

SOURDOUGH: THE HEALTHY BREAD REVOLUTION



Stephen Pinnuck

ISS Institute/TAFE Fellowship

Fellowship funded by Skills Victoria,
Department of Innovation,
Industry and Regional Development,
Victorian Government



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Executive Summary

Over a career of more than twenty years Stephen Pinnuck has gained a breadth of experience and knowledge in both large commercial and small production bakeries. Experience in areas such as product development, industry consultation and bakery teaching has enabled Pinnuck to stay abreast of continual changes within the Baking Industry.

The purpose of the Fellowship was to undertake an overseas study program in Canada, the USA and Europe, to gain a comprehensive understanding in the field of sourdough production and preparation, production and processing technologies, in relationship to the Baking Industry.

The Australian Artisan Baking Industry is a small, but growing part of the overall Australian Baking Industry. Current trends suggest that the industry is slowly moving on from its fast pace mass production, back to the original style of baking based on superior quality and greater health benefits derived from artisan and sourdough products. The faster we move into a mass produced baking era the more we look back and realise how good we used to make artisan and sourdough breads. The increase in popularity and, thus, production of artisan breads including sourdough, is being driven by consumers requiring a healthy alternative to the standard products being offered in the marketplace.

Artisan and sourdough baking throughout Canada, the USA and Europe have developed into a large and expanding market. Each country has a very diverse baking industry and are leaders in their field. By investigating overseas methods and knowledge, the aim was to return to Australia equipped with knowledge and ideas to advise, instruct, promote, improve, complement and add to the overall acceptance of artisan and sourdough principles in this country.

The Fellowship Program included visits to establishments and meetings with individuals involved in the sourdough and artisan baking industries.

On completion of the Fellowship trip, the main thing that struck Pinnuck was the disjointed approach that Australia's Baking Industry and learning institutions have in the artisan and sourdough bread areas.

Each experienced baker, manufacturer and educator that Pinnuck met overseas had outstanding skills and knowledge. Finding a way of broadcasting this artisan knowledge is critical for the Australian industry to prosper. Key areas such as the science and techniques in producing sourdough can be best approached in a joint effort from the entire industry.

In Australia there are state Baking Industry bodies that provide limited support to their members with no real guidance, at a grass roots level. Pinnuck strongly believes that these industry associations should be providing technical assistance in the form of a highly qualified and experienced industry specialist to be the face of our local Baking Industry. For a skilled Australian artisan baker to exist in 20 years time it is essential that we have to commit far more training, resources and mentoring of Australians wishing to learn and develop these baking skills. Australia loses far too many experienced bakers out of the trade for a number of reasons. These include wages, working conditions and a lack of further education and training being available.

Selected Australian TAFE institutions at present do embrace the delivery of training in the artisan baking areas, however, they are all working from a training package in need of an overhaul. The current training package for 'Produce Artisan Breads' needs to be upgraded in a number of areas mentioned previously to reflect current customer trends.

We have talented, gifted, passionate bakers within our shores. We need the high level training at a master artisan level and the mindset to lift, recognise and celebrate them as 'stars' of our industry.

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Acknowledgments

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

Awarding Body - International Specialised Skills Institute (ISS Institute)

We know that Australia's economic future is reliant upon high level skills and knowledge, underpinned by design and innovation.

The International Specialised Skills Institute Inc (ISS Institute) is an independent, national organisation, which has a record of nearly twenty years of working with Australian industry and commerce to gain best-in-the-world skills and experience in traditional and leading-edge technology, design, innovation and management. The Institute has worked extensively with Government and non-Government organisations, firms, industry bodies, professional associations and education and training institutions.

The Patron in Chief is Sir James Gobbo AC, CVO. The ISS Institute Board of Management is Chaired by Noel Waite AO. The Board comprises Franco Fiorentini, John Iacovangelo, Lady Primrose Potter AC and David Wittner.

Through its CEO, Carolynne Bourne AM, the ISS Institute identifies and researches skill deficiencies and then meets the deficiency needs through its *Overseas Skill Acquisition Plan (Fellowship Program)*, its education and training activities, professional development events and consultancy services.

Under the Overseas Skill Acquisition Plan (Fellowship Program) Australians travel overseas or international experts travel to Australia. Participants then pass on what they have learnt through reports, education and training activities such as workshops, conferences, lectures, forums, seminars and events, therein ensuring that for each Fellowship undertaken many benefit.

As an outcome of its work, ISS Institute has gained a deep understanding of the nature and scope of a number of issues. Four clearly defined economic forces have emerged out of our nearly twenty years of research. The drivers have arisen out of research that has been induced rather than deduced and innovative, practical solutions created - it is about thinking and working differently.

A Global Perspective. 'Skills Deficiencies' + 'Skills Shortages'

Skill deficiencies address future needs. Skill shortages replicate the past and are focused on immediate needs.

Skill deficiency is where a demand for labour has not been recognised and where accredited courses are not available through Australian higher education institutions. This demand is met where skills and knowledge are acquired on-the-job, gleaned from published material, or from working and/or study overseas. This is the focus of the work of ISS Institute.

There may be individuals or firms that have these capabilities. However, individuals in the main do not share their capabilities, but rather keep the IP to themselves; and over time they retire and pass way. Firms likewise come and go. If Australia is to create, build and sustain Industries, knowledge/skills/understandings must be accessible trans-generationally through nationally accredited courses and not be reliant on individuals.

Our international competitors have these capabilities as well as the education and training infrastructure to underpin them.

Addressing skill shortages, however, is merely delivering more of what we already know and can do to meet current market demands. Australia needs to address the **dual** challenge – skill deficiencies and skill shortages.

Acknowledgments

Identifying and closing skills deficiencies is vital to long-term economic prospects in order to sustain sectors that are at risk of disappearing, not being developed or leaving our shores to be taken up by our competitors. The only prudent option is to achieve a high skill, high value-added economy in order to build a significant future in the local and international marketplace.

The Trades

The ISS Institute views the trades as the backbone of our economy. Yet, they are often unseen and, in the main, have no direct voice as to issues which are in their domain of expertise. The trades are equal, but different to professions.

The ISS Institute has the way forward through its 'Master Artisan Framework for Excellence. A New Model for Skilling the Trades', December 2004. The Federal Government, DEEWR commissioned ISS Institute to write an Australian Master Artisan School, Feasibility Plan.

In 2006, ISS Institute Inc. set up a new ISS advisory body, the **Trades Advisory Council**. Members are Ivan Deveson AO; Martin Ferguson AM, MP, Federal Labor Member for Batman; Geoff Masters, CEO, Australian Council of Educational Research; Simon McKeon, Executive Chairman, Macquarie Bank, Melbourne Office; Richard Pratt, Chairman, Visy Industries and Julius Roe, National President Australian Manufacturing Workers' Union.

Think and Work in an Holistic Approach along the Supply Chain - Collaboration and Communication

Our experience has shown that most perceive that lack of skills is the principal factor related to quality and productivity. We believe that attitudes are often the constraint to turning ideas into product and a successful business; the ability to think laterally, to work and communicate across disciplines and industry sectors, to be able to take risks and think outside the familiar, to share – to turn competitors into partners.

Australia needs to change to thinking and working holistically along the entire Supply Chain; to collaborate and communicate across industries and occupations - designers with master artisans, trades men and women, Government agencies, manufacturers, engineers, farmers, retailers, suppliers to name a few in the Chain.

'Design' has to be seen as more than 'Art' discipline – it is a fundamental economic and business tool for the 21st Century

Design is crucial to the economic future of our nation. Australia needs to understand and learn the value of design, the benefits of good design and for it to become part of everyday language, decision making and choice.

Design is as important to the child exploring the possibilities of the world, as it is to the architect developing new concepts, and as it is to the electrician placing power points or the furniture designer working with a cabinet-maker and manufacturer. As such, design is vested in every member of our community and touches every aspect of our lives.

Our holistic approach takes us to working across occupations and industry sectors and building bridges along the way. The result has been highly effective in the creation of new business, the development of existing business and the return of lost skills and knowledge to our workforce, thus creating jobs - whereby individuals gain; industry and business gain; the Australian community gains economically, educationally and culturally.

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Pinnuck would like to thank Carolynne Bourne AM, ISS Institute CEO and Jeanette McWhinney for their continued support and assistance.

Fellowship Sponsor

The Victorian Government, Skills Victoria is responsible for the administration and 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. Pinnuck would like to thank them for providing funding support for this Fellowship.

Employer Support

Goulburn Ovens TAFE Institute of TAFE

Pinnuck would like to acknowledge the support of Goulburn Ovens Institute of TAFE for providing the time and the additional funding required to undertake the Fellowship and associated activities.

- Peter Ryan, CEO
- Paul Culpan, Director – Innoven

Development of the Overseas Fellowship

Individuals, organisations and companies involved in the development of the overseas Fellowship:

In Australia

- Baking Industry Association of Victoria: Cheryl Downie, Executive Officer
- Baking Industry Association of Victoria: Graham Dodgshun, Life Member

In Germany

- Museum of Bread Culture: Dr Andrea Fadani
- Strohmaier Bakery: Georg Strohmaier

In Italy

- Sitep Bakery Machinery: Stefi Michelle
- Massa Fiscaglia Bakery: Bussare Nella
- Panificio Quaggiotto Bakery: Di Maurizio Quaggiotto

In the United States of America

- Bread Bakers Guild of America: Gina Piccolino, Executive Director
- Hell's Kitchen Bakery, New York
- American Retail Baking Expo, Las Vegas
- San Francisco Baking Institute: Michel Suas

In Canada

- Vancouver Community College, School of Hospitality: Parry Robinson, Department Head, Baking and Pastry Arts
- Malaspina University College: Martin Barnett, Instructor – Professional Baking Program
- True Grain Bakery: Jonathan Knight
- Organic Baking.com: Brian Linton

Acknowledgments

The Fellowship Submission

Individuals, organisations and companies involved in the Fellowship submission:

- Tatura Hot Bread: Jeff and Glenda Alexander, Owners
- Goulburn Ovens TAFE: Kim Banfield, Program Coordinator, Joanne Lock, Manager Hospitality, and Bryan Kelly, Course Coordinator

Australian Organisations Impacted by the Baking Industry

Government – Federal, State and Local

- Agri-Food Industry Skills Council – www.agrifoodskills.net.au

Business, Commerce, Firms and Professional Associations

- Australian Society of Baking
- Baking Industry Association NSW
- Baking Industry Association of South Australia
- Baking Industry Association Western Australia
- Queensland Baking Association
- Flour Millers' Council of Australia
- Baking Industry Association of Victoria
- Artisan Baking Association
- The National Association for Sustainable Agriculture, Australia (NASAA)
- Organic Growers of Australia (OGA)
- Biological Farmers of Australia (BFA)
- Department of Primary Industries – Organic Agriculture (DPI)
- Organic Federation of Australia (OFA)
- Biodynamic Agriculture Australia
- Growers. See link for examples – <http://enviro.org.au/organics-directory-australia.asp>
- Farmers markets. See links for examples – <http://www.rfm.net.au/> and <http://www.whitehat.com.au/Victoria/Markets/Farmers.asp>

Education/Training Institutes

- TAFE institutes nationally who run courses in bakery studies – www.ntis.gov.au
- Slow Food - <http://www.melbournefoodandwine.com.au/www/html/158-about-slow-food.asp>

About The Fellow



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Qualifications

- Certificate III in Food Processing – Retail Baking, William Angliss College, 1988
- Certificate IV Work Assessment and Training, Goulburn Ovens Institute of TAFE, 2004
- Advanced Artisan II and Wholegrains, San Francisco Baking Institute, 2007

Memberships

- Baking Industry Association of Victoria
- Artisan Bakers Association
- Australian Society of Baking

Over a career of more than twenty years Stephen Pinnuck has gained a breadth of experience and knowledge in both large commercial and small production bakeries. Experience in areas such as product development, industry consultation and bakery teaching has enabled Pinnuck to stay abreast of continual changes within the Baking Industry. These areas have been integrated throughout his career into a holistic approach encompassing knowledge, skills and insights across the baking trades. This provides Pinnuck with a comprehensive platform for clearly identifying problems and developing innovative and achievable solutions for implementation.

Pinnuck joined Daily Bread in Shepparton in 1985 as an apprentice baker, learning all facets of a small production bakery. In 1988 Goodman Fielder bought out Homepride, closing Daily Bread with Pinnuck being transferred to Goodman's mass production factory. Pinnuck spent nearly ten years working for this company before joining Safeway as a Bakery Manager.

In addition, Pinnuck has also been a Bakery Manager at Fairly's IGA Bakery and Coles.

Currently Pinnuck is a Bakery Instructor at Goulburn Ovens Institute of TAFE, Shepparton Campus. He is responsible for preparing and presenting relevant training packages to baking apprentices whilst using flexible teaching methods to facilitate a high level of learning. He is also developing courses for the Baking Industry, covering all areas of artisan baking techniques.

Away from this, Pinnuck's interests include spending time with his wife, cricket, renovation and property investment.

Aims of the Fellowship Program

The purpose of the Fellowship was to undertake an overseas study program in Canada, the USA and Europe, to gain a comprehensive understanding in the field of sourdough production and preparation, production and processing technologies, in relationship to the Baking Industry.

Specific Areas of Study and Development

- Developing an understanding of the science and history behind the manufacture of sourdough.
- Researching and developing techniques and processes in the manufacture of sourdough.
- Extending knowledge of how to provide a better education to people from all walks of life as to the health benefits associated with eating sourdough products.
- Identifying markets for sourdough produce – existing and future.
- Identifying strategies for new business development based on the techniques identified.
- Identifying key stakeholders.
- Developing ongoing education programs through ISS Institute, Goulburn Ovens Institute of TAFE and other educational institutions.
- Developing strategies to promote sourdough bread production to trainees in the Baking Industry.

Ongoing Areas for Development

- Promotion of the health benefits of sourdough breads, ie food as 'medicine'/nutrition.
- Continued collection of information in order to investigate scientific research specific to health benefits of sourdough breads.
- Adoption of strategies to promote the benefits of healthy eating with a specific emphasis on sourdough breads to children, nursing mothers, palliative care professionals, medical practitioners and educators.
- Creation of a marketing and promotional model which can be adopted Australia-wide.

Australian Context

A Brief Description of the Industry

The Australian Baking Industry is well established. The Australian Artisan Baking Industry is a small, but growing part of the overall Australian Baking Industry.

Current trends suggest that the industry is slowly moving on from its fast pace mass production, back to the original style of baking based on superior quality and greater health benefits derived from artisan and sourdough products. To quote the author of *World Sourdoughs from Antiquity* (Ed Wood), “*The faster we run away the more we look back*”. The faster we move into a mass produced baking era the more we look back and realise how good we used to make artisan and sourdough breads. The increase in popularity and, thus, production of artisan breads including sourdough, is being driven by consumers requiring a healthy alternative to the standard products being offered in the marketplace.

It is a recognised fact that the mass produced breads and their lower prices combined with a lack of education on the benefits of sourdough and artisan breads are probably the main barriers to increased acceptance of these product types.

There is an enthusiastic and interested core group of people and industries in Australia who need direction, information and support from a country that has demonstrated over many years how to consistently produce quality products that are healthy, affordable and eagerly sought after.

The producers of sourdough products are devotees who have come to understand the multitude of benefits that arise from eating breads that are free of chemical residue and can offer health and lifestyle benefits.

Scientific research is slowly proving that there is a general health, and often a therapeutic benefit, to chemical-free produce. With a coordinated philosophy, marketing and promotional strategy, this element of the Baking Industry has the potential to extend into mainstream sectors. There already exists potential to promote to schools, retail outlets and healthcare professionals who could form the basis of a new direction for the industry and create a solid economic framework to increase profitability and industry growth. Current marketing of organic baking is limited to direct contact with potential customers, wholesalers and some limited retail contact through the growing networks.

Artisan and sourdough baking throughout Canada, the USA and Europe have developed into a large and expanding market. Each country has a very diverse baking industry and are leaders in their field. By investigating overseas methods and knowledge, the aim was to return to Australia equipped with knowledge and ideas to advise, instruct, promote, improve, complement and add to the overall acceptance of artisan and sourdough principles in this country.

It is perceived by many that education is the way to advance this agenda. Stakeholders such as local, state and national businesses and learning institutes are trying to pave the way to reach the goal of a healthy breads revolution.

Current Education and Training

Current training at TAFE institutes follow guidelines of FDF03 in ‘Produce Artisan Breads’ – FDFRBAB3A.

The following pages show the current training package unit.

Australian Context

EVIDENCE GUIDE

The assessment process must address all of the following items of evidence.

Ability to:

1. Given the product description and/or customer request, select appropriate recipe/formulation to meet product/customer requirements.
2. Price ingredients for use in product.
3. Estimate cost of production.
4. Select ingredients to meet recipe requirements.
5. Produce bread dough to meet recipe requirements. This must include but is not limited to producing:
 - dough-based flat bread dough
 - batter-based flat bread dough
 - unleavened or chemically leavened flat bread dough
 - chemical sourdough
 - natural sourdough
 - an extended fermentation period dough
 - an enriched dough
6. Prepare cultures/starters for use in sours from scratch, using natural sourdough and using a chemical starter.
7. Prepare dough for baking according to requirements of bread type. This includes moulding/shaping such as novelty shapes and plaited products.
8. Bake bread products.
9. Finish and present bread product to meet product and customer requirements. This includes applying toppings as required.
10. Clean equipment and utensils to meet hygiene standards.
11. Maintain workplace records as required.
12. Maintain work area to meet housekeeping standards.
13. Measure actual production costs against estimate and account for any variation.

Australian Context

Knowledge of:

14. Typical formulations for bread types.
15. Principles and processes involved for extended fermentation dough.
16. The fermentation process in chemical and natural sourdough as this affects dough preparation, baking and final product characteristics and related food safety issues.
17. Preparation stages and requirements for nominated bread types. This includes but is not limited to knowledge of:
 - starter preparation
 - dough scaling and rounding methods including sheeting, hand and mechanical scaling and rounding
 - intermediate proof methods including ambient temperature and normal proofing
 - moulding including novelty shapes and plaited product preparation
 - loading product into ovens. This includes stretching flat bread doughs such as Turkish bread on the oven floor
 - baking parameters for different bread types
 - the effect of ingredients on shelf-life and food safety
18. Optimum storage conditions and shelf life for ingredients and related sequencing requirements.
19. Optimum storage conditions for the finished product prior to sale.
20. Ingredient suppliers and pricing information.
21. Methods of estimating fixed and variable costs, and profit margin to determine sale price range.
22. Basic awareness of trade practice issues when pricing products.
23. Business policy and parameters in pricing products.

Some key areas lacking in the 'Produce Artisan Breads' unit are:

- Knowledge of organic sourdough ingredients and processes
- Knowledge of beneficial bacterias
- Specific hand moulding skills
- Specialised baking tools

Identifying the Skills Deficiencies and Knowledge Gaps

- There is currently a lack of knowledge in the history and science of sourdough baking. More education is needed for apprentices and the general public in the key areas of sourdough origins, trends and the basic science behind sourdough.
- Current learning resources in both published books and bakers' recipes have limited technical detail and background in techniques and processes in sourdough baking. Key areas for improvement include making sourdough information more readily available by improving communication lines to all bakeries. Providing this knowledge through easy access communication techniques such as the internet and DVDs will better facilitate the promotion of sourdough health benefits.
- The current market for sourdough breads is at a niche scale and needs to become more mainstream and easily accessible. This is limiting the popularity and sales of sourdough breads and identifies the need for developing a vigorous media profile to be generated, alerting more people to the huge benefits of these healthy breads. Key market targets should be aimed at children and families. The bread needs to be presented as 'fun to eat' to encourage the next generation to accept sourdough as 'the norm' rather than 'something different'.
- The key sourdough strategy should be based on health benefits and how simple it can be to make. We do not need all the chemicals and additives that are contained in many of today's breads. Essentially all that is needed to make a good sourdough is flour, salt and water.
- The key stakeholders in this are the general public. We deserve to have breads that are healthy and nutritious such as sourdough and should be driving the need ourselves. The Baking Industry is a major stakeholder, but needs to be forced by public demand to ensure increased awareness of the benefits of sourdough.

Specific Areas of Skills Development

- Investigating the science of sourdough bread baking and why it is a superior methodology
- What are the health benefits of sourdough breads, ie food as 'medicine'/nutrition
- Learning about the history behind the manufacture of sourdough to put into traditional context
- Learning about more artisan techniques and processes in the manufacture of sourdough including:
 - Preparation techniques
 - Processing techniques
 - Production techniques

The above was undertaken on the Fellowship by observing, discussing and collating recipes and by identifying appropriate flours, equipment and machinery, etc. This process was managed by identifying four distinct areas for investigation: community, marketing, business development and education:

- **Community** – Observation of how to provide better education to people from all walks of life as to the health benefits associated with eating sourdough products.
- **Marketing** – Observation of how sourdough produce is marketed – what works and what hasn't.
- **Business Development** – Observe and discuss in each location why and how new business is generated.
- **Education** – Key questions include what education programs exist in the locations visited? Are they Government based or privately run? What are the differences in models, attitudes, outcomes? Is sourdough a core or additional unit?

Identifying the Skills Deficiencies and Knowledge Gaps

To obtain the necessary information, the following activities were undertaken during the course of the Fellowship:

- Visiting a wide range of firms and businesses involved with the production and marketing of sourdough. In doing this, Pinnuck aimed to increase the level of research and development being conducted in the Baking/Sourdough Manufacturing Industry, which would result in a wider range of products on the market for Australians consumers.
- Another aim of the above visits was to help establish networks with overseas sourdough manufacturers, resulting in the transfer of knowledge and sourdough making techniques.
- Pinnuck attended a fourteen day sourdough baking course at the San Francisco Baking Institute. It is a world renowned baking college with state-of-the-art facilities.
- Pinnuck's involvement with Goulburn Ovens Institute of TAFE ensures that he is well placed to share expertise gained from studying overseas. A broad range of companies and interested parties seeking to access information will find the Fellowship findings a useful resource.

These objectives were achieved by:

- Undertaking an overseas study programs in Germany, Italy, the USA and Canada to gain a comprehensive understanding in the field of artisan and sourdough bread production and preparation.
- Studying organic production and processing technologies and their relationship to sourdough products.

Key Questions to Inform the Study Program

• What are the current trends with producing sourdough breads?

Healthy living and organic produce is the major current trend through the USA and Canada. In Germany and Italy they continue to produce world class healthy products without the need to promote their products as the locals know their products are good for them.

• Is there any documentation you are aware of to reinforce the health benefits of eating sourdough breads?

Through the USA and Canada there is a real push for organic produce following the success of a book called *The 100 Mile Diet*, a publication that promotes the use of locally grown produce within a 100 mile radius of where you live. The basic theory is that by using top class locally grown produce, it will not be exposed to chemicals and will not be processed, thus being healthy for all.

• Are you aware of any Government regulations or guideline for the production of sourdough breads?

Unfortunately, there are very few rules and regulations regarding sourdough breads. To be truly called sourdough bread it MUST NOT contain any commercial yeast at all. It must also be said that there are some excellent healthy breads being made with a commercial yeast added and bakers should not be discouraged from making these healthy breads but maybe 100% sourdough should be just that and marketed this way.

International Context

The overseas program was purposefully designed to explore the identified skills and knowledge gaps and obtain the information necessary for Pinnuck to return to Australia equipped with the knowledge and ideas to enable him to advise, instruct, promote and improve the overall acceptance of artisan and sourdough baking principles in Australia.

Program Content

The Fellowship Program included visits to establishments and meetings with individuals involved in the sourdough and artisan baking industries in Germany, Italy, the United States of America and Canada. The activities were planned prior to departure. However, upon arrival in these countries, many contacts provided information that led to additional significant opportunities that were not known prior to the Fellowship. This factor had been anticipated prior to departing on the study tour and sufficient time had been allocated in the program to include such impromptu visits.

The following site visits and meetings proved to be the most significant in providing information and inspiration.

Georg Strohmaier Bäckerei *Stuttgart, Germany*

Georg Strohmaier, Business Owner, and Aaron Wedge, Baker (Georg's son-in-law, from Perth, Australia)

This is one of four bakeries owned by Mr Strohmaier around the Stuttgart area and was by far one of the best sourdough bakeries Pinnuck visited. He worked here for 12 days.



Strohmaier Bäckerei production area

International Context



Strohmaier Bäckerei shop front



German rye bread



Georg Strohmaier (second from left)



Rye breads being prepared for loading into oven

International Context



Hausbrott bread from Strohmaier Bäckerei



Dark rye bread from Strohmaier Bäckerei

International Context

Ferrara Bakery Ferrara, Italy

Mr Palazzo, Owner

This bakery is family owned and operated in a small village on the outskirts of Ferrara and uses traditional local methods and products. Their sourdough culture (mother) is about seven years old and was started by using yoghurt, wine, apple peel and flour. Pinnuck worked at the Ferrara Bakery for four days



'Mother' culture (started from seven year old sourdough culture)

Panificio Quaggiotto Bakery Veduggio, Treviso, Italy

Maurizio Quaggiotto, Owner

This bakery was a mainly wholesale bakery, supplying restaurants and markets with mass produced sourdough products. Pinnuck worked here for 3 days.



Dough proofing rack

International Context

American Retail Baking Expo *Las Vegas, Nevada*

The American Retail Baking Expo was a three day Baking Expo with guest speakers and practical demonstrations.

Speakers included:

- Lionel Vatinet (French artisan breads)
Master baker and owner of La Farm Bakery
- Klaus Tenbergen (artisan and sourdough breads)
Assistant Professor, California State University, Food Science and Nutrition
- Brian Wood (sourdough fermentation and starters)
Lecturer from the San Francisco Baking Institute

Pinnuck also attended seminars on bakery marketing which were hosted by the Pillsbury Company, who are one of the biggest baking companies in the USA.



Seven grain bread from the American Retail Baking Expo

International Context



Display of one stand at the American Retail Baking Expo

La Brea Bakery Pier 3, San Francisco, USA

This bakery is located on the wharf area in San Francisco and specialises in artisan breads and sole baked breads.

Pinnuck visited for two hours and was guided through by the owner.



La Brea Bakery production area

International Context

Boudin Bakery *Pier 49, San Francisco, USA*

Pinnuck experienced a guided tour through bakery operations and witnessed full sourdough production on a semi-commercial scale.

San Francisco Baking Institute

This course involved the study of breads with high grain content and the effects on fermentation and recommended dough temperatures. It was very informative and was delivered by internationally respected instructors.

Activity 1: Five day Artisan Baking Course

Lecturer: Tim Kitzman

This was a comprehensive baking course at this world renowned institute. During these five days Pinnuck gained experience in areas such as sourdough starters, moulding techniques and fermentation processes.

Activity 2: Five day Wholegrain Bread and Specialty Flours Course

Lecturer: Didier Rosada

This was Pinnuck's second instalment of training at the San Francisco Baking Institute. It was an eye opening course which centred around the use of healthy grains in breads and the specialty flours.

Some of the areas covered included the use of pre-ferments, double hydration techniques, use of sprouted grains and use of specialty flours such as buckwheat and spelt.

This course also included learning different mixing, shaping and baking techniques combined with the use of bannertons during proofing. A bannerton is a small basket usually made out of reed or cane, in which the bread dough sits when proofing. It gives the bread an interesting shape.



San Francisco Baking Institute baking class

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Sourdough French loaf



Selection of sourdough breads from the course

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Selection of sourdough breads from the course



Selection of sourdough breads from the course

International Context

Vancouver Community College *Vancouver, Canada*

Pinnuck spent a day speaking to baking instructors about teaching methods and facilities when delivering sourdough/artisan baking courses.

Malaspina University College *Nanaimo, Vancouver Island, Canada*

Martin Barnett, Lecturer

Whilst at this college Pinnuck assisted the lecturer in delivering artisan and sourdough classes during the two day visit. During this time he was able to witness methods and skills used to pass on this knowledge.



Malaspina University College bakery



Malaspina University College bakery students

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Malaspina University College bakery lecture centre

True Grain Bakery Cowichan Bay Village, Vancouver Island, Canada

Jonathan Knight, Business Owner

Pinnuck worked here for 10 days. This is the only bakery in Cowichan Bay and it was very busy every day that Pinnuck worked there. The bakery uses only 100% organic raw ingredients and tries to support local producers where possible. Knight also has his own mini flour mill which produces all its flours from local wheat growers. True Grain Bakery was by far one of the best operations visited whilst on the Fellowship trip.



True Grain Bakery service area

Findings

On completion of the Fellowship trip, the main thing that struck Pinnuck was the disjointed approach that Australia's Baking Industry and learning institutions have in the artisan and sourdough bread areas.

Each experienced baker, manufacturer and educator that Pinnuck met overseas had outstanding skills and knowledge. Finding a way of broadcasting this artisan knowledge is critical for the Australian industry to prosper. Key areas such as the science and techniques in producing sourdough can be best approached in a joint effort from the entire industry.

In Germany 80%-90% of bakeries are managed by a governing body called INON, who assist with setting up new bakeries, and supply information and support. The bakeries pay to be a member of this association. INON informs bakeries of any changes that have occurred within the industry and undertake testing halfway through an apprenticeship and also at the end. INON operates in each state of Germany and there is also one branch which oversees the entire country. In each state an 'Übermister' is appointed, who is responsible for their particular region in Germany, ensuring that all bakeries in their area get all the information and assistance they need. In the Fellow's area, Georg's Strohmaier was the Übermister, with responsibility for 130 bakeries. All the Übermisters meet once a year.

In Australia there are state Baking Industry bodies that provide limited support to their members with no real guidance, at a grass roots level. Pinnuck strongly believes that these industry associations should be providing technical assistance in the form of a highly qualified and experienced industry specialist to be the face of our local Baking Industry.

For a skilled Australian artisan baker to exist in 20 years time it is essential that we have to commit far more training, resources and mentoring of Australians wishing to learn and develop these baking skills. Australia loses far too many experienced bakers out of the trade for a number of reasons. These include wages, working conditions and a lack of further education and training being available.

German apprentice bakers train for four years to gain their qualification, but then have the choice of a higher level baking education. After these four years they are encouraged to leave their current bakery and work in other German bakeries for a minimum of two years before applying to study to be a 'Master Baker', a qualification which involves another year of study. To become a teacher at a bakery training institute a baker must have a minimum of 25 years experience in the industry.

This supports the research and the ongoing commitment ISS Institute has to implement its Australian Master Artisan School and qualifications model.

The German training module of encouraging apprentice bakers to move to different employers upon completion of training has a lot of merit and could help develop the skill levels amongst Australia's tradespeople.

Australian bakers and industry need to self promote the 'healthy breads' message and to drive this market. They cannot rely on what worked 10 years ago as the Baking Industry and Australian public have changed in their needs of bakery products. The word 'sour' needs to be addressed as most young children relate the word 'sour' to a bad tasting experience. The term 'healthy breads' would be a far better promotional tool to our future customers but would need to be tightly regulated to ensure a level of quality is maintained.

Unfortunately, the key stakeholders of the Baking Industry have moved from the hands of qualified bakers to bakery chains, unqualified bakery owners and learning institutes only interested in the 'tick and flick' education. The artisan skills are vanishing from our industry

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quickly along with the respect of the community that baking craftsmen once had. Despite being a gloomy picture there is some light on the horizon through the ISS Institute's Master Artisan School initiative to redress this situation.

The artisan baking communities are staging a small comeback through national competitions, learning institutions' training and through recognition and promotion from individual baking associations.

In the late 1970s and early 1980s, the Australian Federal Government made the choice to deregulate the Baking Industry with the philosophy being that it would put the emphasis or control back in the hands of the people at the coalface. The Australian Government hoped that the combination of self regulation and customer awareness would be the platforms for governance.

In Pinnuck's opinion, the disjointed nature of the Australian Baking Industry has not helped foster minimum standards and has accelerated the lowering of skill levels required for our artisan craftsmen.

Concluding Remarks

Key issues:

Education of Employers

Most bakery owners have the interest of the Baking Industry at heart, but need to be educated as to the growing benefits of producing top quality, healthy artisan breads. With both industry and Government support, artisan and sourdough breads can be promoted as healthy alternative foods and in the process financially support struggling retail bakeries across Australia.

Retaining Skilled Tradesmen

By providing extra training courses in artisan and sourdough baking it may help retain some tradesmen who are bored with the mundane bread production currently on offer and reinvigorate tradesmen skill levels. Bakers in Australia are not held in the same high regard that German bakers are due to the 'Aussie attitude' of *"just chuck some flour, water and yeast together and away you go"*. Promotion of the skills and knowledge involved in baking and a clear career pathway for young people to follow will enable the growth of this industry.

This supports ISS Institute's view, that with the lack of master artisan training, there is no viable alternative for lifelong learning for people working in such areas of the trades.

Single Controlling Body

This issue has been addressed in the above 'Findings' summary.

Greater Emphasis on Artisan Baking Values

The main issues that have led to artisan baking values sliding have been the rise in large scale commercial bakeries, the extra time required producing artisan bread versus costs and the neglect of time honoured skills acquired by training and mentoring. Artisan bakers have the huge advantage over large scale bakeries as they can react immediately to customer needs and trends combined with producing fresh, tasty, healthy breads.

Promoting the Benefits of Healthy Breads

Sourdough bread should have no commercial yeast, no preservatives, no additives – just 100% natural ingredients. This in itself is the biggest selling point in the promotion of healthy bread. This type of promotion will increase sales, which will lead to the need for more staff

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training and customer awareness of far better alternatives to the breads that are being sold today. Artisan bakers need to invent their own 'Jamie Oliver', who can champion the healthy breads message across Australia.

We have talented, gifted, passionate bakers within our shores. We need the high level training at a master artisan level and the mindset to lift, recognise and celebrate them as 'stars' of our industry.

Baking Career Paths

Baking career paths in Australia should be more aligned to the German Baking Industry system with stepping stones into all areas of the Baking Industry. Bakers can then work more closely with cross over food industries such as cookery. It would also be helpful to develop closer links with secondary schools and VET (Vocational Education and Training) classes.

Knowledge Transfer

TAFE

- Pinnuck is using mixing and moulding teaching techniques and notes gathered during the Fellowship and has established a learning environment similar to the world class baking colleges and bakeries visited during the overseas trip.
- Through the knowledge gained whilst overseas, Pinnuck has developed two artisan/sourdough baking courses for delivery to students of Goulburn Ovens Institute of TAFE and one short course open to the public.
- Within the course Pinnuck demonstrates developing a sourdough culture from such ingredients as apple peel, fruit and rye flour, to name a few.
- Goulburn Ovens TAFE has purchased some specialised artisan/sourdough baking tools and equipment which Pinnuck used whilst in Germany, Italy, the USA and Canada.
- Goulburn Ovens TAFE has advertised sourdough/artisan baking courses locally with mixed results so a statewide approach would be a better avenue.
- At present sourdough is not a core unit, but rather an element of the 'Produce Artisan Breads' module. It is essential that sourdough studies be better resourced with effective learning materials and practical assessments. With this in place, a more comprehensive area of study can be added to the 'Produce Artisan Breads' module.
- Through Goulburn Ovens TAFE, Pinnuck and his colleagues are promoting courses through the Annual Course Guide.

All of the above activities have been designed to increase skill levels in apprentice bakers and bread enthusiasts.

Consultancy

Pinnuck is committed to promoting health benefits to consumers and the financial benefits to bakers who are prepared to learn the sourdough skills and benefit from the increased sales that will follow.

Pinnuck believes consultancy to bakeries and individuals would be a great way to pass on the skills acquired without the limitation sometimes associated with TAFE Colleges. For example:

- Providing expertise to other learning providers in sourdough production.
- Foster and promote relationships with primary and secondary schools through demonstrations and classes.
- Training apprentice bakers and other interested parties in understanding the benefits and nutritional characteristics of sourdough breads.
- Training apprentice bakers and baking industry personnel to embrace artisan and sourdough baking principles in baking industry.

Media

- Pinnuck will discuss providing weekly recipes and baking tips for publication with a regional paper. This should increase the profile of 'healthy bread' and thus create an increase in awareness and sales.
- The baking industry is promoting courses through state baking associations and leading magazines and publications.

Recommendations

Government

In view of the findings:

- The Australian Federal Government is encouraged to address the issue of chemical free foods. We are now seeing more and more indisputable evidence that chemicals in food are directly responsible for affecting the health of children, sometimes in very serious ways. Pinnuck would like to see the Federal and State Governments establish a process to examine the evidence and following this, create information leaflets warning parents of the dangers of certain chemicals in foods.
- The Australian Federal Government is encouraged to provide a high level training pathway which recognises the equal but different requirements of those in the trades. They need to fund ISS Institute's 'Master Artisan School' and its associated course in this area.
- The Federal and State Governments in Australia would also benefit from ensuring that certain standards be met in regard to bakeries providing healthy bread alternatives.
- The Federal Government should also include the Baking Industry in its push for a healthy lifestyle and curbing childhood obesity, promoting the value of 'healthy breads'.
- The Government could introduce protocols to assist the Baking Industry in making it illegal to call bread 'sourdough' if it contains commercial yeast.
- Training bodies should be provided with the scope to develop higher qualifications such as Certificate IV in Baking and a Master Artisan Baker level.
- Bread standards should be reinstated, for example to call a bread wholemeal it must contain no less than 90% wholemeal and sourdough must have no commercial yeast.
- All people who own bakeries must be qualified bakers/pastry cooks or endeavour to undertake training to increase their skill levels.

Industry

Industry is encouraged to:

- Form one governing body and have state divisions reporting back monthly.
- Strongly lobby Governments to apply bakery standards in regard to products and training.
- Develop internal standards for bakeries with emphasis on product development and a push for the greater use of artisan baking skills.
- Provide clear pathways for bakers wishing to develop their knowledge and skills and be the baking leaders of the future.
- Actively promote bakers relocating to other bakeries to gain a greater skill set once qualified.
- Develop media campaigns to increase the profile of industry and the push for a 'healthy breads' message to all consumers.

Business

Business is encouraged to:

- Promote 'healthy breads' in local marketing campaigns.
- Educate shop assistants to on-sell artisan and sourdough products where possible.
- Provide further training to bakers and apprentices to develop artisan skills
- Work with schools to introduce 'healthy breads' as snack foods rather than fatty alternatives.
- Network with other like-minded bakeries to develop marketing strategies and promotions.

Recommendations

Professional Associations

All state associations provide different levels of support to bakeries. Based on the German model, Pinnuck believes we need one centralised baking association with the states as affiliate members. Such a structure would ensure that all bakeries are subjected to the same high levels of marketing and support and are working toward the common goal of improving our industry.

Education and Training

Selected Australian TAFE institutions at present do embrace the delivery of training in the artisan baking areas, however, they are all working from a training package in need of an overhaul. The current training package for 'Produce Artisan Breads' needs to be upgraded in a number of areas mentioned previously to reflect current customer trends.

A connection could be established between TAFE colleges, such as Goulburn Ovens Institute of TAFE and secondary/primary schools with a program in place whereby trained bakers could visit schools to teach the young about 'healthy breads'.

Far more skill and education needs to be directed at educators, to ensure they are teaching cutting edge skills to apprentices and trainees. This could be achieved with a centralised national training facility with quality instructors from both Australia and overseas.

Community

In Australia, artisan breads (healthy breads) definitely need to be marketed more extensively to the general community. At present the level of knowledge about sourdough and healthy breads is minimal.

The Australian and State Governments need to give serious consideration to providing funding to assist with marketing and education. Most bakeries lack sufficient funds to market and advertise themselves and promote the industry.

How ISS Institute can be Involved

The International Specialised Skills Institute has the potential to utilise its many contacts to attract funding and work with TAFEs and certification groups to assist the growth of artisan baking. In most cases, the lack of funding is the main obstacle that needs to be overcome.