by technical skills and accomplishment, blending theory with practice." ²

The most closely linked program to the Fellow's research was the three year, Fashion Design Bachelor degree which offers the opportunity for students to specialise within their fashion design program in project work for Womenswear, Menswear or Fashion Knitwear. This allows students to gain specialist design and technical expertise relevant to a range of fashion activities, from initial design concept through to the finished prototype.

Program Delivery:

YEAR ONE

Students are given a foundation in fashion and design through a variety of practical, creative and technical courses and projects including:

- Fashion design development
- Fashion illustration
- Pattern making
- Garment manufacture
- CAD for fashion and textiles
- Creative knitwear
- Contextual and cultural studies.

The first year of study focuses on technical skills and embeds knitwear as a 'taster' course in the delivery in semester one. If the knit specialism (within the fashion design program) was chosen for the remainder of the program, knit projects were integrated into the overall delivery outcomes as opposed to stand alone units. Students therefore found it easier to relate knit to fashion. Students were encouraged to look at form and silhouette as opposed to knit structures.

6. The International Experience

The knit students predominantly used domestic machinery in the first year, accessing the Dubiad hand flat knitting machine and could access the Stoll whole garment machinery if desired. The program also included:

- Textile grounding delivered over six, half-day weeks where yarn experimentation occurs and a silhouette is developed. At this stage an aesthetic concept is created as opposed to a finished garment
- Production, including jersey and silk workshops - three hours class delivery, three hours self-directed
- Patternmaking – three hours class delivery, three hours self-directed
- Knitwear - three hours class delivery, three hours self-directed
- Illustration/ Design.

Workshops and projects run in parallel with students at all skill levels being challenged to develop their ideas further and experiment with ideas/concepts.

YEAR TWO

Knowledge and understanding of fashion design and its methodologies developed in year one is extended and consolidated, with an emphasis on experimentation, further skill development, in-depth project research and 3D development.

Typical areas of study include:

- Design and 3D development
- Project work including – industry (including knit industry) collaborative with textile area of university (group)
- Experimental and conventional patternmaking
- Fashion Knitwear
- Directional outerwear/tailoring
- Fashion prediction.

Manufacture of student product is not outsourced, but produced by students. The technical aspect is not the focus, the design outcome is.

YEAR THREE

In this year, students are provided the opportunity for further in-depth and independent study through specialist modules such as a major project. Here they design and produce a final range of outfits for their chosen area and market level, including knitwear for their final collections.

As knitwear is embedded into the Fashion design program from first year, students not only understand knit from a technical aspect but also from a design one. Students are challenged to think about knits as opposed to woven fabric; i.e. that knitwear can be sculptural, it can bend, it can go around corners. They are encouraged to experiment with the knit techniques and then manipulate them into a garment. Design is a definite strength and focus of the program and a positive was that students had no design boundaries with experimentation encouraged.



DeMontfort University

6. The International Experience

The knitwear students achieved a higher level of skills as opposed to the fashion design specialist stream and staff strongly agreed that it was necessary to have both woven and knit employability skills as a graduate.

Visit Three: Nottingham Trent University, Nottingham, United Kingdom

Contacts:

Julie Pinches, Academic Team Leader, Textiles & Knitwear Design Programmes,
Nottingham, UK

Claire Preskey, Senior Lecturer, BA (Hons) Fashion Knitwear Design & Knitted Textiles,
Nottingham, UK

Objectives:

Nottingham Trent University is renowned globally for its Fashion Knitwear program. The Fellow's objective was to acquire educational information in regards to this program even though it was knitwear specific, as opposed to being included within a fashion design program

Outcomes:

This University offers four fashion related programs:

- i. Fashion Design
- ii. Fashion Knitwear Design & Knitted Textiles
- iii. Textile Design
- iv. Fashion Accessories.

Demand for Fashion Design programs is strong and marketing of the alternate program choices is necessary as applicants are unaware of opportunities in these programs.

Bachelor of Fashion Knitwear Design & Knitted Textiles

This is a technical, four year, Fashion Knitwear specialist program made up of projects delivered alongside lectures and tutorials for ongoing skill delivery. Timetables change on a weekly basis, as required, for lectures and guest speakers.

The program employs a full time technician to alleviate technical and machine issues and ensure a smooth program delivery and assist with set up and programming of machinery.

FIRST YEAR

Students commence with design principles: starting with an idea/inspiration, taking the idea to a drawing and then transferring to stitch formations. They are encouraged to think of shape and the 3D form silhouette as opposed to flat fabric constructions and explore and investigate ideas. They use Dubiad hand flat knitting machines in five, seven and eight gauges and produce one knit outfit.

6. The International Experience

Technical skills are taught interwoven into the program as required, without rigid timetabling or blocking of course delivery.

SECOND YEAR

Students at this level use Dubiad hand flat knitting machines in five, seven, eight and twelve gauge undertaking projects including manufacturing and industry projects delivered concurrently. Throughout this year students work on preparing a detailed resume for workplace applications in following year.

Attendance at trade exhibitions such as Spin Expo (in Hong Kong) and Piti Fillati (the yarn trade exhibition in Florence) are seen as an integral inclusion in the program.

THIRD YEAR

Students are encouraged to find industry placements for this year either locally or internationally.

FOURTH YEAR

Students use their final year to complete their collection. This consists of a minimum of six outfits, accessing all knit machinery including four Stoll, fully fashioned and whole garment machines. Industry experts are employed as required to deliver lectures.

Students at this level understand the capabilities of the knitwear machines, but not necessarily all operations, hence they have access to technicians who work alongside them. Communication is seen as a vital aspect of the program as students need to know how to communicate effectively to ensure they obtain the correct outcome.

This program is design focused, with minimal technical courses delivered. Students design and produce their own garments or can choose to have them manufactured.



6. The International Experience

Visit Four: Central Saint Martins College of Art & Design, University of the Arts London, UK

Contact:

Sarah Gresty, Senior Lecturer, Fashion Knitwear, Bachelor of Arts

Objectives:

Central Saint Martins is another notable university and is one of the six distinctive Colleges that make up the University of the Arts London. As Fashion Knitwear is embedded into their program the purpose of the Fellow's visit was to acquire program information in relation to content and delivery.

Outcomes:

Demand for the prestigious fashion design programs is very strong with four thousand applicants per year and twenty chosen per specialist stream. "Fundamentals to study at the College are experimentation, innovation, risk-taking, questioning and discovery, within a highly supportive learning environment."³

The BA's Fashion's five pathways are:

- BA (Hons) Fashion: Fashion Design with Knitwear
- BA (Hons) Fashion: Fashion Design with Marketing
- BA (Hons) Fashion: Fashion Design Womenswear
- BA (Hons) Fashion: Fashion Design Menswear
- BA (Hons) Fashion: Fashion: Fashion Print.

The BA Fashion program allows fashion design students a pathway to study a specific area of fashion practice in depth, embracing different approaches to the subject and a range of creative opportunities within the industry. Pathways include Knitwear, Marketing, Womenswear, Menswear and Print with a program duration of three to four years (dependent upon one year industry placement inclusion).

Active learning through project-based enquiry is a foundation allowing students to work collaboratively with other program streams, industry professionals and sponsors to promote interdisciplinary peer learning.

The knitwear program is taught in collaboration with other fashion disciplines across Womenswear and Menswear with an understanding of mainstream fashion remaining central to a student's development. The program is primarily fashion and design oriented, with a strong underpinning of technical ability.

FIRST YEAR

This lays the foundation for the generation and development of design ideas through practical or technical workshops whilst focusing on the unique aspects of knitwear. Students are encouraged to research, explore and develop individual strengths and approaches to their work and use domestic knitting machines (either Brother or Silver Reed brand).



Central St Martins

6. The International Experience

SECOND YEAR

Students develop a variety of approaches to their work through individual and often experimental responses. Through a combination of studio work, formal tutorial guidance, seminars, lectures, external projects, competitions, critiques, personal research, independent study and team projects, students are encouraged to explore Fashion Knitwear in depth and develop their individuality in relation to it.

During this year, students benefit from the learning experience gained from helping final year students prepare work for the degree shows. Students at this level use the two bed, Dubiad knitting machines in conjunction with domestic machines.

Opportunities to travel overseas to visit trade shows or fashion collections relevant to knitwear are available at the student's own expense.

Students enrolled in the four year program commence planning and preparation for their work placement in the third year.

THIRD YEAR

Industry placement year.

FOURTH YEAR

The final year focuses on further development of individuality and independence as students initiate, develop and complete their final degree project, consisting of a six outfit collection. Students participate in an assessment presentation of their collections in the form of a fashion show.

Embedded into the program at each year level is cultural studies and personal and professional development. Cultural studies are designed to develop communication, research, critical thinking and writing skills and involve the study of cultural and creative processes.

Personal and Professional Development is included to prepare for employment and career development. It provides skills to enable students to take responsibility for their own learning.

Visit Five: Laura Francis, Knitwear Design Consultant, Nottingham, United Kingdom

Objectives:

Laura Francis was the program leader and headed the Knitwear program at Nottingham Trent University from its inception until 2011. Since that time she has continued to freelance as a Knitwear design consultant. With extensive educational experience in Fashion Knitwear her expertise in relation to skill needs would ultimately be beneficial to the outcomes of the Fellow's research.

Outcomes:

Laura Francis outlined what she believed were necessary skills for knitwear graduates:

- Fundamentals of knitting
- Capabilities of machinery, but not how to program computerised machines
- Yarn types, structures and comparisons
- Knit structures

6. The International Experience

- Technical terminology to relate to manufacturers.

Visit Six: Hong Kong Polytechnic University, Kowloon, Hong Kong

Contact:

Dr. Judyanna Ng, Senior Lecturer, PhD Advisor, Institute of Textiles & Clothing

Objectives:

An influential university with a reputable and well-known Fashion Knitwear program headed by a current knitwear design practitioner was chosen to discuss the content and delivery strategies of the Fashion Knitwear program.

Outcomes:

The Bachelor of Arts (Honours) Scheme in Fashion and Textiles program aims to educate and train students to become competent professionals with active roles in the development of the fashion and textiles industries in Hong Kong. Students can choose to undertake studies in one of the following areas:

- Fashion and Textile Design
- Fashion and Textile Marketing and Merchandising
- Fashion Retailing
- Fashion Technology
- Intimate Apparel
- Knitwear Design with Technology.

Ingwersen's research focused on the three year, Knitwear Design with Technology specialism. Design is seen as the main focus in this knit specialism and a strong technical, knitwear skill base forms a solid foundation on which design skills are then built. The skills obtained distinguish Knitwear designers from Fashion designers with yarn and knitting technology the two major areas that support and enhance the design curriculum.



HK Polytechnic

6. The International Experience

YEAR ONE

Students are introduced to the entire spectrum of the fashion and textile industry in the common first year of study. They then opt for one of the specialisms of study in the remaining years. Delivery includes:

1. A group Yarn Design project where students learn how to spin a yarn and produce swatches, illustration, mood/theme board and present outcomes to industry
2. Knitwear Design (delivered in two parts):
 - a. with a technician, where students learn how to use domestic knit machines and stitch formations and combinations
 - b. with a lecturer, where students are taught a general approach to knitwear design, including production drawings, trends, research, referencing.

A Knitwear Design Project incorporates researching a brand, market, styles, history and analysis of three seasons, customer segment and comparable brands is included.

YEAR TWO

In this study year, students are encouraged to work as a Knitwear designer – starting with a theme to prepare images, colour story and texture. They are required to design a collection of both woven and knit garments and attach sample swatches produced in their technical knit workshops. Presentation to industry includes development and swatch book and specification sheets.

Travel, in the form of European summer schools and scholarships to attend Study Tours, are an integral part of the program. Students visit Paris, Milan and attend the Pitti Filati Yarn Trade Show in Florence, Italy as it is the main international event for the knitting yarn industry. Students also attend Spin Expo in Shanghai to expose them to spinners and commence industry contacts.

YEAR THREE

Students learn to program the Whole Garment knitwear machinery, having access to technicians' practical workshops to develop their skills. Other subjects at this level include colour, finishing, testing and analysis. In this final year, students prepare a Knitwear Portfolio (including minimum woven pieces) for selection by industry members for their graduation collection.

Visit Seven: Hong Kong Design Institute (HKDI), Kowloon, Hong Kong

Contacts:

Portia To, Senior Lecturer, Fashion Design

Jo Poon, Lecturer, Fashion Design

Objectives:

The HKDI is a leading design education institution in Hong Kong, with demand for the fashion program growing significantly in a very short time. As knitwear is a component of the fashion program it was beneficial to the Fellow's research to interview leading staff members.

6. The International Experience

Outcomes:

The Department of Fashion and Image Design has developed a range of programs including Fashion Design, Fashion Image Design and Fashion Business to meet the demands of the fast-paced, global TCF industry. This Institute boasted excellent facilities and five hundred students studying across the various disciplines.

The Fashion Design program is designed to enable students to work in the fashion design and product development fields, with the program being both practical and creative. Students are involved in fashion shows, live projects, design competitions and work with visiting practitioners and organisations from fashion and related industries with students expected to acquire the techniques in design concept generation, pattern making and sewing of fashion products. The Knitwear Design and Accessories Design streams would further provide students a more comprehensive learning scope, as needed in the market.

The Fashion Design program is designed with an emphasis on generic and language training, whole-person development and workplace experience to better prepare students for further studies and employment after graduation.

Students may choose one of the following streams so as to enhance professional knowledge and skills in specific areas:

- Higher Diploma in Fashion Design
- Higher Diploma in Fashion Design (Accessories Design)
- Higher Diploma in Fashion Design (Knitwear Design).

The two year, Higher Diploma in Fashion Design (Knitwear Design) program consisted of five, thirteen week semesters with the focus being on design.

A one-year, top-up BA (Hons) Fashion Design degree program based on project and studio work, with exceptional links to the fashion industry is available after the two year Higher Diploma.

YEAR ONE

The first semester is common with students focusing on generic fashion skills including patternmaking, production, design and communications. Students progress to their chosen stream in the second semester, based on academic performance and availability of places in specific streams.

YEAR TWO

In the second year, students design two outfits for industry selection towards their graduate runway show. Twenty four designs are selected (from the cohort of one hundred students) then produced as garments; whilst others worked in industry placements and student competitions. Machinery access includes domestic knit machines, single bed and circular knit machines.



HKDI

6. The International Experience

Visit Eight: The Woolmark Company, Kowloon, Hong Kong

Contacts:

Daniel Chan, Key Account Manager

Alex Lai, Country Manager

Objectives:

An ongoing relationship with The Woolmark Company in Hong Kong allowed the Fellow to arrange possible Hong Kong contacts and appointments for research fellowship. At the Kowloon office, Alex Lai and Daniel Chan discussed the current state of wool production in Australia and new wool technologies developed, in particular wool denim to be used by a major jean company internationally.

Outcomes:

As The Woolmark Company is the global authority on Merino, their role is to:

- Undertake wool marketing campaigns and R&D within the global textile and fashion industries
- Inspire designers to create collections that utilise the unique, natural properties of wool
- Collaborate with clothing manufacturers to help them develop, produce and market wool apparel
- Educate the retail sector to showcase wool's properties
- Demonstrate wool sales potential to buyers and retailers.



Woolmark Co

As The Woolmark Company has current links with Fashion education and TCF industries internationally, it is with grateful appreciation that the Fellow thanks the staff, particularly Daniel Chan for the effort and time spent during the Fellow's visit to Hong Kong.

6. The International Experience

Visit Nine: Wiseknit Factory Limited, Kowloon, Hong Kong

Contact:

Florence Tang, Product Development Manager

Objective:

Discuss the role and skill requirement of Knitwear designers/ product developers in a large knitwear manufacturing company.

Outcomes:

Florence Tang was a graduate of the Hong Kong Polytechnic University where she studied Fashion Design, as opposed to a knitwear focused program. Tang's skills in relation to knitwear have been learnt on the job.

Wiseknit Factory Limited samples and production were made in China due to labour costs, with a one day turnaround in receiving a sample. With over 5,500 employees, Wiseknit produces twenty four million pieces per annum from its own factories in China and Cambodia with major customers including Gap in USA, with an order quantity of three hundred million pieces per year.

Tang's opinion is that a product developer's role consisted of twenty per cent design and eighty per cent trend research in relation to the brand focus and company 'look'.

Use of Stylesight, attendance at Piti Fillati yarn trade shows, catwalk trends and overseas travel ensured that Tang kept abreast of trends.

Tang summarised her tasks as being primarily:

1. Trend research
2. Compiling photos of stitches, yarns, knit formations, silhouettes from research
3. Development of mood boards to present to customers
4. Instruct technicians to trial a 'knit down' according to photos. At this stage the technician can advise if knit structure is possible or modification necessary due to yarn, knitting time/cost or bulk production issues



Wiseknit



Wiseknit

6. The International Experience

5. View sample garment produced, in consultation with product developer and technician and modify if design is unable to be produced
6. Check correct sampling
7. Analyse style choice via orders placed by market in relation to yarn and silhouette.

Both verbal and written communication was seen as the most important skills necessary to complete tasks on a daily basis.

The understanding of specification sheets was also an important inclusion in knitwear education. Tang advised that it needed to be taught at an industry standard and include measuring garments post production as opposed to filling in a sheet of garment measurements in a classroom situation only.

Computer Aided Design (CAD) was an aid only, with all design work produced manually. Tang could produce designs manually faster and she felt that computer generated design products were flat in appearance.

Concluding remarks:

Prior to the introduction of the Associate Degree in Fashion Design & Technology at RMIT University in 2012, there has been no national educational institute that offered Fashion Knitwear as a specialism within a Fashion Design program. Textile Design related programs offered knit; but seemed to lack the garment design, patternmaking, grading, fit and quality focus necessary for graduates to be competently employed in a clothing manufacturing company. The overseas experience has provided the Fellow with a valuable insight into knitwear skills and capabilities being included within fashion education; as stand-alone programs or as an integrated approach within a Fashion Design program.

The Australian knitwear fashion industry has been at a major disadvantage when compared to the international community as fashion graduates did not focus on fully fashioned or whole garment product and also had minimal cut and sew skill delivery. Knit specialist, Patricia Chircop also reinforced in her ISS Institute report on Seamless Knitwear Technology: Informing the Australian Industry, in 2012, "Most fashion designers are not trained in knitwear due to the extremely limited availability of institutions equipped with machinery and technical capability offering suitable courses in Australia. Knitwear design requires the structure of the fabric and pattern to be developed. A disconnect currently exists between textile design and fashion design courses. Textile design courses focus on developing the fabric and not the garment itself. Fashion design courses do not teach knit structure and shaping, thus leaving designers at a huge disadvantage in this particular area. The availability of education relevant to knitwear design, technology and manufacturing is very limited. As a consequence, the Australian knitwear industry is not being promoted".⁴

The overseas experience has provided the Fellow with a constructive awareness of educational programs that deliver Fashion Knitwear outcomes and will allow Ingwersen to benchmark Australian programs against the leading edge, educational institutions. Whilst it is difficult to equate Australian program content and delivery strategies with overseas universities (due to the completely different industry context, program durations and focus that exists), overall the experience and knowledge Ingwersen gained will be invaluable and provide a point of reference that can be tailored to meet the needs of our TCF industries and educational providers.

Many of the concepts observed can be adapted and/or incorporated into current and future program delivery in TCF education nationally, leading to increased innovation in the Australian TCF Industries knitwear sectors and ensuring Australia a more competitive edge internationally.

The contacts developed by the Fellow whilst overseas will prove to be beneficial in many ways:

6. The International Experience

- To benchmark current and future programs
- As a contact for future study tours
- As a contact to begin staff collaboration
- As a liaison contact for student project involvement
- As a contact for company visits for staff and/or students.

The Fellow's overseas experience supported the belief that our Australian knitwear companies are in line with current international technology with no new technologies or machinery identified. However, our local issue is the decreasing number of manufacturers due to high local manufacturing costs. *"Local manufacturers already compete intensely with foreign manufacturers given the imports account for 80 per cent to 90 per cent of domestic demand on average for Sleepwear, Underwear and Infant Clothing Manufacturing, Men's and Boy's Manufacturing, Women's and Girl's Manufacturing and Knitting Mills in Australia".*⁵ Knitwear should be promoted as an essential lifestyle product as it accounts for approximately seventy per cent of the apparel we wear and meets our demands for comfort, easy care and body appeal.

For Australian TCF industries to survive at all in this competitive global environment they must concentrate on niche products with a design focus. Previously we promoted our products as 'Australian made' and this was enough to keep Australian companies afloat (e.g. Fletcher Jones). However, with the pace of fast fashion and internet sales the consumer is now predominantly interested in price over quality and can afford to change their entire wardrobe annually. *"I agree the consumer nowadays is discerning, they want the best quality garment at the best possible price. The world is getting smaller and the Australian Made mindset is a product of yesteryear. Of course there will always be room for niche products but on the whole for mainstream fashion it is now a global market"* Hootman commented in the industry magazine, Ragtrader.⁶ Success in the TCF environment means development of something new and something different.

7. Knowledge Transfer: Applying the Outcomes

The benefits and outcomes of the Fellowship to the Fellow **professionally and personally** include:

- Gaining an insight into the future direction of Fashion Design programs on a global scale and to establish knitwear as an integral part of Fashion Design education locally
- To amend current Associate Degree in Fashion Design & Technology program currently being delivered to reflect overseas advice and curriculum content
- To facilitate the inclusion of knitwear education for Fashion Design students that will ensure local knitwear manufacturing industry skilled graduates
- To expand the Fellow's leadership and management capabilities to benefit RMIT University and the wider community through interaction with global fashion universities and networks
- To increase the Fellow's understanding of the industry requirements of knitwear graduate skills and capabilities and their role within a company.

The benefits and outcomes of the Fellowship to the **TCF industry** are:

- To be able to employ Fashion Design students who will be multi-skilled and trained in both woven and knit skills. This is particularly important in small to medium enterprises where employment numbers are small and multi-skilling is vital
- To gain knowledge in relation to Fashion Knitwear program content and graduate skills and attributes to assist where required
- To form close relationships with colleges and universities to assist in future employment needs and outcomes.

Ingwersen will share the knowledge gained with others by delivering her research to direct RMIT University fashion staff and the School of Fashion & Textiles as a whole, with all other Fashion Institutes invited to attend the presentation. A report will also be delivered to the RMIT Program Advisory Board with members of influential TCF industry members.

7. Knowledge Transfer: Applying the Outcomes

Proposed dissemination sessions:

TARGET AUDIENCE	LOCATION	TIMEFRAME
RMIT Fashion staff members, including Deputy Head of VET programs	RMIT University 25 Dawson Street, Brunswick Auditorium Building 514.02.01	August - September, 2013
RMIT School of Fashion & Textiles and Victorian TAFE institutes	RMIT University 25 Dawson Street, Brunswick Auditorium Building 514.02.01	August - September, 2013
RMIT Program Advisory Members -TCF industry representatives	RMIT University 25 Dawson Street, Brunswick Head of School meeting room	Scheduled October meeting, 2013
Knitwear enterprises – Toorallie, Fields, A&B Knitwear, Kookai	To be confirmed	To be confirmed

8. Recommendations

The following recommendations are made by the Fellow as a result of her research, interviews and observations made during the Fellowship trip - they are aimed at specific industry, government and educational bodies that should be involved in improving the situation in Australia

Government

- Reapply tariffs to imported TCF products to benefit local manufacturing.
- Develop incentive programs for local manufacturers to produce onshore.
- Assist in training costs to enable local TCF manufacturers to develop skills in design for niche knitwear products.

Industry

Skills and knowledge within specialist knitwear manufacturing companies are being lost due to an aged workforce. These skills need to be seized and passed on before it is too late to do so. Manufacturers should become involved in knit education initiatives to nurture and grow a declining industry and skill base. Currently there are only a very small number of Australian knitwear manufacturers available and these companies tend to train within rather than employ fashion graduates. Companies should be encouraged to employ students during the work experience component of their program. This would lead to a better understanding of both company and educational needs in relation to skills and follow on employment opportunities.

Professional Associations

TFIA, via The Hub at Kangan Institute, Melbourne should continue to deliver knit specific training. 2012/2013 has seen an increase in specialist training that has been made available to education, individuals and TCF enterprises and can only be seen as a valuable contribution to increasing skills within the workforce.

Education and Training – University, TAFE, Schools

Whilst it is difficult to compare three and four year program model deliveries against the current two year Associate Degree program offered at RMIT University, the De Montfort program matched most closely to the type of program to be recommended for the Australian educational model. This program included both woven and knitwear skills within one Fashion Design program as opposed to offering a variety of stand-alone program specialisms. Ingwersen believes that due to the small Australian TCF industry, fashion graduates should not be trained in specialist streams – for example, knitwear, menswear, haute couture are not warranted; nor could these type of graduates be supported by the industry who require a program structure which offers flexibility and relevance.

As the majority of our manufacturing is produced offshore it is important that the program developed has a balance of both design and manufacture with the inclusion of technical specifications, quality control, fit and communication skills (both verbal and written) are seen as vital components in the model for the Australian market. Programs developed should have a focus of technical skills and capabilities needed to be employed in a company that designs onshore but manufactures offshore. Small to medium sized company's employment requirements are for multi-skilled employees as opposed to specialist skills areas.

The inclusion of holistic delivery and assessment would ensure a stimulating program outcome where

8. Recommendations

students are encouraged to work both assisted and unassisted and develop their individualistic ideas and not be limited to the constraints and parameters of tight weekly delivery teaching schedules. Students should be encouraged to be creative and to play with knit structures and yarns, thus developing an inquisitive mind and an ability to think through ideas from concept to conclusion.

Ingwersen is available to work with TAFE institutes to assist with development of curriculum and teaching resource materials as required.

9. References

1. 2008, Australian Government TCF Review: <http://archive.innovation.gov.au/ministersarchive2011/carr/MediaReleases/Pages/GOVERNMENTRELEASESTCFREVIEWREPORT.html>(RT)
2. 2013, Program Study Guide – BA Hons Fashion Design Orientation booklet, De Montfort University, page 6.
3. 2013, London College of the Arts, Central Saint Martin's website, <http://www.csm.arts.ac.uk/about/>
4. 2012, Seamless Knitwear Technology: Informing the Australian Industry, Patricia Chircop, International Specialised Skills Institute, Executive Summary.
5. 2013, (April edition) Rowley. S, 'Hanging by a Thread', Ragtrader, page 21.
6. 2013, (June edition) Hootman.P, 'New Kids on the Block', Ragtrader, page 22.

Articles/Reports

- Program Study Guide, 2013, BA Hons Fashion Design Student Orientation booklet, De Montfort University
- Chircop.P, 2012, Seamless Knitwear Technology: Informing the Australian Industry, International Specialised Skills Institute Report, Published by International Specialised Skills Institute, Melbourne
- Rowley. S, 2013, 'Hanging by a Thread', Ragtrader, www.ragtrader.com.au, Australia
- Hootman.P, 2013, 'New Kids on the Block', Ragtrader, www.ragtrader.com.au, Australia

Websites

- Australian Government, 2008, Green. R, TCF Review, viewed 12th March 2013 <http://archive.innovation.gov.au/ministersarchive2011/carr/MediaReleases/Pages/GOVERNMENTRELEASESTCFREVIEWREPORT.html>(RT)
- Australian Wool Innovation, 2013, viewed 23rd March 2013, www.wool.com/en/home
- University of the Arts, Central Saint Martins , 2013,viewed 5th July 2013<http://www.csm.arts.ac.uk/about/>
- Hong Kong Polytechnic University,2013, viewed 18th March 2013,www.polyu.edu.hk/
- De Montfort University, 2013, viewed 18th March 2013, www.dmu.ac.uk/
- Hong Kong Design Institute, 2013, viewed 18th March 2013,www.hkdi.edu.hk/
- Nottingham Trent University, 2013, viewed 18th March 2013, www.ntu.ac.uk/