



Professional Learning
Research
Innovation

Learning in Practice

Volume 1 Number 1 November 2017



About the Barker Institute:

- Provides a centre for research, reflective practice, professional learning and innovation in education
- Is a resource hub that facilitates the ongoing development of learning for teachers, allowing them to stay abreast of emerging practice, constantly striving to refine the quality of teaching and learning
- Looks to develop collaborative ventures with other institutions and providers, initiating research and innovation combined with the implementation of new projects and programs for the benefit of students, staff and the broader community
- Shares current research and issues with parents, professional bodies and educators around the globe through ongoing symposia, forums, lectures and conferences

About the Learning in Practice Journal:

As a leader in Christian education, Barker College aims to both demonstrate and inform best practice. This journal was developed to showcase a range of initiatives and research projects from across the School. It explains the rationale behind innovations in practice and archives pivotal developments in Barker's academic, co-curricular and pastoral realms.

Editors

Dr Brad Merrick
Dr Greg Cunningham
Mrs Amanda Eastman

Editorial Assistant

Susan Layton

Creative

Glenn Quevedo

Printing

Barker Print Room

About the Authors

Alex Butt is currently a PDHPE teacher and Assistant Director of Girls' Sport. She is the co-ordinator of Barker's Touch Football, Rugby Sevens and Netball Programs and has been involved in various administration roles at both ISA and NSW CIS sport's level. Her passion is using evidence-based research to guide to develop emerging practice in sports development and performance in schools.

Alison Cox is Currently Director of Girls' Sport. Within this role, she has had the opportunity to influence a change in the perception of Girls' Sport not only for the Barker girls, but also the broader Barker community. Alison has a clear passion for the promotion and development of schoolgirls' sport and her ability to do this at multiple levels is evident in her appointment to a variety of administrative positions across the ISA and NSW CIS representative sporting pathways.

Barker Bunker then and now: the first five years and the next five years



Learning in Practice
2017 Vol. 1 (1)
© Barker Institute 2017

Alison Cox
Director of Girls' Sport

Alex Buff
PDHPE teacher

Abstract

Since opening its doors in 2012, the Barker Bunker has been a highly-utilised facility to not only increase girls' participation in physical activity, but also to help to improve sports' performance. The dynamic nature of strength and conditioning, technology, training age and knowledge of our students and the advent of modern media in the exchange of ideas and accessibility to information has meant that in order to ensure the best possible experience for our students, our programmes also need to continue to evolve. We take a look back to the origins of the Bunker and also take a sneak peek at what the future holds for this much-loved facility.

Barker Bunker Background

"Barker Girls will be physically and health literate and have the comprehension, capacity and commitment to lead and provide a healthy active life in an ever changing global society".

Despite the excellent fitness facility within the school, girls utilising the Barker Fitness Centre were few and far between. Where lifting weights is seen as an important part of the boys' "masculinity", girls felt intimidated in such an environment. However, internal research showed that girls wanted to do additional physical activity on top of the compulsory sport program for the same reasons as boys do, because it offers them social status, respect and connectedness to the school environment.

A survey was conducted to investigate physical activity patterns and attitudes to physical activity and sport of adolescent girls. The survey's primary aim was to gather information on attitudes towards compulsory sport, changing nature of girls sport throughout their schooling and motivations and barriers towards participation at a school level. A report by Schofield et al (2002) identified that "the involvement of girls and boys during the early primary school years is almost identical". However, "involvement decreases at a far more rapid rate than that of their male counterparts through their teens and beyond". Through the results, we were able to identify a number of research-based strategies to address the declining physical activity levels of adolescent girls.

Although the survey was optional and students completed it in their own time, over 50% of the current cohort (Years 10 - 12) chose to complete the survey. A typical Barker student through the compulsory sports program would expect to participate in 4 - 5 hours of sport a week incorporating two training sessions plus a competition fixture. Surprisingly, 25% of students engaged in more than five hours of physical activity at Barker per week

and approximately 75% engaged in additional physical activity outside of the Barker community. The major activities in which girls' participate outside of Barker are fitness centre-based activities in particular, small group fitness classes (e.g. Zumba, pilates, yoga) and cardio machines.

Sport is an important part of the culture of Barker. It is assuring that 83% of respondents identified that they enjoyed compulsory sport at Barker with an even higher number believing they actively participate in and commit to the compulsory sport program. This is also reflected in high training attendance rates currently occurring.

Interestingly, the girls were able clearly to identify the health benefits of being involved, but the social aspects and connectedness to the School were two factors that were extremely important reasons to be involved in the School's sports' programme. Improved quality of life, general health, management of body image, self-esteem, anxiety/stress levels, sense of self-worth and improved connectedness with the school and peers were all seen as benefits. The survey also highlighted that the single most important aspect of physical activity for girls is the social component which generates greater confidence in a single sex environment.

The staff involved, coaches and the School itself with the wide range of activities all positively correlate with participation in physical activity. Of particular note is that 82% of respondents would participate in sport at school even if it was not compulsory. This we believe illustrates that contrary to popular belief that girls choose to reduce their physical activity during adolescent years. However, with adequate support and encouragement, the trend can be reversed.

Interestingly, although girls' attitudes towards physical activity and sport on the whole are positive, there is an alarming statistic that on a scale of 1 - 10 (10 being confident) the average rating of 4.93 indicates that girls do not have the confidence to enter a traditionally male fitness centre on campus. However, over one third of the students surveyed utilise a fitness centre outside of Barker and 89% of students would utilise a "girls' only" facility if it were available on campus.

Despite this rating, girls did not identify confidence in their own ability as a limiting factor for participation in physical activity. This leads us to question why then do girls not utilise available facilities on campus and choose to use external facilities? The answer to this question lies in the choice of activities. Girls choose to participate in structured activities where they rotate through cardio-based activities or participate in small group exercise classes. They steer clear of weight training which we would infer is due to limited knowledge of this area of exercise. This information led to the development of a facility which would meet the needs of girls allowing for structured circuit training and small-group activities in an educational setting with overall aim of "bucking" the trend of reducing exercise patterns during adolescents.

Barker Bunker – The first five years

The Development Plan for Girls' Physical Literacy provided a strategic approach to increase participation in physical activity, widen access and improve levels of performance in girls sport. The original model relied heavily on the Canadian "Sport for Life" elements, which helped to develop clear pathways, clarify roles and responsibilities and make the best use of resources to further girls' sport and physical activity development.

It provided a picture of where we are now and a vision for the future of Barker girls' sport, involvement in the community and to set clear actions and targets to get there. The original Barker Bunker Model had three phases outlined below. An old unused drama studio was refurbished to provide a small Cardio Area (including treadmills, bikes and rowers) and Group Fitness Area. The Centre had a group fitness timetable which included Yoga, Spin, Pump and Zumba. Staffed by qualified instructors, students were also able to get a basic screening and individual program to complete.

Barker Bunker Model

Phase 1 Learning to Train

Objective:

- Learn Fundamental Techniques and build general fitness

Key Outcomes:

- Be competent in performing a range of technically proficient strength, flexibility and cardio activities
- Monitor Heart Rate and adjust exercise intensity accordingly
- Address any limitations and/or restrictions present.
- Increased participation and confidence in an active environment

Phase 2 Training to Train

Objective:

- Learn Specialist Activities
- Build an Understanding of Training philosophies

Key Outcomes:

- Students are Physically literate
- Understand the role of warm up, cooldown, nutrition, hydration in relation to Physical Activity
- Increased Aerobic Capacity to build general endurance.
- Individual responsibility for health and ability to take a problem solving approach to training

Phase 3 Training to Compete

Objective:

- Develop and Refine Sport Specific endurance, strength, speed and skills
- Develop and Refine competition skills including mental preparation

Key Outcomes:

- Be empowered to take responsibility and be accountable for their training, performance and other aspects of their sporting life in cooperation with their coach
- Compete under a variety of conditions, maintaining good technique under pressure

The student participation in the Bunker soon far exceeded expectations and in only three years had outgrown the original facility leading to a revamp of the C-Block Lecture Theatre to provide what has affectionately become known as B2. The facility expansion led to an additional combined cardio and strength room, allowing the former cardio area to be

transformed into a spin cycle studio thanks to the very generous donation of equipment by the BCMA (Barker College Mothers' Association). With this expansion in 2015, programmes also expanded with continued research into long-term athlete development models and functional competence and the Barker Girls Physical Literacy program has continued to develop. The Bunker was now not just being used as a fitness resource for students, but it has become an integral part of the school community, running group fitness, individual programs, supporting first teams through physical conditioning and injury-prevention strategies, overseeing a mental health exercise program for at risk-students and instructors supporting PDHPE programmes through to coordinating in-house specialist group fitness-based activities to support the practical application of the PDHPE curriculum. The timetable expanded to include stretch sessions, Pilates, run club, equipment circuits, boxing, pump, express cycle classes and an introduction to Olympic Lifts. Despite the increased offerings, the core of this facility remained, ensuring that we not only provide "fitness" services but also focus on educating students on the "why", ensuring that the students will not only be physically competent within the Mint Gates but also physically literate when moving beyond them.

Barker Bunker – The Future

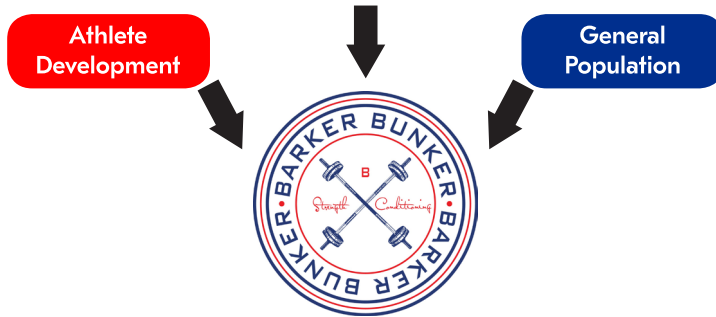
We are constantly looking at ways to help students reach their goals and aspirations regardless of their ability level. There are recommendations based on quality research for virtually every facet in a training programme. However, despite the amount of research at our fingertips, what still remains is somewhat of a grey hole in terms of recommendations in what is the best way to approach a training plan for a twelve month, multisport adolescent athlete that is also a full-time student. The last five years have provided the necessary time not only to research but experiment with a variety of models for performance improvement.

We are now at the point where the Bunker is established enough to develop our own unique philosophy on student athlete development remembering physical literacy for all students regardless of ability is a critical pillar for the continued success of the Bunker. The focus on what we have termed "Integrated Sports' Performance" is the next phase of our Barker Bunker not only helping students to achieve their goals, but also managing their welfare so that they can be at their best both on the sports field and in the classroom. Using the latest research and technology, our integrated sports' performance model brings together four important components in a multifaceted approach not only to maximise sports performance at all levels, but also to help reduce the risk of injuries and overtraining.

The Bunker has been branded and will have three main strands (Integrated Sports' Performance, Athlete Development and General Population), fundamentally the same as the original setup, but allowing for a more expansive program in the area of sports' performance and the integration of compound lifts as a main component of individual programs due to the expansion of our students' movement vocabulary.

INTEGRATED SPORTS PERFORMANCE

MOVEMENT QUALITY TRAINING / SPORT SPECIFIC TRAINING / PERFORMANCE CONDITIONING / RECOVERY



The elements of each strand are outlined below.

General Population	Athlete Development	First Team Athletes	Elite Athletes
>80 Students	30-40 Students	Movement Prep	<10 Students
Group Based Classes (eg. Spin & Pilates)	Movement Prep	Individual Conditioning Program	Periodised Conditioning Program
Workout of the Day	Lifting Fundamentals	Neuromuscular Fatigue Testing	Lactate Testing for Threshold Sports
Individual Programs	Individual Programs		Neuromuscular Fatigue Testing

The first stage of implementation of the Bunker specific model will see the Integrated Performance Program phased in throughout 2017. The four components which make up our Integrated Sports Performance Model are:

Movement Quality Training which is focused on improving the efficiency of students' movement patterns and joint mobility including targeted muscle activations through individualised movement preparation programs designed from a functional screen.

Sport Specific Training is linked directly with the College of Coaches in support of sports coaches at all levels to ensure the quality of each and every training session.

Performance Conditioning is primarily aimed at developing productive and purposeful complementary sessions which ensure our students not only have the functional capacity to perform at their required level but also continue to become resilient performers. With any physical activity, significant demands are placed on the body and thus;

Recovery forms the last essential pillar of our model. There are many aspects which fall under recovery from nutrition to sleep, but one interesting component we will be looking at is Neuromuscular Fatigue Testing through the use of Kinetic Gymaware Linear Transducer Device, enabling coaches to individually adjust student training loads to help minimise the risk of overtraining.

Further details of the General Population and Athlete Development components of the uniquely designed Bunker program will be released in 2018/2019.

The Bunker has grown significantly since it was first established in 2012 and it is a credit to both the staff and students who have worked in partnership to ensure the continued growth of such an amazing facility. While maintaining one eye on the future, the Bunker will continue to evolve, ensuring the facility continues to not only meet the needs of our students and provide the best possible experience, but also access to the highest quality programs.

References

Schofield L., K. Mummery,, G. Schofield and H Walmsely (2002). "Adolescent Girls and Inactivity: insights from the Central Queensland adolescent physical activity study" in *ACHPER Healthy Lifestyles Journal*, 49(2), pp. 17-22.



 @barkerinstitute

 facebook.com/barkerinstitute

 www.barkerinstitute.com.au