NEW ZEALAND SCHOLARSHIP 2004

PHYSICAL EDUCATION

QUESTION ONE: PHYSICAL ACTIVITY AND HEALTH

Sample of assessed candidate work - Performance Descriptor 2

(a) **Critically evaluate** the factors within contemporary societies that may influence the amount of incidental physical activity people undertake.

Due to change in transport, modern lifestyles and common interests, the contemporary society undertakes scares incidental physical activity. Factors that are influencing this low level of incidental physical activity are evaluated below.

Sets the scene for incidental activity.

Firstly, specifically in the past 100 years there has been a significant change in the form of transport for contemporary society, this decreasing the amount of incidental physical activity people now undertake. The increased use of the Motor vehicle has caused a significant decrease in this physical activity. Society now relies very heavily on this form of transport – regardless the distance traveled. The contemporary society relies not only on cars for long distance traveling – but also short distance. For example; Only 50 or so years ago would people commute to work or school via foot, however now the most common form is using a car. So why is it that we prefer to drive rather than walk? Perhaps one could argue because we are becoming lazy. However I believe time is the main factor here. Society no longer has the time to walk (or even bike ride) to and from work, activities or other various destinations. There is a major daily pressure on many people to fulfill certain duties and be going many places, therefore driving to and from destinations relieves some of this stress and pressure. A change in transport links to our change in lifestyle and careers, which will be discussed later on.

Synthesis of ideas – technology.

Personal judgement.

Another aspect of transport, which influences the contemporary society's physical activity level, is public transport. Public transport is becoming more widely used in society and this clearly discourages us from walking or bike riding to our destinations. Not only this, but public transport routes are new designed to bring us as close a proximity to our destination as possible. For example, bus and train routes now bring travelers often right past their home, work place or school, whereas only twenty or so years ago the public transport system would bring the individual only via the main roads or centres, requiring them to travel by foot for some distance too. However, the increases public transport and the increased coverage of routes could be a result of the development of towns and cities, urban sprawl has caused society to demand further covering public transport. However, are we just becoming too lazy to walk a little after getting off a bus/train? Again, I believe the factor of time and daily pressures have influenced societies demand for increased public transport.

Developing argument on how and why public transport reduces the need for incidental activity.

Impact on incidental exercise.

Identifies historical change.

Reason why.

Personal judgement.

Other transport factors that influence societies level of incidental physical activity is simple methods of transport have become increasingly sedentary. It is extremely common for a high-rise building,

Developing argument.

office block, or shopping mall to establish escalators, lifts and revelators for people, as opposed to staircases. If the simple methods of transport within multi-rise buildings was either decreased or abolished, incidental physical activity would increase – we would have no other option than take the stairs. Some people even have lifts within their own house! I believe, very strongly, that such methods of transport are a result of, yes, a very lazy and complacent society. Perhaps these forms of transport are acceptable in some instances, however they are not necessary in every building!

Impact on incidental activity.

Paragraph is a synthesis of a range of ideas that relate to urbanisation.

Personal judgement. Evaluative.

A change in lifestyle has also influenced the amount of incidental activity contemporary societies undertake. Lets go back a few million years – to the early humans. Incidental physical activity was an aspect of every day activities, like hunting and gathering. Often traveling long distances (via foot!) in search of food, shelter, these nomadic societies would find themselves undertaking much physical activity. Then we can go back thousands to hundreds of years ago. Where farming, harvesting and cultivating crops was the livelihood for human societies. Digging, ploughing etc were required for carrying out daily tasks, and resulted in much incidental physical activity. Now, the present society has none of that. Farming, although still an occupation has become much less physical with the improvement and introduction of technology. However, more common forms of working, and livelihood, are largely cultural and sedentary, with office type jobs becoming, not only popular, but normal. Therefore, contemporary society undertakes very scarce amounts of incidental physical activity, because our methods of work has changed and are nowhere near as physical as they once were.

Identifies factor that contributes to sedentary lifestyle.

Explanation in historical grounding.

Historical evidence of incidental exercise.

Historical impact on incidental activity due to technology.

Reasons for change.

Evaluative.

Modern interests have also changed. Only ten years ago was it popular for children to spend their free time outside, making huts, fishing, climbing trees, bike riding etc. These activities were simply enjoyed and regular among children, and also forms of (incidental) physical activity. However, with the increase and growing demand of technology, interests have changed – becoming increasingly changed. Now children much prefer to watch television, play the play station or X-Box, or surf the Internet, rather than playing outside. Technology sells to children, and this is where their interests lie in the contemporary society. Technology is becoming popular because of the Media, which discourage their levels of incidental activity by advertising sedentary activities. Finally, other forms of technology have influenced the decreasing levels of incidental activity in contemporary societies. Remote controlled televisions, garages, sound systems and household doors are all indicating society's sedentary lifestyle. Although remote controls are not taking away much physical activity, the fact that we are relying on such methods for household equipment is a reflection of how we are constantly aiming to make life easier. To society, making life easy is making our daily tasks less strenuous, and unfortunately this is influencing our physical activity levels. Without realizing it, we are actually giving ourselves a worse quality of life, even though we are

Identifies factor.

aiming for the opposite.
Through changes in transport, modern lifestyles, interests and technology, contemporary society is experiencing decreased amounts of incidental physical activity.

General Comments

There is evidence of socio-cultural influences, ie societal, environmental, historical.

The range of factors demonstrate an in-depth understanding.

The process of critical evaluation is evident in synthesis of ideas, development of arguments, and personal judgements

(b) **Critically evaluate** the implications on health (both positive and negative) of deliberately introducing physical activity into our everyday lives.

Deliberately introducing physical activity into our daily lives has a number of both positive and negative implications on our health.

Health incorporates our physical, social, emotional and spiritual wellbeing – that is our Hauora. Deliberately participating in physical activity can influence our holistic health; each of these factors of our Hauora. Firstly, we experience cardiovascular benefits. This is the benefit to our heart. Firstly, our heart becomes stronger and larger. From strength training our left ventricle becomes thicker, and from endurance training it becomes larger in volume. This in advantage to our health as it means that our cardiovascular system improves. A stronger heart or a larger heart means we have the ability to pump more blood around our body. Our heart rate increases, stroke volume and our Cardiac Output increases. Basically, these parameters mean we are able to pump more blood more efficiently around our body as they increase. Our muscles them receive oxygen efficiently and are effective in everyday use because of this. Some people may experience a lower blood pressure – this is the amount of blood exerted on artery walls when the heart contracts and relaxes. In general, the cardiovascular system is stronger and much more efficient and effective in carrying out its tasks.

Our respiratory system also experiences positive implications. Overall our lung capacity and volumes increase. Our lungs become slightly enlarged, and therefore our tidal volume, ventilation and oxygen uptake parameters all increase. We are able to deliver oxygen to our muscles with efficiency. There is also an increase in capillaries on the alveoli, with means diffusion of oxygen and carbon dioxide is efficient.

Discusses positive implication of biological factors with some explanation.

Evidence to support a positive outcome of deliberate activity.

Our mental/emotional health also is advantaged from deliberate exercise. We find we have an improved self-esteem, perhaps because our body composition has improved (increased lean Body Mass and decreased fat percentage). We may feel a sense of self-satisfaction and empowerment for participating in something worthwhile and 'healthy'. We also find it easier to deal with stress and pressure in our everyday lives, and as a result sleeping is easier (this is also due to increased levels of oxygen in our body).

Discusses positive implication of mental emotional aspects with suggestions of what may occur. This recognises that deliberate activity will have different impacts on individuals.

However, there are also the disadvantages to deliberate physical activity. These include cost, time and injury. Some physical activities are expensive to undertake, ie; joining a gym, sports club etc. In our busy and time-governed society, many individuals find that physical activity participation creates a loss in time for family, work or other activities. For some, physical activity may give rise to injury. Perhaps due to overuse, or sudden activity at a high intensity. Some people may not know how hard to train, and therefore burnout or have a major loss of energy.

Disadvantages have been identified but little explanation or discussion is evident.

General Comments

Two of the four aspects of Hauora/Health were included in the answer. Physical aspects of health were covered with some detail.

Mental/Emotional aspects of health were covered with some detail. The candidate realised that deliberate exercise affects the person but it was not a definite result. It would have been useful to see the other aspects of Hauora included.

Could have included more explanation or discussion on what deliberate exercise is or could be.

In the advantages and disadvantages, critical examination could have explored the idea that different forms of deliberate activity may or may not have more outcomes for the four aspects of Hauora.

QUESTION ONE: continued

Sample of assessed candidate work - Performance Descriptor 2

(a) **Critically evaluate** the factors within contemporary societies that may influence the amount of incidental physical activity people undertake.

General Comments

Breadth of knowledge apparent as opposed to depth and/or synthesis, however synthesis of ideas is demonstrated towards the end of part A.

There are many barriers and enablers that influence the amount of physical activity we generally undertake in today's society. Modern society and our lifestyles today are very different to in the past. Lifestyle changes, such as an increase in technology, have created barriers that make it difficult for individuals to be physically active. However, there are many encouraging factors in modern society that enable individuals to participate easily, such as fitness fashions and celebrities who are physically active.

Does not develop an argument.

Factors explained in isolation, not synthesised.

Generally, today's generation is less active (as Prof. John Morris says) due to many changes that have occurred that influence our amount of incidental physical activity. Incidental physical activity includes everyday chores, errands and necessities that require energy expenditure. This activity usually occurs without much thought or consideration eg. taking out the rubbish, supermarket shopping, cleaning the car etc. Societies amount of incidental physical activity has decreased because of factors such as an increased use of technology, leisure pattern changes and a decrease in safety outdoors. These changes have created barriers towards physical activity and made it harder for individuals to be active incidentally.

Explanation incidental.

Summary factors.

An increase in use of technology has had the most significant impact on incidental activity from my point of view. Society is now driving more cars, using elevators, lifts, buses, trains and taxis for transport. This is very different from 50 years ago when most people would walk to school and cars were not as common. People no longer need to walk or ride a bike to get anywhere because energy free transport is readily available. This leads to a decrease in incidental physical activity because in modern society little energy expenditure is required to travel anywhere.

Personal judgement leading into explanation.

Other changes and advances in technology have lead to this decrease in incidental physical activity. The Internet can now provide the opportunity to shop for food, clothing and many other items that would usually require walking around the shops or supermarket, carrying bags. Leisure changes have resulted from advances in technology. Leisure

has become more passive as society can now sit in front of the television playing play station, watching DVD's, movies or listening to music. An increase in the use of computers and televisions for entertainment has attracted many individuals of all ages. No longer do people play cricket outside or run around in the park. Therefore a decrease in incidental physical activity is evident as society in general uses technology more and individuals have no need to leave the couch or computer.

Leisure pattern changes that have lead to a decrease in incidental physical activity are partly due to a decrease in outdoor safety. Parents are becoming more protective of children as an increase in traffic on the roads makes it unsafe to ride a bike. Parks are seen as dangerous as crime increases and it have become too dangerous to stay outside after dark. This lack of trust within communities has changed leisure patterns and therefore the amount of incidental physical activity. Legal safety requirements for events have changed making it harder for organisers to run 'fun runs' and physical opportunities without extreme safety measures. This means that many events have been discontinued and participation levels have dropped. Individuals can no longer participate in their local triathlon or half marathon because they have not had the support to be organised.

This section demonstrates more synthesis of ideas.

Lifestyle changes over the last 50 years have also had an impact on the amount of incidental physical activity society completes. Urbanisation and population increases have lead to smaller sections and many apartment buildings with no lawn or area to play. People no longer need to walk down the driveway to drop the rubbish, many use the elevator. With smaller living spaces comes less room to move about and play leading to a decrease in incidental physical activity around the home.

Synthesis continues.

Generally, contemporary society now jumps in the car and drives to McDonalds and then drives through the drive-thru car wash rather than walking to the supermarket and washing the car outside. It is easy to see how our lifestyle has changed and why we have forgotten to be physically active.

Generalisation.

However, there are many factors within modern society that do make it easy to become physically active. Many parents now walk their children to school for safety reasons. Children are being encouraged to be active during lunchtime at school and recently there has been a new requirement to increase the time spent in Physical Education at school level (by 2 hours). Physical activity is being encouraged at a young age and this will hopefully lead to a more active future generation.

Are they?

The fitness craze and its fads provide the perfect opportunity for people of all ages to become active. Fashions and celebrities attract many towards fads such as yoga and Pilates, increasing their physical activity.

However, I believe that most factors in modern society that enable physical activity are not increasing incidental physical activity. There are many opportunities to take up new sports or ways of becoming 'healthy' but this does not mean an increase in everyday exercise. I think that because of changes in technology and lifestyle we have created an irreversible loss of everyday chores and jobs that use energy and help to keep us healthy. It has become to easy to not be physically active and I think this will be very difficult to change.

Good closing paragraph.

(b) **Critically evaluate** the implications on health (both positive and negative) of deliberately introducing physical activity into our everyday lives.

General Comments

More coverage of topic and more explanation of negative factors. There is a greater depth of knowledge and the critical evaluation covers the positive and negative factors. Of particular note is the range of negative factors discussed.

By deliberately introducing physical activity into our daily lives there will most likely be both positive and negative effects on our health. The effects are entirely individual and general but can cause huge changes to ones lifestyle

If an individual made a conscious effort to be more physically active they could see positive physical, socially, mental and spiritual effects on their life. The positive physical effects include a decreased risk of developing hypo kinetic diseases (such as CHD and diabetes), a decrease in High Blood Pressure syndrome, lower cholesterol levels, better sleep patterns due to energy expenditure, increase in general nutrition as people eat more (and therefore a wider variety) when they exercise. It would also be likely that the individual would experience less sick days off work/school as the immune system strengthens (due to dealing with recovery from exercise and an increase in size of red blood cells). This would mean less time spent in hospital and at the doctor, meaning less money spent on health care. A person would strengthen their joints, bones and muscles from an increase in physical activity and experience an increase in skill level (assuming physically active at a young age).

Links to Hauora.

List – no explanation.

Factors with example and explanation.

Conclusion.

Positive social effects could include a broadened social circle, more self-confidence (body image), an increase in independence for the aged and a sense of belonging within the community if involved in group activities/events. These social benefits are often not considered by a person thinking of becoming more physically active but I think they are very significant. If someone can benefit from physical activity other than physically it provides incentive to continue future participation and another reason to get involved. Social benefits may be experienced before physical benefits also.

How does deliberate activity cause this?

Positive mental effects include a general increase in happiness and well- being (due to endorphins created by physical activity) and an increase in motivation to continue participation. An individual may learn to set goals and develop a certain determination to achieve them. This can help in other areas of life such as in school work or social relationships. Spiritual benefits can be linked to discovering an enjoyment in exercise. This may give an individual something to fulfill their life and look forward to each day. From personal experience I can say that being physically active and pushing yourself to the limit can teach you a lot about yourself and the way you react and respond. This also can be very helpful in other areas of an individual's life.

Synthesis of biophysical and Hauora.

Personal statement based on experience. An example would be good.

However, there are some possible negative impacts of deliberately introducing physical activity into your everyday life. These can include developing an injury or over-training. These impacts are entirely individual and it is difficult to say how a certain person would respond to becoming physically active. However, without correct technique, equipment and advice I would not recommend increasing the amount of physical activity you do. If an individual has little experience with exercise and sport it is likely that they have a low skill and muscle control level. This person is more likely to develop and injury or illness than someone that is already somewhat active. Injury and illness can also result from overtraining and obsessiveness with exercise. If someone was to become more physically active I this it is essential that they seek professional training advice and follow it. The fitness craze can be responsible for over possessiveness with exercise as people can be active for the wrong reasons (to look like a celebrity, to become as skinny as someone etc).

Developing argument substantiated with reasoning.

Another negative impact that can result from an increase in physical activity can be drug use. This is related to overtraining, pressure and the fitness craze. At an elite level many athletes are put under pressure to take drugs and this should not be what sport is about. Those who struggle to reach elite status may also slip into this trap at they look for a way to become better without guidance and support.

Personal judgement.

There are some other possible negative effects from a deliberate increase in physical activity. These include sudden death syndrome and reversibility. If an individual becomes more active it is possible that they will not enjoy their first experience and may be turned away from future participation. This will not allow them to experience the possible benefits of exercise.

Overall I believe that the positive impacts of deliberately introducing physical activity into our everyday lives far outweigh the negatives. With correct guidance and instruction most negative impacts can be avoided. I think to make up for our decrease in incidental physical activity society needs to introduce physical activity into their everyday lives to stop the pattern of decreasing health and fitness.

QUESTION TWO: THE NATURE AND MANAGEMENT OF RISK

Critically evaluate the statement in relation to both the nature of risk, and the principles of risk management. Use examples from your own experience to support your discussion.

Sample of assessed candidate work - Performance Descriptor 2

Risk by nature is enticing. Humans have a curious nature and the adrenalin produced by our bodies when we perceive risk and danger is for many addictive. Many people who are enticed by risk or interested in extreme sports such as kayaking, bungy jumping, abseiling, base-jumping etc do so because they love to be challenged. Challenge and pushing oneself out of our comfort zone is integral in the attraction of risk adventure sport. Many participants ask themselves, why do something if you know the outcome; if you know you're going to be completely safe and secure? How can you grow as a person in experience and confidence if you don't challenge yourself, go out on limb, paddle that white water rapid? Doing something safe with no risk involved holds no thrill and at the end you have not accomplished a whole lot. But doing something that goes against instinct, common sense in many cases and something with the potential for danger and injury leaves participants feeling the rush of adrenalin, the thrill of adventure and the confidence and sense of accomplishment only achieved by pushing yourself and your limits to the edge of your perceived envelope. Why not increase the metaphoric size of your experience envelope? Risk is a necessary part of some activities as stated in the question but with any outdoor situation the perceived risk is maintained but the potential risk is managed and controlled by industry procedures, common sense and the experience of instructors and industry professionals.

The adventure tourism industry in our country is growing. People travel from all over NZ and the rest of the world to partake of what we have to offer in terms of risky activities. While people feel like they are risking their lives and though some danger exists (as with all life's endeavours not all things go to plan) professionals control how much real risk there is by employing guidelines for safe conduct, training and increasing experience and supplying adequate gear for a safe adventure. This year our class focused on kayaking. This involved getting out in a kayak and paddling level 2-3 rapids on the Aratiatia Stream. This by nature is a dangerous activity as is any activity involving water and nature. Before we left for our assessment we had a lot in preparation. Preparation is key to adequate risk management. For a start we spent a lot time building up experience and confidence in the kayaks and the water. Knowing your personal limits and those of your group if you're an instructor is vital in terms of a successful risk management system and expedition. Another key area is knowledge of what to do should something untoward occur. In terms of kayaking that meant we learnt how to roll our kayaks in case of capsize, and how to exit our kayaks both on and under the water. We learnt how to rescue our classmates and ourselves. A risky venture is always much easier to survive

Clarifies the issue that risk promotes participation in physical activities.

Developing the argument.

Discusses the nature of risk.

Challenging.

Identifies types of risk.

Drawing on background knowledge.

Principle of risk synthesis.

Example.

Identifies principle of risk.

Synthesis of ideas that relate to preparation as a principle of risk.

unscathed if preparations are made and people are aware of how to deal with any situation that could arise. Any good safe instructor after gauging experience should teach the participants how to handle themselves, what measures to take etc if something should go wrong. This not only helps to ensure safety but also on a psychological level will lessen the amount of panic experienced when and if something goes wrong and will increase awareness of the risks involved and build confidence in the person's attitude to the undertaking. If these aspects are taken care of the process of risk analysis is much more realistic and straightforward. As well as being taught how to rescue in regards to kayaking we were also taught to watch for symptoms of conditions such as hypothermia, and taught how to treat them. In our risk management plans we included who in our group had qualifications. For example, our teacher had been a registered nurse and still held a current registration and first aid/CPR certificate, we knew who had drivers licenses, and what qualifications our instructor and guides held. Having this information meant that in an emergency we knew exactly who have what to offer and had schemes such as transport, medical assistance and experience worked out before we left. This increased our confidence, while still maintaining the element of risk perceived but in actual fact lowered or managed the actual risk involved in the undertaking. It is important to keep this balance so the activity still has all the fun, thrill and sense of accomplishment that comes from risk, without so much of the danger or actual risk. One of the key elements of risk management is planning for the worst possible eventuality, everything and anything that could possibly go wrong and putting a plan or contingency method in the planning of the expedition to cater for it if it eventuates. These include things like appropriate gear and equipment. For kayaking we took helmets to limit the chance of head injury from rocks and rolling. Paddle jackets and polypro/thermals to keep us warm, dry and protected from the wind and water. Spray skirts to keep us dry inside our kayaks and to allow for safe rolling in case of capsize. Maintained, undamaged kayaks and paddles suitable for the grade of river we were paddling on. Things like sunscreen to stop sunburn, paddle shoes for where we were out walking on the river side. If you are wearing the correct clothing and using the appropriate gear the chances of injury and conditions such as hypothermia occurring are lessened but the element of risk and the adrenalin is not diminished. In terms of risk management it is also necessary to look not only at the day of the activity but at the day and night before the activity also. It is important that participants in risk based activities especially kayaking are well rested in good-health and will nourished with high energy foods in order to succeed and survive an outdoor activity such as kayaking. The risk of drowning or hypothermia is increased with lack of sleep, ill-health or not enough energy/food in the body. In order to maximize thrill and minimize danger these things have to be taken into consideration. When you relate these simple often common sense ideas back to the thrill of risk nothing is lost. What we were wearing doesn't affect our psychological response to risk but it will make that risk manageable and the level of danger minimal. If a comprehensive and well thought out plan is put in place and instructors and participants alike are aware of risks, and relative experience and are equipped to deal with any thrill,

Identifies a factor ("psychological").

Does not discuss in depth impact of psychological aspects.

Related factors that supports preparation.

Examples of management strategies.

Reasoning for perceived risk decrease.

Identifies a factor.

Examples of safety management.

Could discuss the way these are used and what their benefits are.

Links back to opening paragraph and addictive nature of adrenalin.

Statement of fact. Evaluative based on prior information given.

the build up of adrenalin and survive to feel the sense of accomplishment and confidence that can only be gleaned through the participation is a risky, controlled situation, it is possible to be safe and have fun with risk without taking away the danger or perceived risk as long as common sense and preparation are adhered to. After all I still felt scared, survived and felt confident after my kayaking experience and all the risk management procedures were in place.

Evaluation against the experience.

General Comments

- There is a limited discussion on the nature of risk in terms of creating 'mismatches' between real and perceived risks.
- Example discusses causal factors, people, equipment, environment in relation to a personal experience of kayaking. Included in this is an evaluation of identified risk and management strategies that minimise risk.
- This should include in depth discussion on factors that were identified, eg instructors had qualifications. From this statement it would have been good to tease out why the qualifications were important, what qualifications would be needed.
- Some of this is a personal reflection of an O.Ed experience and has limited critical edification.

QUESTION THREE: REFLECTING ON TRENDS IN PHYSICAL ACTIVITY
Critically evaluate the apparent trend that the ethno-cultural mix of participants playing sport in New Zealand is changing.

Sample of assessed candidate work - Performance Descriptor 2

In modern day society, the hype around professional sports has spread to rugby after it became professional in 1995. This in turn has seemingly caused a change in the ethno-cultural mix of participants playing in rugby, across the board at all levels. This is due to a number of factors over the past 10 years that have changed significantly.

Identifies the significant impact of professionalism on sport. Changing nature of NZ culture / relations society.

Rather than being a sudden discovery of "hidden talent" in Maori and Pacific Island boys, I believe a big influence has been the reduced racial tensions and segregation between 'Pakeha' and 'non-Pakeha'. Though definitely not as extreme as in America or South Africa during "Apartheid", it seems that throughout the 1960's and 1970's or really any time before 1980, rugby was, for the most part, "a white man's game", according to Joseph Romanos. Association between Maori and Pakeha was at the time considerably less than now, where Maori are presently highly involved in many if not all aspects of society.

I think that through the ease in racial tension, the acceptance of others abilities, especially cross-culturally has also significantly influenced this change of trend. Through this, participation at school level has most likely increases and with better planned rewards for successful players such as playing for Waikato, Northern/Southern Regions and New Zealand Secondary School rep teams, potential can be recognized and acted upon much earlier. Similarly through the greater promotion of rugby worldwide, New Zealand's rugby culture and keen desire to "beat the Auzzies" or be considered the best in the world has wiped away the lack of respect some Maori players might have been afraid of in the past.

Discusses the cultural value of rugby in Australasia.

Another factor that would have had a major effect on this trend is the huge availability of other sports in modern day society.Previously, rugby would have been so big simply because of the lack of other sports available, hence the huge pakeha domination in it. Now however, with New Zealand competing internationally in basketball with the Tall Blacks in the Australian Basketball League, the Warriors competing in Australia in league and numerous other sports with international possibilities such as athletics, soccer, mountain biking, cricket and more, people are seeking out other sports to take part in. As a sport of secondary school, rowing has been taking off with the recent successes of 2000 Sydney Olympian Rob Waddell and the 2004 Olympic crews of the Ever-Swindel twins and Nathan Bridgewater and George.

Develops an argument on the effect of the increasing number of sporting choices available in NZ society today and poses this as a possible reason for the decrease in Pakeha players in rugby.

One thing that has perhaps not been discussed a lot is the Maori and Pacific Islanders genetic advantages in a sport like rugby. Genetically, these cultural groups have a much larger body build tending to be in the "ectomorphic" or "endomorphic" composition group. Though this has

Biological factors. Professionalism developed as reason for increased Maori / Pacific Island involvement – makes the point that professionalism of sport is also attractive to other cultural groups.

had negative implications with the child obesity problem, with Maori children featuring highly in the statistics, it is very encouraging that this factor is being used in such a beneficial way to both society, with our pride in players like Jonah Lomu storming over the English Players in 1995 and personally to the players who can keep healthy.

After rugby turned professional in 1995 suddenly the monetary benefits of being successful also became evident, in both playing in New Zealand or even seeking careers overseas in places like Japan, where rugby is not a business-owned enterprise that has huge money involved. For all cultural groups, not only Maori, this would be appealing and would have definitely sparked a huge increase in the number of players vying for rep team positions and other opportunities. From a cultural perspective, Maori and Pacific Islanders have a very family/ "whanau" orientated society, and so these material benefits of succeeding would have been helpful to the whole family. For this reason it is possible that parents and families felt the need to drive and encourage their children to participate more.

Develops an argument that identifies the collective set of cultural values / beliefs in Maori / Polynesian society that values participation in professional sport.

Lastly however, I believe one of the biggest factors that led to the insurgence of Maori and Pacific Islander's participation in rugby would have to be the success of others. Players like Jonah Lomu, Tana Umaga, Michael Jones and more recently Joe Rocokoko have had massive influences on young Maori and Pakeha children alike. Realising that even with a perceived 'social disadvantage" of being Maori in a predominantly white society, success can be reached at the top level has been an important wake-up call for some people I believe. Instead of being stuck in a societally dug stereotypical hole of the "unemployed Maori", that shows like "Bro Town" only seem to encourage and affirm, Maori players are seeing people just like themselves and often coming out of worse situations, but still getting to the top. Similarly the successes of the New Zealand Maori and other teams have encouraged youngsters, but it is players such as Tana Umaga who captains the New Zealand All Blacks and play for the New Zealand Maori that are having the biggest effect.

Synthesis of ideas – role models, cultural (family), stereotypes – that develops an argument based on identity construction and the success of appropriate cultural role models.

In conclusion, the trend of ethno-cultural mixing in rugby is in my opinion one of the greatest things that has happened in rugby's history. Players now of both ethnicities are being chosen on ability and are proving a deadly mix for other international rugby teams. The only long-term effect this may have on the game is positive.

Takes a position that this mix is a positive / supports this position with on field results and the way the All Blacks are respected internationally for rugby.

General Comments

Identifies / integrates a number of factors. Discusses these through socio-cultural constructions.

QUESTION THREE: continued

Sample of assessed candidate work - Performance Descriptor 2

The ethno-cultural mix of participants in NZ sport is undoubtedly ever increasing. In each of our many national teams we are seeing an ever increasing number of not only Maori, but Pacific island men and women competing to a top level. Given relative increases in population of both Pacific islanders, Maori and Pakeha, the interesting questions lies in why are we seeing such a trend being developed.

Acknowledges the wider issue of increasing population and that the trend is also prevalent in other sports.

As Joseph Romanos states in his book "whereas until about 1980 New Zealand rugby was generally a white man's game, the opposite is now the case". I think this can not only be said for rugby but also the likes of netball and hockey, especially in terms of women. Yet why has this increase been so evident in recent years? One of the key factors, lies in the equal opportunity of each ethnic group. It would be safe to say that in the 1980's and prior, the opportunities available to Pakeha in terms of schooling, sporting, business and health were far greater. To take rugby as an example, it is much easier to make the top tier of rugby in NZ, if you have been recognized from an early age and have carried through the NZ age group rugby systems. To get recognised for theses age group teams – U16's and secondary school teams especially – a young rugby player needs exposure to quality schoolboy rugby.

The most respected and revered school teams would have been private and the likelihood of large numbers of Maori or pacific islanders attending would be a lot lower. The economic situation of the majority of Pakeha a families was over and above other ethnicities. This decreased the chances of outstanding young rugby players being noticed as potential superstars and they were lost to the work force. In order to get noticed after leaving school was a lot harder and many notable talents would not have the means to support themselves and their efforts. Enter the NZ government and the provision of scholarships to highly recognised schools for Maori and Pacific Islanders. Now private schools had to fulfill government quotas of scholarship numbers to less than well off ethnicities. This opened the door of opportunity for a lucky few students in the immediate future, but also for their friends and whanau in the long run. Once schools began to realise the true potential of these sporting specimens, in particular rugby players, there was suddenly more and more privately funded scholarships up for grabs. Schools recognised that placed in a proper learning and training environment, these students could excel and more importantly bring much recognition and praise to the actual school. This gave what in previous years would have been a potential All Black lost to the building site, now the opportunity to actually play rugby as a profession.

Opinion – but not substantiated.

The evolvement of the rugby game in 1995 to becoming professional

Identifies and discusses factors of professionalism in sport / biological factors.

was a huge factor in giving many Maori and Pacific Islanders something to aim for that would suddenly not only be an a vocation but also a full time paid employment. Before the 1980's when top tier rugby was dominated by the white man, they had the business savvy and the education to go with the game. They knew once they became too old, or run down with injury they had something to fall back and therefore money was not such a problem. For the Maori and Pacific Islanders however, jobs were hard to find and their education level was questionable, so the risk in pursuing an All Black jersey was far greater. Suddenly when there passion for rugby and a job was combined together, that risk turned into sure reward for those who made it. It gave a much greater number of them some motivation and an actual drive to succeed that had been seriously lacking.

Provides examples in other sports to illustrate.

Should these factors have not had the same effect on the Pakeha as well however? Well in terms of rugby most definitely Maori and Pacific Islanders were more suited. They were bigger, faster, stronger and could hold the ball in one hand. Funnily enough the year rugby turned professional saw the entrance of the world's most famous rugby player in Jonah Lomu, who was definitely bigger, faster and stronger than any white man at the time. With the playing field now leveled in terms of opportunity and ability to reach the highest level, it is no surprise that the dark skinned members of our society are excelling. Not only has this been true for the rugby. It was almost as if rugby gave the example for other Maori and Pacific islanders in other sports to aim for the top. The NZ women's hockey team, once dominated by Mandy Smith and Suzie Pearce, has seen a huge influx of players of Maori descent, and this sport is still not even professional. As a nation we look upon our national sport of rugby to determine trends in what groups are achieving and who are not. Over the past 10 years the huge numbers of Maori and Pacific island men who have made the All Blacks are not only members but leaders and superstars. Today the All Black captain is Tana Umaga, the first Polynesian captain and the next superstar of the game in Joe Rocokoko is from Fiji. To have examples on the mantle such as this, gives inspiration to young ethnic minority sportsmen and women.

Asks a pertinent question. Develops an argument.

Identifies, with example, the socio-cultural factor of identity construction for both male / female – with examples.

To be angered at the fact that there has been an exodus of "white boys" away from the game is nonsense. It just outlines the massive competition that revolves around rugby in NZ. Both players and the public alike should be proud and supportive of players who go overseas to showcase their naturally brilliant skills in order to make a buck. We should not see the white man becoming a minority in sport as a bad thing or unjust occurrence, because all in all the Maori and Pacific islands sportspeople are simply more talented at a wide number of sports. Where the Pakeha society used to make sports teams even though there could be a better halfback or fullback flipping hamburgers at Burger King, is now definitely not the case and NZ is finally beginning to see its most promising and elite sportspeople make it to the top.

New Zealand is such a culturally diverse country that we need to place our bias on the backburner. So the ethnic make up of many of our national teams is changing away from what we are used to, surely it is better to field an exceptional team of athletes rather then what some members of our nation reckon to be a politically correct team. As long as sport in NZ keeps progressing in the leaps and bounds it has over the last decade, who cares what the cultural make up of our teams is like, because it shouldn't matter.

Takes a position / justifies opinion. Discusses the changing nature of NZ culture.

General Comments

An original, creative answer.

Identifies many of the factors associated with this trend.

Makes judgements and supports them with logical argument.

QUESTION THREE: continued

Sample of assessed candidate work - Performance Descriptor 2

The ethno-cultural mix of participants playing sport in New Zealand is changing due to numerous reasons.

Joseph Romanos specifically mentions the changing face of New Zealand rugby, particularly since the game went professional in 1995. Once a predominantly "white mans" game the predominancey of Maori and Pacific Islanders is ever increasing.
This change has been largely driven by experience from a young age. It is a simple fact Maori and Pacific Islander's mature at an earlier age and develop at a much quicker rate, often towering over their European counterparts and far more muscular. This relative size difference has seen numbers of Maori and Pacific Islanders increase due to their sheer strength and forced smaller, weaker Europeans out of the game and into other sports such as soccer.

Identifies biological maturation factors as a reason for changing ethno-cultural mix of sport, particularly rugby.

Since the professionalism of rugby and the increasingly greater proportion of "brown" players taking up rugby there has been a substantial drive in the number of primary and college age children moving towards soccer, which is not the most popular sport among young people. CEO of the New Zealand Rugby Union expressed his concern at the decline in numbers playing rugby at school and pointed suggestion towards this very factor.
The increase in Maori and Polynesian players has, as suggested in the article increased markedly since rugby went professional.
I believe this is due to young players seeing rugby and sport as an attractive career with increasingly higher stakes placed on our top players.
Maori and Pacific Islanders have therefore been enticed into this lucrative career opportunity where they otherwise may not have had a positive outlook on life.

Develops an argument that professional sport, especially rugby, is attractive to children – seen as a possible career for later life. This student suggests that this is attractive to Maori / Polynesian culture and that numbers playing have increased since rugby became professional.

The cultural diversity of New Zealand has also changed significantly over the past 5-10 years with Pacific Island populations particularly increasing substantially as the families are attracted by the New Zealand lifestyle. This has boosted player numbers from this culture significantly and is even evident in the professional ranks with increasing numbers of Pacific Island rugby players imported to bulk up sides in an increasingly physical game.
I also believe a significant driving factor is substantial increase in number of positive role models from these cultures evident in rugby and sport. For example Tana Umaga is now the caption of the All Blacks. This is creating a positive influence with younger players realising they too could become an All Black.

Develops the argument around identity construction / role modelling having a positive effect on children in asking to play sport.

It is not however only rugby that is experiencing changes in ethno-cultural diversity and mix of New Zealand's population, as a whole bunch has changed dramatically. Increased migration flows have seen significant increases in the number of Asian students and families in particular.

New Zealand is increasingly becoming an attractive destination to play sport and attend schools and university. For example I play golf and know a substantial number of Asian players that have come to New Zealand to play because of the lifestyle and easy access to facilities. They are at home restricted to having to travel long distances and pay an exorbitant price to play a game, which is easily accessible in New Zealand by comparison. This has therefore changed the face of the New Zealand golf scene with Asian names increasingly leading the leader boards at New Zealand Junior and Amateur tournaments.

Also the reverse effect is seen on the soccer field in comparison to rugby. There are now limited numbers of Maori and Pacific Islanders as the game is much more skill based from a young age and Europeans are dominating in this area.

Examples can be drawn from a variety of sports, such as netball where the team is now made up from South Africans, Fijians, Maori, Europeans and Pacific Islanders. It is merely a fact of the professional era, where opportunities throughout the world are broad and New Zealand is an attractive option for such sports as rugby and golf. It is however, important to ensure the each sport is nurtured and NZ players are not driven away at an early age because of cultural pressures and discomfort.

The ethno-cultural mix of New Zealand sport will merely continue to become more and more diverse into the future and it's apparent benefit or harm is difficult to perceive. It is clear however a culturally diverse team brings together various strengths and allows top performance and a positive source of role modeling with society.
A somewhat middle ground needs to be reached to ensure the development of sport within New Zealand remains positive into the future.

Identifies / discusses the changing nature / cultural mix of NZ society increasing in number of Polynesians in NZ and changing nature of the way rugby as a game is played. Widens discussion to discuss socio-cultural influence of Asian and other cultural groups migrating to NZ.

No evidence provided to substantiate this comment.

Widens the explanation to discuss changing nature of ethno-cultural mix of other sports – netball / golf.

Identifies the importance of culture as a collective set of values / beliefs and practices that has influence on sport in society. Integrates these ideas by predicting the continually changing nature of NZ society in the future. Takes a position that this is positive if specific strengths / cultural values are recognised.

General Comments

Critically evaluates the changing ethno-cultural mix of NZ society and those playing sport.

Identifies and discusses and synthesises factors such as biological factors, cultural practices / beliefs, professionalism in sport.

Provides examples drawn from own experience in physical activity. Broadens the question beyond rugby.

Some unsupported comments but has captured the problematic / interdependent nature of some of the key factors.

QUESTION FOUR: MOVEMENT ANALYSIS

Critically evaluate the jumping action by comparing and contrasting the biomechanics of the one-foot and two-foot take-off. You may use diagrams to help illustrate your evaluation.
Based on this, propose a feasible reason why the muscle activation and sequence would be different between the two methods of take-off.

Sample of assessed candidate work - Performance Descriptor 3

The jumping movements of the volleyball spike are very similar, in both the muscles used are the same, the action is very similar but differs slightly in the preparatory and executive phase, whilst differences arise in speed of release, force summation and momentum.

The similarities that exist between the two jumps include:

- Both are initiated with the bending of the knees and upward swinging of the arms. This is the preparatory phase and is essential for the effectiveness of force summation and transfer of momentum.

Also during the preparatory phase the muscles are the same.
The bending of the knees shortens the levers of the leg, the quadriceps act as agonists. The swinging back and up of the arms encompasses the pectorals, in particular pectoralis major and trapezius as agonists and antagonists.

- Force summation, especially the timing is essential at this moment, as the swinging of the arms begin to slow, quadriceps begin the jumping motion, the soleus and gastronemius then take over and the body is propelled upward, also of significance is the lower vertebrae in the back straighten helping pull the body and assist the jumping motion.

The two actions differ during the executive phase in the two-foot jump, the other leg is brought equal to the leading leg and both produce the jump simultaneously. This is contrasted to the one-foot jump where the non-leading leg is slightly bent, as a lever. This lever is not overly large, as the shorter the lever, the faster it swings through. If the lever was shorter it would fly too fast through and the performer would lose their balance and fall. This non-leading leg then moves upwards (knee moves upward toward body centre of gravity) this again provided the performer with balance. Another difference is the stress put upon the muscles. In order for the two-legged to be as successful as the one-legged jump, a faster speed of release must be obtained to ensure the muscles can contract at the right velocity and hence gain the power and precision required to provide the right timing for force summation to be successfully employed. The forward momentum of the one legged jump is a lot greater than the two legged, the one legged doesn't stop like the two legged to realign the two feet accurately instead forward momentum is not stopped and the body continues in its forward line.

These two methods are different in their muscle activation and sequence of take off, due to timing, lever (in one legged) and force summation.
Force summation needs to be well timed to ensure a successful jump.

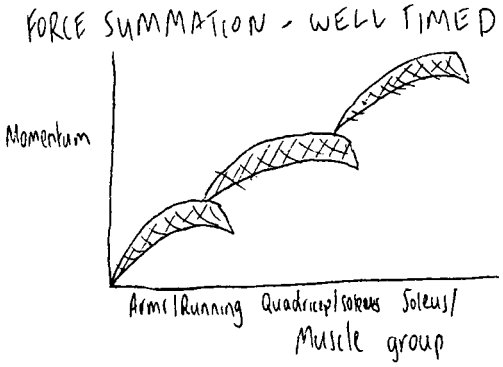
Provides a feasible analysis of the muscles involved in the jump and the possible sequence required for force summation.

Integrates leverage and balance to provide a feasible analysis.

Identifies key differences between the two styles of jumping that will impact on muscle activity.

As soon as the previous muscle movement group begins to slow down the next movement must begin in the two legged jump the force summation take off time is a lot slower, the feet need to align in the direction they wish to jump and the momentum transferred from the running is halved. This is compared to the one legged jump where the momentum from running is transferred instantly, however the quadriceps are the main muscle group for long than the two legged, this is where in the one legged jump the body realigns and prepares itself for the jump. The muscle activation of the soleus isn't until much later in the one legged jump, whereas in the two-legged jump the quadriceps to soleus sequence and activation is a lot shorter.

Provides a considered explanation of force summation. Needs to consider how motor-units are recruited in force summation and allow for postural needs to also influence muscle activation.



Also the one legged jump the lever of the non-legged leg put much more stress on the quadriceps, the leading leg quadriceps must hold the weight of the whole body, as opposed to the two-legged jump where the weight of the body is spread across the two quadriceps, thus muscle activation and sequence is a lot different between one and two legged jump, the one- legged jump requires more time on the quadriceps to steady itself with the whole body's weight for the jump, in the take off phase. As a result the muscle sequence is a lot slower between the activation of soleus from the quadricep. Although the scientific evidence suggests both produce the same amount of power, and thus the same height.

Identifies the influences that posture will have on muscle activation.

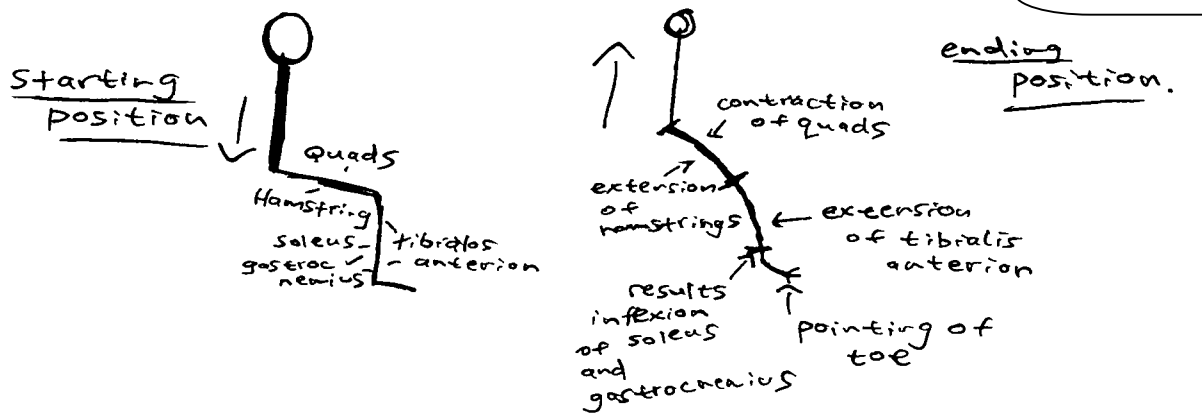
QUESTION FOUR: continued

Sample of assessed candidate work - Performance Descriptor 3

To have Moana not notice any difference in height on jump or power of the spike, given the two contrasting approaches to jumping. It is however rather understandable when you consider the types of movements that precede both jumps and the types of muscles needed to produce elevation.
In terms of jumping off one foot, it is by far the most versatile and easily attainable in a game involving so much movement like volleyball. The participant would be placing a lot of effort through the flexion of their quadriceps and the agonist movement of extension of the hamstring. In terms of force summation the participant would begin with the movement of the hamstring and quadriceps, followed by the gastrocnemius and soleus and also the tibialis anterior. These main muscles would also be used during the two-foot jump.

Identifies the concept of force summation. Could also explain the role these muscles play in postural stability since this is a key factor changing between the jumping styles.

Identifies a key difference between the two styles of jumping.

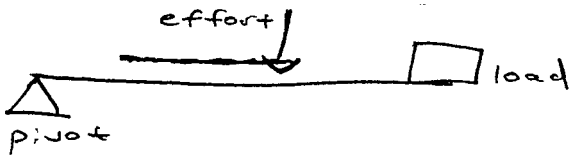


The muscle activity magnitude is what was the main difference evoked. During a one foot jump the majority of the power has to come from all the muscles on one side of your body. The magnitude that these muscles have to reach to propel you into the air in the same fashion as off both feet is much greater as the load is not shared whatsoever. To help this through, the amount of momentum that is taken into the jump is greater than a double-footed jump as less preparation phases are needed and the transfer of momentum can help in also gaining height. Even still the magnitude created from only one side of muscles relative to both sides will be greater, as the same end result is experienced. In terms of activation, there is a free leg during a one footed jump that can be used to thrust upwards and create energy and velocity in an upwards direction. This will change the muscle activity pattern, as generally after the hamstrings and quadriceps have begun to emit some force, the second leg muscles of the gluteus maximus and the extension of the quadriceps will effect the force summation. This will lead to the sequence of both jumps being slightly different. The two-footed jump just sees all the aforementioned muscles activating on both sides of the body in sychronisation. This shares the load more equally and also lets the jump begin from a far more stable balance of support. This is a more efficient and less tiring way in which to jump and this will also be the reason for the magnitude being lower from the two-foot jump.

Needs to develop the link between postural balance and muscle activation.

<u>Comparisons and contrasts of biometrics used</u>

Both jumping sequences are an example of the participants legs working as a 3rd class lever.



During the two-footed jump, we pivot a lot greater at our hips, which allows a smaller force to be exerted over a larger period of time. As we jump off one foot however we look to maintain and conserve a lot of momentum going forward in order to transfer it into upward facing momentum. This leads to us not being to bend at our knees and hips as much as with our two-footed approach. Our force arm is shortened and the impulse of force needs to be exerted more powerfully and quickly. Hence the greater magnitude of the muscle activity. This form of jumping for long periods is unwise however as it becomes more tiring due to its inefficiency. We are not able to form a solid and consistent base of support from which to push off, so we tend to use other muscles subconsciously in which to regain and maintain our balance throughout the movement. This use of other muscles takes strength away from where it is needed and energy can be lost quickly. The two-footed approach is far more economical and efficient as with a large pivot in the hips we gain a lower and more stable base of support. All momentum is transferred upwards, as all energy can be placed into the main muscles groups that need it for jumping. Coming from a more stationery and balanced base means that momentum is traveling upwards with the one-foot approach. This is due to the need for transformation of momentum from a horizontal linear pathway to a vertical linear pathway. All the momentum cannot be perfectly transferred upwards as with two feet.

It is obvious that the two-footed approach is more biomechanically efficient in terms of momentum conservation and transfer, not to mention its reduced strain on other muscles and its more economical use of energy, which is important in volleyball, as it is a game that can go on for a relatively long time.

Identifies transfer of momentum as a relevant concept. Needs to apply this accurately to provide an informed analysis.

QUESTION FOUR: continued

Sample of assessed candidate work - Performance Descriptor 3

There is a difference in the biomechanics in jumping off one-leg or two. The main difference comes from the balance and stability between the two ways of jumping. In one leg jump you increase stability and balance as you are compensating for the arm swing involved. So by moving your leg in the opposite direction to the arm you are making sure that your centre of gravity is still over your base support as shown in diagram below:

Identifies one difference between the jumping styles is the concept of balance. However, the following development draws in information unrelated to the jumping performance.

This creates balance and stability as you are not moving your centre of gravity (COG) out of the base support area ensuring that you don't fall over. But this decreases the size of base support as only one leg touching. By jumping off two legs you are moving your COG further out from your base support which means you are a little less stable and a bit unbalanced, because it isn't too much it is not enough to be observed. But by jumping off two legs the size of your base support is bigger than that when you jump off one leg, as shown in diagram on next page:

The reason why muscle activity is different between the two is due to the fact that both methods generate the same power, which means that in the one leg jump the players need a lot more force to be generated by that one leg, whereas if the player jumps off two legs the force is halved so there is not as much strain on the legs as there is when jumping off one. This means that when jumping with one leg you have to do more work in the muscles of that one leg to make sure you get the same amount of power you do with two.

Correctly identifies that, while the overall force is the same, the jumping styles change the load on one leg.

The sequencing is different between the two because when jumping off one leg you are able to do it at running pace, which is an advantage at 'competition pace'. This means that your muscles are already activated when running so the sequencing starts earlier. Where as in the two-leg jump you start from a still position so your sequencing starts later due to the reaction time taken in deciding what to do and then initiating the muscle response.

The biomechanics of these two actions is also different as the momentum of jump differs because of the size of the force and mass in contact with the ground. With one leg you are generating a large force as there is not much mass in contact with the ground so the size in which the force can act though it is smaller so more force needs to be generated by the leg, therefore bigger magnitude in muscle activation. Where as in two-leg jump you have a larger mass in contact with the ground so there is less force needed to get the same height as with one leg. In both jumps there is a reaction force, which is equal, and opposite to every action so the force placed on the ground is the same force as the ground places on us. So by pushing off harder you get a higher jump.

Incorrect or inaccurate information.

General Comments

Answer provides a considered and organised discussion.

Analysis begins with comparison of similarities and differences of the two jumping styles with good integration of relevant concepts.