CHAPTER-III

REVIEW OF LITERATURE

Review of literature and evidence

Attempts to quantify and organize evidence of the relationships between sport participation and positive child and youth development in a conceptual or theoretical framework have resulted in the development of categories through which to understand these relationships. Results of the recent Canadian Public Opinion Survey on Youth and Sport (2002), data collected and organized by the U.K.-based Value of Sport Monitor, and Bailey’s (2005) recent review article on sport, youth and social inclusion suggest four seemingly separate categories through which to understand the positive relationship between sport and child/youth development: a. Inclusion and community-building b. Delinquency and community safety c. Education d. Character-building These categories are used within this review for the purposes of organization and as a means of explaining specific ways in which sport participation contributes to child and youth development. It is important to note that the categories are not mutually exclusive, and the literature suggests and supports significant overlap both between
the findings and across the categories. This is somewhat intuitive: lessons learned by children and youth through sport, which minimize delinquency, for example, would also be considered to have a positive impact in terms of educational achievement. The key point is that the categories used to organize this review of literature should be considered holistically, not compartmentally. a. Inclusion and community-building The utility of sport for building social inclusion is a result of its utility in reducing social exclusion (Bailey, 2005). Recent attempts to understand, quantify and/or specify the relationship between sport, children/youth and community-building have resulted in a variety of interpretations. According to the Conference Board of Canada, sport makes a major contribution to Canada’s economy and society, not only through the development of skills and the improved health of citizens, but also through the building of social cohesion and capital. This aligns with the sentiment held among Canadians that sport brings groups of people, particularly families, together and encourages family interaction (Canadian Centre for Ethics in Sport, 2002; Conference Board of Canada, 2005). Dance and traditional games are found to be effective in overcoming obstacles and barriers to interaction between groups in South Africa who would otherwise not interact (Keim, 2003, cited in Keim, 2006).
In Canada, public opinion research found that more than eight out of 10 Canadians believe that it is definitely, if not critically, important that community sports actively promote and develop positive values in children and youth (CCES, 2002). Coalter’s (2005) review essay captures important evidence regarding the role of sport in building and facilitating social and community inclusion and active citizenship. This body of literature, as interpreted and reported by Coalter (2005), links sport to Putnam’s (2000) notion of ‘social capital.’ Communities with good social capital have strong community networks, a good sense of local identity and solidarity, and high levels of trust and support among members. With this in mind, there is evidence to suggest that developing sport in the community may contribute to developing communities through sport (Coalter, 2005, p.19), but also that non-traditional approaches should be taken if such results are to be realized. Most notably, a ‘bottom up’ approach that aligns with and supports existing community-based sporting infrastructure, and utilizes local labour and resources, has been found to have the most impact at the community level; it also has the additional advantage of avoiding local scepticism about ‘quick-fix schemes’ (Coalter, 2005). More specifically, sport has been used as a practical tool to attract young people to volunteering, engaging them
at the community level. Eley & Kirk (2002, cited by Coalter, 2005) found that such programs resulted in increased measures of altruism, community orientation, leadership and sense of self among young people. These findings align with a recent analysis of the social and cultural benefits of sport in a Canadian city. The report found that child and youth participation in sport in Calgary, not only as athletes but also as volunteers and officials, means that children and youth are experiencing and learning the values of citizenship and leadership – as they take on more responsibility for their sporting experiences and for the future administration of sport in their community (Douglas Brown Consulting, 2005). Coakley (2002) and Donnelly & Coakley (2002) have also carried out broadly based reviews of research evidence regarding the potential of sport programs to contribute to child and youth development and the social inclusion of children and youth. Coakley (2002) reviewed a wide range of research regarding youth development and concluded that, in exemplary programs, participants should feel physically safe, personally valued, socially connected, morally and economically supported, personally and politically empowered, and hopeful about the future. Donnelly & Coakley (2004) have pointed out that, where such programs are not available, youth gangs may actually meet some of these needs. With regard to the
social inclusion of children and youth, Donnelly & Coakley (2002) point out the following:

Inclusion is, first and foremost, an access issue, and the first thing that is necessary to promote inclusion is to overcome the structural/systemic barriers that prevent participation; The real benefits of sport involvement appear to derive from the potentials that are released in children and youth with ‘good,’ educated and sincere leadership. “It seems that almost any type of well-intentioned program has tangible benefits with the ‘right’ people in charge” (p.15). Thus, a great deal of effort should be expended on research regarding leadership training, and on the process of training both professionals and volunteers who are likely to be involved in the leadership of such programs; At this time, we know a great deal more about the barriers to participation/inclusion (although we have not been able to tap the political will to overcome such barriers) than we do about the process of social inclusion.

Questions have been raised about the social inclusion potential of competitive sport programs (which are, by their very nature, organized along principles of social exclusion), and about programs organized on the principles of ‘social control.’ In addition to
overcoming barriers to 18 participation, we need a great deal more research to understand the process of social inclusion in sport. There is the potential in South Africa for major and professional and spectator sporting events (e.g., the soccer World Cup) to act as a powerful tool for community building and peace building; Keim (2006) calls for sport to be put back on the agenda for national transformation with regard to children and youth. In other words, if South Africa is committed to post-apartheid reconciliation among young populations and future generations, sport offers a means to this end and should be part of the plan (Keim, 2006).

Recent research suggests that sport-based programs focused on children and youth in areas of conflict offer a means of both resolution and, in turn, reconciliation. Richards (1997, cited by Giulianotti, 1999), for example, found that sport can facilitate positive social opportunities in post-war Africa, where violence and childsoldiering have severely restricted or foreclosed the health and welfare of children and youth. Similarly, Gasser & Levinsen (2004, p.179) documented the success of Open Fun Football Schools in reintegrating ethnic communities in the post-war Balkans, although they caution that “football is something like frontline farmland: fertile, but likely to be mined.” When war leads to limited avenues for social and personal
development, the importance of physical activity for children and youth may be thought to increase, and participation opportunities become paramount, in the contributions such opportunities afford to children impacted by conflict (Richards, 1997). These results suggest that, if sport-focused projects are locally grounded, carefully thought out, and professionally managed, they can make a modest contribution to conflict resolution and peaceful coexistence in regions of violence (Sugden, 2006). Willis’ (2000) case study of the Mathare Youth Sports Association (MYSA) suggests that MYSA and programs of its kind appear to provide hope that grassroots development may make a difference, that children and youth may own their development, that gender stereotypes can be successfully challenged through sport programs, that the objects of development can become its subjects. Furthermore, MYSA’s Letting Girls Play program afforded girls a safe and supportive environment in which they are treated with dignity and taught new skills. The report suggests that adolescence is a key time to introduce such programs given that transitions from childhood to adulthood are generally the time when boys establish more autonomy, mobility, privilege and opportunity than girls (CABOS Report, 2006).

In addition to the notion of community-building in geopolitical areas of conflict, and the idea that sport facilitates the building of local
communities, there is also evidence to suggest that child/youth participation in sport aids in facilitating prosocial behaviour in peer relations. O’Callaghan, et al. (2003) found that, when coupled with additional behaviours, sport-based programs were successful in promoting social skills generalization among children diagnosed with attentiondeficit/hyperactivity disorder (ADHD). Given that social skills generalization is unlikely to take place without active efforts, evidence suggests that sport offers one tool to be used to promote prosocial behaviour (O’Callaghan, et al., 2003, p.327). Research also suggests that sport may provide an opportunity for positive peer interaction and healthy competition for and among youth (Weiss & Stuntz, 2004, cited by Hedstrom & Gould, 2004). Recent research suggests that peer relationships are a key part of young people’s experiences in sport, and that social acceptance and affiliation are important components in determining the extent to which children and youth enjoy participating in sport (Smith, 2003).

As young people mature, they increasingly rely on peers for information and feedback regarding physical competence; therefore, sport as a context of physical activity, serves as a key site of child and youth development (Smith, 2003).
is increasingly seen as a social problem that is responsive to sport-based interventions. For example, in Canada, 49% of citizens believe in the ability of community-level sport to reduce crime among young people (CCES, 2002). Likewise, in 2002, the Australian Institute for Criminology identified over 600 programs that used sport and physical activities to reduce youth crime and anti-social behaviour (Morris, Sallybanks & Willis, 2003). The terms “crime,” “anti-social behaviour” and “delinquency” are often used interchangeably in the literature. Each term refers to a notion of “deviance” from socially accepted norms. In general, research suggests that sports are effective tools in alleviating deviant behaviours among children and youth, if provided through positive, supportive, and non-authoritarian approaches.

Deviance is defined by Donnelly & Coakley (2004) as “behaviours, ideas, or characteristics that fall outside a normally accepted range” (p.156). Harmful deviance can occur because of either “underconformity” to these social norms or because of “overconformity” to social norms. The majority of the literature in this review approached the problem of youth deviance as a function of underconformity to social norms. In these studies, behaviour understood as delinquent included: criminal or quasi-criminal
behaviour, such as acts of aggression and violence, suicide and/or self-harm, vandalism, theft, illegal drug use or abuse, gang membership, unemployment, homelessness, mental health problems, and early school leaving or “dropping out.” Some indicators, such as mental health and homelessness, were included as forms of delinquent or anti-social behaviour through being “deviations from accepted (or ideal) social norms” (Morris, Sallybanks, Willis & Makkai, 2003. p.3). Harmful deviance can also occur as a result of overconformity to social norms in sports – and, although this was not directly addressed in the literature reviewed, authors included cautionary notes about the dangers of overconformity in sports. Still, this section focuses on the impact of sport participation on deviant behaviour that occurs at a social level outside of the sport context itself. 20 Many theories that attempt to explain how sports directly impact delinquency credit the structured nature of sports involvement for legitimating social norms. These explanations are consistent with the assumption that underconformity to social norms leads youth to engage in anti-social behaviours. Among the most cited explanations are: Sports involvement encourages less frequent, shorter, or less intense interaction with deviant others;
The “values” of sports – such as teamwork, effort, and achievement – reflect those of wider society; Sport involvement decreases the amount of unsupervised leisure time; Being labeled an “athlete” reflects positively on youth; thus, they will be encouraged towards more positive behaviours (this is complicated by some research that indicates that athletic youth are not less delinquent, but less likely to be punished); and Sports programs aimed at reducing youth delinquency work simply by reducing boredom in youth and creating a diversion from less desirable, sometimes criminal, behaviour (Morris, Sallybanks, Willis & Makkai, 2003). Reports from the United States, Australia and the United Kingdom suggest that sports participation among children and youth is associated with reduced rates of delinquency. For example, in their overview of youth and sport in the U.S., Seefeldt & Ewing (2002) summarized social and epidemiological trends in sport participation and youth delinquency.

This evidence suggests that sports participants engage in delinquent behaviour less often than non-participants (and that this correlation is stronger among youth from lower-class backgrounds) or youth who participate in minor sports. As the authors note, the reason for this negative correlation is unclear. Partially on the strength of these correlations, hundreds of sport-focused crimereduction programs
targeting “at risk,” “high risk” or “marginalized” youth have been established. The Australian Institute of Criminology identified more than 600 recreational programs aimed at preventing or reducing anti-social behaviour among young people. In the U.S., the National Recreation and Parks Association identified 621 programs and estimated the number of participants in the “social problems industry” to be in the hundreds of thousands annually (Hartmann & Depro, 2006). The majority of sports programs targeted at delinquent youth seek to do one (or more) of the following: divert youth from delinquent others or behaviours; rehabilitate previous anti-social or delinquent behaviours; or hook the target population with sport in order to establish relationships among authority figures, social services, educational programs, and marginalized groups. Diversionary programs Evaluations of programs intended to provide alternatives to delinquency among youth have been undertaken in Scotland (Coalter, 2005), the U.S. (Hartmann & Depro, 2006) and Australia (Morris, Sallybanks, Willis & Makkai, 2003).

These 21 meta-analyses could not conclude that the sport programs definitively replaced criminal or delinquent behaviour in the youth communities they served, given that measuring explicit anti-social behaviours require both short- and long-term followup and
measurement (Morris et al., 2003). While short-term, uncontrolled studies are illustrative and informative, using such data to draw correlations between sports programs and reduced youth crime rates can result in misleading (or premature) conclusions. The case of Midnight Basketball in the U.S. is revealing. The Midnight Basketball League (MBL) is a national program that operates organized basketball leagues in “at risk” communities in the U.S. for young men, aged 17–21, during the “high-crime” hours of 10 p.m. to 2 a.m. Early adopters of midnight basketball programs claimed extraordinary impacts on crime rates; however, it was later established that crime rates dropped rapidly in all regions of the country during the same period, severely limiting the claims of efficacy attributed to the sports intervention (Hartmann & Depro, 2006). However, after matching early-adopter cities with other U.S. cities that did not offer MBL, Hartmann & Depro (2006) found that the reduction of property crimes, specifically in MBL cities, was 5% greater than in non-MBL cities. It is important to note that Hartmann & Depro (2006) did not credit the MBL basketball program with reducing property crime by diverting potential offenders into a more positive activity. Rather, they suggested that the media interest in MBL brought positive attention to these “marginalized” communities, which served to “send a more
positive, proactive message to community members, one that puts a new emphasis on community outreach and builds trust, commitment and solidarity” (p.192). While comparisons on violent crimes did not reproduce these results, the authors concluded that diversionary sports programs warrant further investigation for their possible role in reducing property crime rates (see also Pitter, 2004). Coakley (2002) and Donnelly & Coakley (2004) have also asked whether it is possible to use recreation to control violence and other problem behaviours among youth? They pointed out the class- and race-linked bases of diversionary (‘social control’) sport programs in North America, and how they differ in intent from middle-class (‘social opportunity’) sport programs. Coakley (2002) reveals these class linkages with two pertinent questions: Are corporate CEOs who participated in organized youth [sport] programs less likely than other CEOs to initiate and approve corporate policies that [violate corporate ethics], do violence to the environment, or have violent consequences for residents of low-income inner-city neighbourhoods? Can we control corporate [corruption] and violence through youth [sport] programs offered to young people who are likely to acquire power as adults in society? These questions reveal some of the assumptions behind the
These assumptions are: that young people (inner city, lower class) are potentially dangerous; that they are likely to get into trouble if not in structured settings controlled by adults; that their parents are uninvolved and unable to control them; 22 that young people are inclined toward deviance, and need protection from their environment and themselves; and that the streets and the community would be safer if these young people could be controlled and socialized through recreation. This represents a marked contrast to the assumptions behind ‘social opportunity’ sport programs for middle-class youth, which are associated with personal development of career- and community-related skills, such as leadership and teamwork. Rehabilitation programs Young offenders are increasingly referred to programs that include sport as an integral part of the rehabilitative process. The theoretical rationale for this approach positions offending youth as inadequately socialized to community norms, and sport as a remedial lesson in social norms and community living (Andrews & Andrews, 2003). There is also a widespread belief in the therapeutic value of sport (Coalter, 2005; Seefeldt & Ewing, 2002). In the U.K., all “secure units” (small, quasi-correctional facilities for delinquent
youth aged 10–16, remanded temporarily to state care, primarily due to repeated criminal offenses) are legally bound to provide sport programming to residents (Andrews & Andrews, 2003).

A participant-observation study of one secure unit found that sport is a useful tool in youth rehabilitation, because it provides an opportunity for these young people to display competence and develop a positive selfconcept (Andrews & Andrews, 2003). However, this same study argued that a person-centred approach to the provision of sports opportunities is key to its success in alleviating delinquent behaviour.

The activity must be purposeful for the individual, and it must recognize both the intricacies and particularities of the individual’s motivations as well as the meaning and value that sports participation holds for the individual. The authors support the use of those sporting activities that de-emphasize regulations and winning, that are tailored to individual needs, and that emphasize choice for participants and positive feedback (Andrews & Andrews, 2003). These results are supported by other analyses of delinquency and sports participation (Seefeldt & Ewing, 2002; Endresen & Olweus; 2005; Smith & Waddington, 2004; Morris et al., 2003). Gateway programs Sports
have also been used to enhance social development among children and youth by connecting “at risk” youth to social- and job-skills training, education programs and/or leadership opportunities. In these schemes, sports are not a “mechanism” for social development, but rather a positive means of inducing marginalized or delinquent youth towards other social programs that address underlying risk factors for crime involvement, early school leaving, homelessness and a range of other social problems in this population.

Seefeldt & Ewing (2002) suggest that sport programs that target “at risk” youth can provide a “safe alternative activity to violence and intimidation” and gang membership, because sports teams may meet the individual’s need for social inclusion, physical competency and recreation. This research argues that the usefulness of sports to mediate anti-social behaviour in young people improves when used in combination with a full range of social, educational, and job-skill training programs (Seefeldt & Ewing, 2002). In fact, researchers acknowledge that there are nearly limitless sporting experiences for children and youth, due to the variety of sports played, the nature and length of time of involvement, the structure of the team/league/community, the sport’s gender composition, the skill and engagement of the coach, and so forth. As a result, it is generally
accepted that the physical act of performing sports skills cannot be
thought to impact directly, either positively or negatively, an
individual’s inclination towards deviant behaviour (Shields &
Bredemeier, 1995; Seefeldt & Ewing, 2002).

Given that most programs targeting youth delinquency offer a
combination of sports, physical activities, outdoor experiences,
leadership-skills development, and job-skills training, any reduction in
anti-social behaviour cannot be attributed only to sport involvement
(Morris, Sallybanks, Willis & Makkai, 2003). Thus, programs directed
towards children and youth should “blend” the social interactions and
physical activities offered by the experience of organized sport
participation, in attempts to address social risk factors and decrease
delinquency (Seefeldt & Ewing, 2002). c. Education There is a
significant amount of evidence to suggest that sport-based programs
improve the learning performance of children and youth, facilitating
educational attainment and encouraging them to stay in school, and
that sport-based programs in schools aid in the social development of
young people. This relationship is thought of in different ways.

In the most basic way, sport participation at a young age helps
children to learn physical skills that allow them to stay active later in
life (Hedstrom & Gould, 2004). The educational benefits are often thought of more broadly, though. Children may learn, or become familiar with, the competitive process and learn to assess their competence in different skills through sport participation (Seefeldt & Ewing, 2002). In addition, the Conference Board of Canada’s (2005) report on sport in society states that sport is an important tool by and through which participants, particularly young people, gain and enhance a range of skills that are transferable to important parts of adult life. A case study of the Physically Active Youth (PAY) program in Namibia found that after-school programs targeting youth and focusing on a variety of physical activities (including aerobics, dance, outdoor education and competitive sports) increased the number of students who passed the national Grade 10 examination (CABOS Report, 2006). Since students who fail this exam, and drop out of school, tend to face a number of social barriers and engage in unhealthy behaviours (such as unemployment, drug abuse, anti-social behaviour, and an increased risk of contracting HIV/AIDS), the program is understood to make a strong contribution to the lives of Namibian youth by encouraging and facilitating their continued education (CABOS Report, 2006).
The U.K.-based Living for Sport project is based on the premise that any and all forms of “structured exercise” can be used to help students develop discipline, confidence, self-esteem and self-awareness (CABOS Report, 2006). The program made available a variety of resources and tools to teachers to engage students in physical activity expressly for the purpose of improving behaviour. Monitoring of the program found that Living for Sport resulted in improved student attendance and punctuality, a reduction in detentions, improved communication and leadership skills, and general behaviour improvements (CABOS Report, 2006). Bailey & Dismore (2004) reported findings that specialist sport schools enhanced the opportunities for at-risk Aboriginal youth to engage personally and socially in school life. Furthermore, an assessment of an education-based sport-development intervention in South Africa concluded that a variety of perceived social spinoffs, including community, financial and personal empowerment, were attached to increasing sport opportunities in a school setting, and helped to foster improved relations between children and teachers (Burnett, 2001).

The Sport in Education (SpinEd) project, under the direction of Richard Bailey, gathered evidence to influence policy development aimed at redressing the decreasing trends in physical education and
school sport (PESS). In addition, the project constructed a framework for evaluating the role of PESS in different countries and cultures, and collected best practices and evidence regarding the role of PESS in making positive contributions to school life (Bailey & Dismore, 2004). Their report concluded that PESS can make an important contribution to the education and development of children and youth, and that evidence supports the positive relationship between PESS and development in physical, lifestyle, affective, social and cognitive domains (Bailey & Dismore, 2004, p. 12). Bailey & Dismore conclude that the educational character of PESS needs to be accentuated and that PESS should be available to all children and youth as an educational entitlement, though they caution against any simple interpretation of causal benefits from PESS participation. The cognitive benefits of sport participation among children and youth remain a topic of research. Bailey’s (2006) review article illustrates that research debunks the notion that physical education and sport participation interfere with educational goals and academic achievement and, in many cases, research supports a link between physical education and improved academic performance (see also Sallis & Owen, 1999). While the benefits of regular exercise on cognition are small, the results are reliable for reaction time,
reflexivity and performance of mathematics (Thomas et al., 1994, cited by Coalter, 2005).

However, since the quantitative data in this area are based on cognitive differences in pre- versus post-testing, it is difficult to assess or identify the mechanisms by which such improvements in cognitive performance occur. Coalter (2005) concludes that there is no definitive evidence in the literature of a causal relationship between sport participation and academic achievement. Thus, Bailey (2006) cautions that it should be considered that PESS can lead to improved cognitive development under the right conditions. There is also evidence to support the link between sport participation and educational achievement for college and university students. University students who use recreational sports facilities persist in their studies at a higher rate than non-sport participants, since recreational and intramural sport offers an important opportunity for interaction among students and the building of student satisfaction (Belch, Gebel & Maas, 2001). Evidence supports not only the educational benefits of sport participation, but also the utility of sport programs as educational catalysts to implement interventions and teach life skills. Papacharisis et al. (2005) provide evidence from the GOAL 25 program, a peer-to-peer, sport-based life-skills program targeted at youth who
participated in sports clubs. The study supported the effectiveness of life-skills education (such as goal setting, problem solving and positive thinking) through its integration with sport programs. The results suggest that, in such interventions, athletes may improve their sports and life skills in a complementary fashion (Papacharisis et al., 2005).

d. Character-building

Donnelly (1993, p.428) noted: “We have long held, although with little evidence, that sport participation has the capacity to transform the character of individuals.” Of all the literature on sport and children/youth, the most difficult to quantify, yet also the most compelling in terms of social benefits, deals with the possibility that participation in sport and physical activity may positively impact the moral development of youth. Based on survey data, Canadians consider sport, after family, to have the most influence on the development of positive values in youth (CCES, 2002).

In fact, in data collected in this survey, the role that sport plays in promoting and developing moral character was considered to be an essential component of the very definition of sport for children and youth, although not surprisingly, these ideas of the positive impact of sports on the development of character tend to come from those coaches, parents, volunteers and participants who are actively involved in children’s and youth sport (CCES, 2002). According to
Coakley & Donnelly (2004, p.93) this “character logic” is often used to encourage and defend children’s participation in sport; it is also used to justify the funding of sport programs, the building of facilities and the sponsorship of events. While the causal linkages and mechanistic connections between sport participation and character-building are difficult to create and sustain, theories have been put forth (supported in some cases by evidence-based research) to support the notion that participation in sport and physical activity builds character in children and youth. In a review essay, Ewing et al. (2002, p.36) argued that sport offers a “dynamic domain” for moral and character development and expression among youth, particularly in terms of positive values such as hard work, fair play and an orientation to succeed, and behaviour and social relations. However, the same authors argue that sport does not, in and of itself, lead to the development of character or morals in youth, and, in fact, holds the possibility to undermine the creation of what would generally be considered positive traits of personal behaviour (Ewing et al., 2002). Such interpretations are borne out in the literature. Hansen et al.’s (2003) recent analysis of youth activities found that such activities provide a context for a wide range of developmental experiences; but, development of self-knowledge, emotional regulation and physical
skills were particularly high within sport participation when compared to academic- and leadership-type activities. At the same time, sport activities were also the only context in this study in which youth also reported higher rates of negative experiences, particularly in relation to peer interaction and inappropriate adult behaviour (Hansen et al., 2003, p.47).

Thus, when cataloguing 26 sport within an array of youth activities, the pattern of experiences was mixed and sport could be understood as both character building and challenging (Hansen et al., 2003, p.50). Hedstrom & Gould’s (2004, p.5) review essay also concludes that research has demonstrated that character in children and youth can be enhanced in sport and physical education settings “when fair play, sportsmanship and moral development information is systematically and consistently taught.” In other words, given that sport is a powerful social experience in the lives of children and youth, positive character development may occur under the right circumstances (PCPFS, 2006). Given that moral behaviour is learned through social interaction, the ways in which relations with others are constructed and facilitated impacts the ethical and moral behaviour learned through sport. In other words, there is a level of transfer
between the values and ethics promoted in the sport and the moral character instilled in children and youth who participate.

Ewing et al. (2002) reviewed evidence suggesting that a focus on reflection and meditation led to lower levels of anxiety for youth studying martial arts, and that athletes who focused on personal improvement, as opposed to greater ability, considered the sport to be a pedagogical tool for co-operation and citizenship as opposed to dominance and ends focused orientations (Ewing et al., 2002, p.37). Evidence also suggests that coaches play a key role in developing the moral and ethical parameters that impact youth involved in sport. This research indicates that the moral values and behaviour learned by children in sport come directly from instruction and their own engagement, and indirectly from observing coaches’ responses (Ewing et al., 2002, p.37). The analysis of youth sport participation and character development has been broken down into component parts: perspective-taking and empathy, moral reasoning and motivational orientation (PCPFS, 2006). The concept of character is often understood in relation to the ability to consider the views and positions of others. Perspective-taking is the cognitive ability to understand multiple points of view, while empathy is the affective skill of understanding the experiences of another person or group (PCPFS,
In combination, perspective-taking and empathy underpin moral development and can be learned through game strategy and consideration of multiple perspectives within the sporting context – although this relationship is primarily a theoretical one, yet to be corroborated through evidence-based research (PCPFS, 2006). What has been documented through research, however, is that physical activity outside of sport may, in fact, be better suited to promoting empathy among youth, and that moral reasoning may be developed through sport if actively promoted in dialogue with a coach (PCPFS, 2006). For example, Trulson (1986, cited by Coakley & Donnelly, 2004, p.171) found that the type of sport experience was key to reducing ‘delinquent’ behaviour in that martial arts taught with a philosophy of respect, patience, responsibility and honour were related to decreased delinquency, while those based on free sparring and selfdefence were related to higher levels of delinquency. 27 Research examining moral reasoning, or the ability to think about moral issues, among athletes has actually found that participation in sport is associated with lower levels of moral reasoning maturity; however, there is also evidence that coaches or physical educators may successfully promote the development of moral reasoning if they actively seek to do so (PCPFS, 2006). In relation to the third
component of character, motivational orientation or the cognitive rationales for behaviour, research suggests that motivation may be improved through the type of positive team environment that sport participation can provide for children and youth (PCPFS, 2006). In effect, the potential does exist to effectively promote moral development through sport because the social interactions associated with sport participation may impact certain psychological traits that underlie moral decisionmaking (Seefeldt & Ewing, 2002). Leadership is also an issue that has been examined in research on children/youth and sport participation. Dobosz & Beaty’s (1999) analysis found that high-school athletes scored higher on a leadership ability measure than their non-athlete counterparts. They conclude, therefore, that athletics offers youth an opportunity and platform to develop and improve leadership skills and abilities. In conclusion, whereas sport has the possibility to provide an environment for the development of moral character, evidence also supports the idea that sport provides an opportunity to suspend moral obligation or support unethical behaviour in pursuit of winning. Coakley & Donnelly (2004, p.94) point out that much of the research addressing sport and character over the past 50 years suffers from three problematic assumptions: that every kind of organized, competitive sport impacts the moral
development of every athlete in the same ways; that the characterbuilding experience of sport is unique to the extent that those who do not play are at a disadvantage in developing moral character; and that the notion of what constitutes positive moral characteristics is generally accepted. In this sense, Shields & Bredemeier (1995, cited by Ewing et al., 2002) caution that it is not the physicality of sport, or the learning and performance of sporting skills, that is either ethical or unethical or related to character development; more accurately, it is that social interactions within the sport experience potentially impact the development of moral character. 28 SUMMARY BOX: Research suggests that sport programs among children and youth may contribute to social inclusion, both at the community level and in post-conflict areas, as well as in social psychological relations such as peer groups. Criminology literature has found evidence that sport-based programs may make a positive contribution to reducing youth crime as diversionary, rehabilitation and gateway programs. Youth sport participation has been linked to educational benefits if physical education is included as part of broad-based educational programs, although causal links between sport participation and educational achievement are difficult to establish. Evidence suggests that character-building, including moral behaviour, empathy, reasoning
and leadership, may be promoted and facilitated through sport, although such processes are highly dependent on the context of the sporting program and the values promoted therein. 29 4. Current uses, best practices, recommendations a. Findings from research A review of current research indicates that sport programs have been employed successfully in the service of child and youth development in a number of contexts. Based on the reviewed literature, some findings have been highlighted as being of particular importance for child and youth development through sport. First, it has been consistently reinforced that the benefits (or failures) of sport and child/youth development projects cannot be understood in isolation from other social factors and reasons for social change (Sport England, 2002). Bailey (2006) further emphasizes that it is important in all cases to differentiate between necessary conditions (i.e., participation in sport) and sufficient conditions (i.e., the conditions under which the potential outcomes are achieved). Thus, it is essential that sport projects be aware of the risk factors, social conditions and material realities of the children and youth they serve, in order to have a positive impact. Second, documentation of successful sport and child/youth development projects have, in nearly all cases, pointed to the impact and importance of skilled, enthusiastic project coordinators, leaders
and core staff. The leadership skills, interpersonal skills, and behaviour of the coach or sport leader are, therefore, essential to positive development in the children and youth they teach. It has also been found that character, notions of fair play, and moral development are only transferred to sports participants when the goals of the program and coach are in line with moral attitudes and behaviours, and when coaches enact specific teaching strategies to promote a positive change in moral growth (Ewing et al., 2002).

Positive benefits of sport may only be achieved through sporting experiences that provide positive experiences and minimize negative ones. Third, a multi-agency approach to child and youth development has been consistently emphasized in the literature as leading to successful outcomes for sport-focused programs for young people. This approach recognizes the role that sport can play in addressing some of the many issues and factors that contribute to positive (or negative) development in children and youth. Furthermore, long-term commitments to these types of projects are necessary if successes and quantitative monitoring are to be effective (Sport England, 2002). b. Mathare Youth Sports Association (MYSA) Two current initiatives using sport to support child and youth development are illustrative of best practices. Willis’ (2000) case
study of the Mathare Youth Sports Association (MYSA) suggests that MYSA, in particular, but also programs of its kind, appear to provide hope that sport-based programs can make a difference in the lives of marginalized youth. Namely, Willis (2000) found that grassroots development programs, such as MYSA, may make a tangible difference in the everyday experiences of youth, that youth can own their development, that gender stereotypes may be successfully challenged through sport-based development programs, and that the objects of development can become its subjects. Furthermore, MYSA’s Letting Girls Play program afforded girls a safe and supportive environment in which they are treated with dignity and taught new skills. With respect to gender, analyses of MYSA’s programming suggests that adolescence is a key time to introduce sport-based initiatives, because transitions from childhood to adulthood are generally the time when boys establish more autonomy, mobility, privilege and opportunity than girls (CABOS Report, 2006).

c. Physically Active Youth (PAY) A similar program, Physically Active Youth (PAY), was designed and implemented in Namibia to support the educational achievements of high-school students. More than half of the students in the Namibian educational system (approximately 16,000 16-year-olds) fail a national exam after Grade
PAY combines a sport program with informal tutoring to support high-school dropouts and other students considered to be at risk of failing the national exam and ending their educational career. The program also involves HIV/AIDS awareness and prevention, and sexual and reproductive health issues that are commonly faced by students who drop out of the school system. Research indicates that the program has a direct impact on the educational achievement and sustainability of students who participate (CABOS Report, 2006). In the pilot program, 92% of participants passed the Grade 10 exam, and researchers concluded that the appeal of sport among young people had motivational effects on youth, in terms of passing the exam and continuing their education (CABOS Report, 2006). SUMMARY BOX: Research indicates that the benefits of sport participation and sport initiatives for children and youth cannot be understood in isolation from other social and material conditions. The skills and enthusiasm of trained, committed administrators, coaches and volunteers is key to the success of child- and youth-focused sport programs. To be successful, sport programs should be part of a multi-agency approach to meeting the needs of child and youth
development. Mathare Youth Sports Association and Physically Active Youth are examples of successful youth

GAMING IN EDUCATION

Games are built on sound learning principles. Play is an important element for healthy child development (Ginsburg, 2007), including learning development. Children learn through imaginative play (Bodrova & Leong, 2003; HirshPasek, Golinkoff, & Eyer, 2003; Zigler, Singer, & Bishop-Josef, 2004). Because digital games can provide an opportunity for play through simulated environments, these games are not necessarily a distraction from learning, but rather can be an integral part of learning and intellectual development (Ke, 2009). We think and understand best when we can imagine a situation and that prepares us for action. Games present a similar situation through simulation, providing us the opportunity to think, understand, prepare, and execute actions (Gee, 2003). An attractive element of the gaming experience as a learning tool is that it provides opportunities for continued practice because negative consequences are not typically associated with failure. Rather, failure serves as an integral part of the learning experience (Gee, 2009; Groff, Howells, & Cranmer, 2010; Ke, 2009; Klopfer, Osterweil, & Salen, 2009). This encourages
players to improve through repeated practice either by advancing within a game or replaying parts of a game. Failure with limited consequence, agency, and choice are seen as critical elements of a true gaming experience. That said, in the context of education where a game might become a required activity tied to real consequences, there could be a diminution in these key elements that may lead students to be less inclined to practice and realize some of the benefits of gaming. Games also are built with clear goals and provide immediate feedback (Dickey, 2005). This allows players to change their game play in order to improve their performance and reach their goals. The idea of immediate feedback is also prominent in good formative assessment processes. Students will improve their work when given constructive feedback (Black & Wiliam, GAMING IN EDUCATION 9 1998). It can be difficult for teachers to translate student performance into constructive feedback or to plan their lessons to incorporate probing questions and subsequent actions (Black, Harrison, Lee, Marshall, & Wiliam, 2002). This type of feedback loop, however, is inherent in welldesigned games. Although a player’s actions may demonstrate learning within the game environment, less is known about whether such learning can be applied or transferred to a different context. For example, Gee (2005) describes how the game
World of Warcraft reflects key 21st century skills such as individual specialization within cross-functional teams working collaboratively to meet goals. Although this type of specialization and collaboration is important within the game, it is still unclear how much these behaviors transfer outside of the game world. Of course there are some situations in which you would not expect behavior from a game to transfer (e.g., jet skiing simulation games), and games cannot be adapted for every possible learning situation (Nagle, 2001). Although research has shown that skills such as problem solving ability increase within a game and may even transfer or increase across games, it is difficult to transfer that skill outside digital games (Egenfeldt-Nielsen, 2006). Curtis and Lawson (2002) found only modest evidence of the transfer of problem solving skills. Skills may be easier to transfer outside of games than specific content; however, content that is transferred outside of games tends to be limited and low level (Egenfeldt-Nielsen, 2007).

Games Provide Personalized Learning Opportunities

The idea that education should meet students “where they are” is not a new one, although it has several variations: differentiated instruction (Tomlinson, 1999), whole-person learning (Snow & Farr, 1987), individualized instruction (Switzer, 2004), and personalized learning.

GAMING IN EDUCATION 10 (Organisation for Economic Co-
operation and Development [OECD], 2006). Personalized learning is described as the way that schools “tailor education to ensure that every pupil achieves the highest standard possible” (OECD, 2006, p. 24). The OECD report suggests personalized learning in schools through five processes: (1) knowing the strengths and weaknesses of students, (2) developing teaching and learning strategies based on student needs, (3) engaging curriculum choices, (4) supportive school organization, and (5) community, local institution, and social service support. However, personalized learning need not only occur at the school level. Games provide an opportunity to personalize learning for students, meeting at least the first three processes. Strengths and weaknesses of students can be inferred based on players’ actions during the game. Kickmeier-Rust, Hockemeyer, Albert, and Augustin (2008) describe ELEKTRA, a project funded by the European Commission. Throughout the course of game play, information from the players’ actions (e.g., turning on or not turning on a light switch) are continually aggregated to create an updated picture of the players’ competencies based on the accumulated play actions. Games can also be adapted based on students’ needs. Appropriate scaffolding can be provided in games through the use of levels. Supports are embedded into games such that easier levels are typically played first, advancing
on to more complex levels as the player achieves mastery. For example, scaffolding is built into the science mystery game Crystal Island by allowing students to keep records of the information they have gathered and the hypotheses they have drawn (Ash, 2011). Other scaffolding can be achieved through the use of graphics, such as navigation maps, which can lower a player’s cognitive load while playing the game (O’Neil, GAMING IN EDUCATION 11 Wainess, & Baker, 2005). Researchers de Jong and van Joolingen (1998) concluded that adding appropriate instructional supports and scaffolding to simulations or games may help with challenges students may encounter in this type of discovery learning. Games also meet the unique teaching and learning needs of students when new concepts are introduced as a logical learning progression. Learning progressions are often described as the path students take to learn a set of knowledge or skills (Masters & Forster, 1996), i.e., the sequence in which these skills are typically developed. Learning progressions are frequently used in education. In traditional classroom settings, a student that does not master a concept could be left with a gap in their knowledge foundation that challenges later attempts to build to more complex concepts. In contrast, digital games inherently force the player to master a concept in order to advance (e.g., the double jump with a
dash in mid air to get across the pit of lava). Players are able to repeat the same scenario until they master this concept. The same philosophy could extend to the use of digital games in education. A student cannot, in essence, unlock Algebra until a prerequisite knowledge of previous skills has been mastered. This mastery-based learning, however, may require students to invest ample time in learning each skill before moving to the next. These scenarios also imply that a student has some curricular choice and control over their learning. This sense of agency and autonomy for the learner is important. The most common error in online education activities is a failure to provide the learner with an appropriate level of agency. Agency refers to the learner’s ability to interact with the material and feelings of belongingness and socio-emotional support in the situation (Jalongo, 2007). Dalton (2000) reported that 56% of students who participate in online courses sensed a lack of interactivity; they were not active learners with choice. Well-designed games, however, encourage students to adapt and design learning and teaching styles most suitable to them, which in turn leads to a more active role in learning (Klopfer et al., 2009). For example, students playing the science inquiry game, River City, were able to explore their learning environments independently. They created their
own hypotheses and conducted their own experiments in order to solve the problem (Ketelhut, Dede, Clarke, & Nelson, 2006).

In general, well designed games—as with well designed education experiences are challenging but achievable. Games should present players with challenges that are matched to their skill level in order to maximize engagement (Kiili, 2005). “The key is to set the level of difficulty at the point where the learner needs to stretch a bit and can accomplish the task with moderate support” (Jalongo, 2007, p. 401). This is similar to Vygotsky’s zone of proximal development, which is “the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers” (2006, p. 86). A game is able to provide that opportunity for appropriate guidance or collaboration in order to help players meet the next challenge. The stepwise increase in difficulty reduces frustration and allows players to form knowledge and strategies that will be useful later (Gee, 2003).

A state of pleasant frustration—challenging but doable—is an ideal state for learning several content areas such as science (diSessa, 2000). In a game, however, the price of failure is lower (Gee, 2005).
Students can take risks and quickly learn from their mistakes. Effective games provide feedback that is “(1) clear and unobtrusive, and (2) immediately responsive to the player’s actions” (Rigby & Ryan, 2007, p. 8). The feedback also helps reinforce motivation (Jones & Issroff, 2005). Students are able to adapt to the feedback, and the game continues to adapt to the student. However, learning does not just end with the game. Debriefing is critical to using games in education (Lederman & Fumitoshi, 1995), as it provides the connection between learning in the game and applying those skills to other contexts. Teachers can facilitate the transfer of skills by leading pre- and post-game discussions which connect the game with other things students are learning in class (Ash, 2011). Students can be encouraged to share different ways of approaching a problem. Based on a review of 17 studies focused on game design, Ke (2009) concluded that instructional support features are necessary in order for the lessons learned in computer games to transfer to other contexts. Video games can be used to create deeper learning experiences for students, but they do not provide the entire experience. Games work best when coupled with effective pedagogy (Squire, 2002). As such, Steinkueker & Chmiel (2006) suggest that games will not replace teachers and classrooms, but they might replace some
textbooks and laboratories. Games Provide More Engagement for the Learner

Traditional schooling has often been labeled as boring for many students. In fact, nearly half of high school dropouts said a major reason for dropping out was that the classes weren’t interesting, and 70% said they were not motivated or inspired to work hard (Bridgeland, Bilulio, & Morison, 2006). Teachers have long used various approaches including contemporary media and art to increase engagement and motivation in the classroom. Perhaps the unique value of the engagement factor within digital games is the ability to sustain engagement and motivation across time, particularly with more challenging learning tasks and without the teacher needing to be a “superstar” (Gee, 2003, 2008; Rupp, Gushta, Mislevy, & Shaffer, 2010). Digital games can be more engaging than regular classroom activities (Malone, 1981; Rieber, 1996). Although engagement may be just one component, Kirkpatrick & Kirkpatrick (2006, p. 30) noted, “Positive reaction may not ensure learning, but negative reaction almost certainly reduces the possibility of its occurring.” Students’ experiences with game environments are shaping their expectations of learning environments. Students prefer rich graphics and multitasking interfaces (Prensky, 2001). They desire tasks that are “fast, active and exploratory, with information supplied
Students are also more engaged when a narrative story is present within the games (Barab, Arici, & Jackson, 2005). The narrative is used to piece together the different tasks of the game into a coherent unit (Dickey, 2005) and keep students engaged as they work through the different tasks. Games contain the pieces necessary to engage students and help them enter a state of flow (Csikszentmihalyi, 1990) where they are fully immersed in their learning environment and energized and focused on the activity they are involved in. When complete attention is devoted to the game, a player may lose track of time and not notice other distractions. Games support many of the components of flow such as clear goals, direct and immediate feedback, balance between ability level and challenge, and sense of control. These components can increase student engagement, and student engagement is strongly associated with student achievement (Shute, Ventura, Bauer, & Zapata-Rivera, 2009).

In fact, Naceur and Schiefele (2005) have shown that student interest was a better predictor than student ability in challenging reading comprehension tasks, and that interest was also related to persistence in reading difficult texts and in long-term retention of reading material. Motivation is another benefit of games. It is driven
from our belief about how good we will be and our interest in and the value of the goal (Jalongo, 2007). Players are more motivated when they feel a personal attachment to the goal (Gee, 2009). Some games are based on external motivation, where students receive particular rewards for playing the game to entice them to continue practicing learning. These types of games have had some success in the health care industry and with short term content memorization (Egenfeldt-Nielsen, 2006), but they tend to reinforce rote memory of low level content rather than deep understanding. However, if the goals of the game and the learning outcomes are closely tied together, students tend to be more intrinsically motivated, and the rewards are in solving the game challenges and learning. A year long pan-European study that included over 500 teachers found that the great majority of the teachers surveyed confirmed that “motivation is significantly greater when computer games are integrated into the educational process” (Joyce, Gerhard, & Debro, 2009, pp.11). Teachers in Scotland gave similar reports where the use of game-based learning consoles in the classroom significantly increased student motivation and engagement (Groff et al., 2010). Although motivation clearly seems to be important, there is not clear agreement on what makes a game or
learning task motivating. Dickey (2005) argued that the three main
elements of engaged learning are clear goals and tasks, reinforcing
feedback, and increasing challenge. Successful games are also marked
by limited negative consequences for risk-taking and opportunities to
apply choice. Fladen and Blashki (2005) listed the three key features
of motivating games to be interactivity, agency, and engagement.
Rigby and Ryan (2007) created yet a different set of needs that are
satisfied by engaging games through their Player Experience of Need
Satisfaction (PENS) model: competence, autonomy, and relatedness.
Each of these models could be used to evaluate games, student
motivation, and the impacts on subsequent learning and achievement.

Game designers and scholars argue that games capture the player’s
attention and engage them in complex thinking and problem solving
(Barab & Dede, 2007; Gee, 2003, 2005; Jenkins, Clinton, Purushotma,
Robison, & Weigel, 2006). For example Gee and Shaffer (2010, p. 3)
state: Games require the kind of thinking that we need in the 21st
Century because they use actual learning as the basis for assessment.
They test not only current knowledge and skills, but also preparation
for future learning. They measure 21st Century skills like
collaboration, innovation, production, and design by tracking many
different kinds of information about a student, over time. Games are frequently cited as important mechanisms for teaching 21st century skills because they can accommodate a wide variety of learning styles within a complex decisionmaking context (Squire, 2006). The skills and context of many games take advantage of technology that is familiar to students and use relevant situations (Gee, 2003; Spires, 2008). These can all be used to highlight the 21st century skills that are necessary for success in a global economy (Spires, Row, Mott, & Lester, 2011). There is a growing awareness that teaching and assessing 21st century skills “frequently requires exposing learners to well-designed complex tasks, affording them the ability to interact with other learners and trained professionals, and providing them with appropriate diagnostic feedback that is seamlessly integrated into the learning experience.” (Rupp et al., 2010, p. 4) This is what well-designed games do. Games foster collaboration, problem-solving, and procedural thinking (Johnson et al., 2011) which are important 21st century skills. Multi-player role playing games can also support problem-based learning, allowing players to see the results of their actions play out much faster than they could in real time (Khoo & Gentile, 2005) and allowing them to experience situations GAMING IN EDUCATION 17 rather than simply reading descriptions (Shaffer,
According to Gee (2007), high quality immersive games require players to think systemically and consider relationships instead of isolated events or facts. The abundance of options and possible decision points within games forces players to not only apply their knowledge but to adapt their knowledge to varying situations. They must think abstractly because they are playing abstractly. This helps to develop their skills in decision-making, innovation, and problem-solving (Johnson et al., 2011). Although games can provide learning of these important 21st century skills, teachers may be less interested in using them in the classroom because those skills are not currently tested or explicitly valued in educational systems (McFarlane, Sparrowhawk, & Heald, 2002).

Games Provide an Environment for Authentic and Relevant Assessment

It is important to note that by definition, games are inherently assessments. Games and traditional assessments share underlying characteristics that provide a means for quantifying knowledge and abilities. The two environments use complimentary technologies that can combine to create more accurate models of student knowledge, skills, and behaviors. For example, games provide opportunities for authentic and appropriate knowledge representation of complex ideas, many of which seem under-represented in
traditional assessments (Behrens, Frezzo, Mislevy, Kroopnick, & Wise, 2007). In games, the assessment process occurs as the game engine evaluates players’ actions and provides immediate feedback. Players make progress or they don’t; they advance to the next level or try again. Assessment occurs naturally in a game. The challenge is assessing the appropriate knowledge, skills, or abilities (Ash, 2011).

Methodologies have surfaced as a means for designing games for assessment and quantifying the knowledge and abilities within game environments. Evidence Centered Design (ECD; Mislevy, Almond, & Steinberg, 1998; Rupp et al., 2010) creates a framework for assessment by combining competency, evidence, and task models. This framework defines the attributes being assessed and behaviors that represent such attributes, and most important, it identifies the activities that connect what is being assessed to what players do within the game (Rupp et al., 2010; Shaffer, Hatfield, Svarovsky, Nash, Nulty, Bagley, Franke, Rupp, Mislevy, 2009; Behrens et al., 2007). This connection between learning, behavior, and setting provides support for the validity of what is being assessed. However, analytic tools are still needed to “score” the observations and update the competency model (i.e., the belief about the player’s knowledge or abilities at each point in the game). Koenig, Lee, Iseli, and Wainess
(2010) developed a conceptual framework for analyzing GAMING IN EDUCATION 19 the data from interactive games that relies on dynamic Bayesian networks to represent students’ real-time actions and decisions. This representation can feed both formative and summative assessments of student performance to provide information about their knowledge, skills, and abilities. Epistemic Network Analysis (ENA) is another tool for translating the elements of ECD as they occur in the game into a knowledge network map. As such, ENA provides snapshots of the player’s competency trajectory through the game, which can be continuously quantified, analyzed, and updated to assess the player’s development and to inform selection of game task and activities to be presented (Shaffer et al., 2009). Games, as experienced by players, can then be adapted based on this information. Kickmeier-Rust, Marte, Linek, Lalonde, and Albert (2008) found that including adaptive features in games resulted in better learning performance and also superior gaming experience than nonadaptive control groups. Quellmalz, Silberglitt, and Timms (2011) developed science simulation software and demonstrated its efficacy in six states. The results from the assessments were reliable, valid, of sound technical quality, and were suitable for inclusion in a multilevel state accountability system. The opportunity for games to be used as
assessments is greatly enhanced because of their capacity to collect deep, rich data about students and then to analyze—through advanced methods (Baker & Yacef, 2009)—their fine-grained interactions. Games can therefore serve as “non-invasive assessments” that provide continuous information which can be analyzed according to several probabilistic techniques (Kickmeier-Rust, Marte, et al., 2008). Shute (2011) refers to this embedded gathering of information about players as “stealth assessment,” an evidence-based process by which assessment can be integrated directly with learning environments. Shute and Kim (2011) demonstrate how assessments can be embedded within a commercial game to examine learning of educationally relevant knowledge and skills. In this study, the authors adapt ECD to the game environment and use it to assess problem solving and causal reasoning skills demonstrated during the game session. Application of games can encourage—or require—students to apply deeper levels of knowledge and skills (Bloom, Englehart, Furst, Hill, & Krathwohl, 1956; Marzano, Brandt, Hughes, Jones, Presseisen, Rankin, et al., 1988; Webb, 1997). Unlike traditional assessments, which typically tap students’ recall or basic demonstration of skills, games and simulations can present students
with more authentic environments to demonstrate strategic and critical thinking.

For example, Millis, Forsyth, Butler, Wallace, Graesser, and Halpern (2012) have developed a game-based, intelligent tutoring system designed to teach scientific inquiry skills to high school and college students. Students engage in natural language “trialogs” with artificial intelligence agents and are continually evaluated on their application of higher-order thinking skills as demonstrated by their responses to the agents. The relevance of the game situation can further be enhanced by changing the point of view (Dickey, 2005). By having students experience the game firsthand, as if they were truly in the situation or by having a tutor speak directly with them, students were able to learn more than being in neutral, 3rd person situations (Moreno & Mayer, 2000). Relevance can also be increased by building realistic characters (Dickey, 2007) or placing the game within familiar environments (Warren, Dondlinger, & Barab, 2008). Steinkueler & Chmiel (2006) analyzed World of Warcraft postings and translated them into evidence of scientific literacy including scientific discursive practices, model-based reasoning, and understanding theory and evidence. The authors stopped short of coding and creating measurement of specific individuals, but this does
provide an example of using gaming GAMING IN EDUCATION 21 data that students are already providing in order to draw conclusions about student learning and the process of scientific inquiry. Similarly, Dolan, Goodman, and Strain-Seymour (2012) developed a prototype, game-based performance task and evaluated the utility of applying frameworks for collaboration and problem solving in evaluating the game’s potential efficacy for measuring students’ collaborative problem-solving skills. Gaming presents unique opportunities to support the formative process, which is the process by which data about students’ knowledge and skills are used to inform subsequent instruction (Heritage, 2010). In order for formative assessments to be useful to instructors and learners, the assessment data must be **valid**. However, in low stakes assessments students are typically less motivated. Consequently, information gathered about students’ knowledge and skills under such circumstances tend to be less valid (Sundre & Wise, 2003; Wise & DeMars, 2003). The increased motivation brought about by games may have the potential to increase the validity of formative assessments. Delacruz (2011) evaluated games as tools to support formative assessment and examined how varying the level of detail about a game’s scoring rules affected learning and performance in mathematics. Her research found that
combining elaborated scoring explanation with incentives for accessing game feedback resulted in higher learning gains. Summary Despite the strong debate on how games can improve education and how useful they can be for teaching complex concepts and skills, very little research has been performed on the relationship between games and academic performance (Ke, 2009; O’Neil et al., 2005). Most of the available studies consist of descriptive analysis of the impact games have on students’ attitude towards the subject being taught and their motivation to attend and engage in class. The data from these studies are typically limited to surveys filled out by teachers and students after GAMING IN EDUCATION 22 using games in the classroom for several weeks or months (Wastiau et al., 2009). In rare occasions when researchers have attempted to investigate the relationship between learning within digital games and academic performance, the results are mixed because of differences in definitions and methodologies. Games may not be the most effective tool for all content and in all situations (Ke, 2009). In fact, some have suggested that content areas such as mathematics, physics, and language arts are well suited for gaming (Hays, 2005; Randel, Morris, Wetzel, & Whitehill, 1992), but this result has not been replicated by others (Ke, 2009). Ke found that games seemed to foster higher-order
thinking skills such as planning and reasoning more than specific content knowledge. In order to really evaluate the efficacy of games, researchers need to consider more nuanced features such as the length of game play and the content, structure, and mechanics of the games (Khoo & Gentile, 2005). Identifying an agreed upon set of features such as gaming genres, difficulty levels (from the perspective of game mechanics), delivery platforms, interfaces (e.g., joy stick, touch screen, mouse), and delivery environments (e.g., classroom, lab, home) would be a huge step forward. In addition, creating definitions and models for many of the attributes that are considered integral parts of the power of games (e.g., motivation, engagement, agency) would, in concert with the clarifying principles above, allow for a more coherent research approach. Perhaps what is most unique about digital games—as opposed to any other learning innovation—is the combination of motivation, engagement, adaptivity, simulation, collaboration, and data collection that can’t be achieved at scale any other way. As a result, simply measuring increases in standardized test scores or similar traditional measures of achievement after the introduction of digital games may miss some of the broader learning opportunities that games GAMING IN EDUCATION 23 present (Shaffer, Squire, Halverson, & Gee, 2005). While there may well be
some intangible benefits of digital games in the classroom, unless there is an “investment in evaluation and the accumulation of clear evidence of impact, there will be a tendency to dismiss game environments as motivational fluff” (O’Neil et al., 2005). In general, the research supports that digital games can facilitate learning, but it is difficult to draw stronger conclusions about the educational impact of digital games at this point because relatively few games have been tested against other teaching and learning approaches (Egenfeldt-Nielsen, 2006). Research, however, should continue to explore the effectiveness of digital games for learning and instruction. Evaluations should no longer focus on whether games can be used for learning. Because of key differences in specific features between games, attempts to generalize the effect of one game to all games may be unhelpful (Kirriemuir & McFarlane, 2004). Instead research should prioritize how games can best be used for learning.

THE PHILOSOPHY OF PHYSICAL EDUCATION AND SPORT FROM ANCIENT TIMES TO THE ENLIGHTENMENT

Times to the Enlightenment

As an academic discipline, the philosophy of sport has been in existence for a relatively short period. Although the philosophy of
sport as an academic endeavour is relatively young, the philosophical view of sport itself is not new. Although sport was a major activity according to the Greeks and Romans, it lost its importance during the Middle Ages. After the Renaissance, education came to be seen as a necessity. With its incorporation and utilisation in the educational curriculum, physical education obviously became more common in the curricula of the Renaissance and Reformation than it had been in the Middle Ages. Opinions about the sport of ancient times have influenced those of the modern era. The aim of this study is to examine the evolution of physical training from the renaissance to enlightenment, which is important because this period has laid the foundations of modern physical training and sport perception. In this study, the literature is reviewed from ancient times to the enlightenment, and the revolutions and developments that have occurred are emphasised.

Movement was seen as an obligatory life activity among humans during primitive ages who viewed movement as lively activity (Alpman, 1972). The need to be constantly prepared for the certainty of life’s struggle gave humans a rare physical fitness, which involved nerve and muscle (Gillet, 1975). At this point, sport emerged out of the exercises and competitions that athletes used to prepare their
bodies and minds for war, and this played a major role in development of the role of sport in development of sport cultures (Ongel, 2000).

Although the ancient Greeks strove to ensure that Olympian athletes were able to perform at their peak, equal importance was placed on critically examining the nature, purpose and value of sport and physical activity in Greek life (Hardman and Jones, 2010). In the ancient world, the greatest success an athlete could achieve was to win the Olympiad crown. The Olympic Games were held every four years for a thousand years from 776 B.C until 393 A.D. in honour of Zeus. The traditional date of the founding of the Olympic Games is 776 B.C., but its unofficial beginning dates back farther. In the basic games, although the rewards were symbolic, the champions' own cities held ostentatious display marches during the 3rd and 2nd centuries B.C. and provided accommodation, food facilities and theatre seats as well as generous cash rewards (Swaddling, 2000). In ancient Greece, the Hera Games were organised for women and took place every four years (Pfister, 2000); only young girls, not married women, were allowed to participate in these competitions (Spears, 1984).

In Ancient time (500-300 B.C.), winners were seen as special people in the period when feasts were made for the purpose of
worshipping gods. All sport-centred activities were launched to end the religious civil wars that were taking place (Er et al., 2005). The Athens school system was based on physical training and mainly involved music and various sporting activities; these were aimed at developing the physical, mental and moral attributes of the citizens of the city-state. Thus, a physical training system, gymnastics, emerged for the first time (Yildiran, 2005).

During the Hellenic Age (336-30 B.C.), when a healthy perception of life developed, education (in which physical training played an important role) gained importance. Sports were considered “physical training for health”, and agonal (competitive) gymnastics were also highly regarded. Whereas competitive gymnastics remained the preserve of athletes, competitions in holy games also returned to round up the list of competitions (Yildiran, 2005). Unlike other Greek civilisations, Spartan woman were trained and educated physically (Bandy, 2000).

For Romans, some body movements served the purpose as preparation for war and the military. Roman youth received physical training as war exercises. Activities suitable for Romans’ war ambitions were used to create their ideal human type: a strong, hugely
muscled foursquare man (Homo quadratos) (Alpman, 1972). The Olympic Games were banned by Emperor Theodosius I in 393-4 A.D. Another dimension of the sporting lives of Romans was their penchant for spectator-orientated activities, epitomised as chariot racing at the circuses and gladiatorial battles in the amphitheatres (Phillips and Roper, 2006).

The education system was also characterised as “scholastic”, like the thought system of the Middle Ages, which lasted approximately from 476 A.D. until the 1500s (Aytaç, 1980). During this age when faith replaced reason, the only educator was the church (Binbaşoğlu, 1982). As the radical social changes of chivalry emerged later, during the High Middle Age (1000-1300 A.D.), the military functions of chivalry rejected caring about the body, and hostility against the body developed (Yildiran, 2005). During the Middle Ages, women were excluded, and physical activities were carried out in the name of recreation, not sport (Memiş & Yildiran, 2011).

The ancient educational system was imitated during the Renaissance, and in the 15th and 16th centuries, school physical training began again. Hieronymus Mercurialis, an Italian humanist,
wrote “De Arte Gymnastica” by gathering information related to Greek gymnastic culture from old Greek and Roman sources just as in 16th century, when scholars had differentiated Ancient Greek gymnastics into forms pertaining to health, paramilitary training and athletic/competition; in this work, gymnastic practices were again categorized according to various periods and thought systems (Yildiran, 2005). Reform pedagogues of the age of enlightenment, philanthropists such as Basedow, Salzmann, GutsMuths etc. laid the scientific foundations of modern physical training during the 18th century and heavily influenced the intellectuals of the next century deeply (Yildiran, 2005). The aim of this study is to examine the “Evolution of Physical Training from the Renaissance to the Enlightenment”, which is important because the foundations of current physical training and sport perceptions are based on this concept.

AN OVERVIEW FROM THE ANCIENT AGE TO THE RENAISSANCE

The Greek educational ideal which emerged during the 8th – 6th centuries B.C. aimed at developing general fitness via “gymnastics” and the “music” of the body; that is, the development of body and spirit in a harmonic body and, in this way, providing a beautiful body, mental development and spiritual and moral hygiene.
These are expressed by the word Kalokagathia, meaning both beautiful and good, based on the words “Kalos” and “Agathos” (Aytaç, 1980; Alpman, 1972). Thus, the use of physical training and sport as the most suitable means as discussed first in Ancient Greece (Yildiran, 2005). To achieve the ideal of kalokagathia, three conditions were required: nobility, correct behaviour and careful teaching (Yildiran, 2011). Physical beauty (kalos) did not refer just to external appearance; it also referred to mental health. Humans who had these qualifications were considered ideal humans (kalokagathos) (Bohus, 1986). The idea of the Kalokagathia ideal, which was developed during the early classical age, had seen archaic-aristocratic high value “arete”s thinned and deepened (Popplow, 1972).

The vital point of aristocratic culture was physical training; in a sense, it was sport. The children were prepared for various sport competitions under the supervision of a paidotribes (a physical education teacher) and learned horse riding, discus and javelin throwing, long jumping, wrestling and boxing. The aim of the sport was to develop and strengthen the body, and hence, the character (Duruskken, 2001).
In Ancient Greece, boys attended wrestling schools because it was believed that playing sports beautified the human spirit as well as the body (Balci, 2008). The palaestra was a special building within ancient gymnasiuems where wrestling and physical training were practiced (Saltuk, 1990). The education practiced in this era covered gymnastic training and music education, and its aim was to develop a heroic mentality, but only for royalty. With this goal in mind, education aimed to discipline the body, raising an agile warrior by developing a cheerful and brave spirit (Aytac, 1980).

The feasts which were held to worship the gods in Ancient Greece began for the purpose of ending civil wars. All sport-centred activities were of religious character. As the ancient Olympic Games were of religious origin, they were conducted in Olympia. Over time, running distances increased, new and different games were added to the schedule, soldiers began to use armour in warfare, art and philosophy were understood better and great interest was shown in the Olympic Games; therefore, the program was enriched and changed, and the competitions were increased from one to five days (Er et al., 2005). However, the active or passive attendance of married women was banned at the ancient Olympic Games for religious reasons (Memis and Yildiran, 2011). The Olympic Games had an important
function as one of the elements aimed at uniting the ancient Greeks culturally, but this ended when the games were banned by Emperor Theodosius 1st in 393-4 A.D. (Balci, 2008).

Sparta, which is located in the present-day Mora peninsula, was an agricultural state that had been formed by the immigration of Dors from the 8th century B.C. Spartan education provided an extremely paternalistic education, which sought the complete submergence of the individual in the citizen and provided him with the attributes of courage, complete obedience and physical perfection (Cordasco, 1976). In Sparta, where the foundations of social order constituted iron discipline, military proficiency, strictness and absolute obedience, the peaceful stages of life had the character of a “preparation for the war school” (Aytac, 1980). The essential thing that made Hellenic culture important was its gaining new dimensions with distinctive creative power regarding cultural factors that this culture had adopted from the ancient east, and its revealing of the concept of the “perfect human” (Iplikcioglu, 1997).

Children stayed with their family until they were seven years old; from this age, they were assigned to the state-operated training institutes where they were trained strictly in war and state tasks.
Strengthening the body and preparing for war took a foremost place in accordance with the military character of the state. Girls were also given a strict military training (Aytac, 1980). The same training given to the boys was also given to the girls. The most prominent example of this is the girls and boys doing gymnastics together (Russel, 1969). Although physical training and music education were included, reading, writing and arithmetic were barely included in Spartan education (Binbasioglu, 1982).

Unlike Sparta, the classical period of Athenian democracy (Athens had advanced trade and industry) included the Persian Wars and Peloponnese Wars, and Cleisthenes’ democratic reforms and the ending of sea domination in domestic policy. As this democracy covered “the independent layer”, it took the form of an “aristocratic democracy” (Aytaç, 1980). Learning was given great importance in the Athenian democracy. The sons of independent citizens received education in grammar and at home or private school. Music education and gymnastic training were carried out in “Gymnasiums” and “Palestrae”, which were built and controlled by the state; running areas were called “Dromos”, and chariot race areas were termed “Hippodromes” (Aytac,
Children older than 12 years started receiving sports training and music education in Athens, where the military training was barely included. Athenians insisted on the aesthetical and emotional aspects of education. Therefore, the best art works of the ancient world were created in this country (Binbasioglu, 1982).

As in the 5th century B.C., Greek education was unable to appropriately respond to new developments; Sophists emphasised the development of traditional education in terms of language and rhetoric in an attempt to overcome the crisis. Sophists provided education in the morals, law, and the natural sciences in addition to the trivium, grammar, rhetoric, dialectic) (Aytac, 1980). Greeks considered physical training prudent and important because it developed the body and organised games conducive to the gathering of large crowds; in these games, all regions of Greece were represented (Balci, 2008).

Rome constitutes the second most important civilisation of the Ancient age. In Rome, the family played the strongest role in education, and the state did not have much say or importance. While exercise constituted the means of education in Ancient Rome, the purpose of this education was “to raise a good citizen”, such that each person had a skilled, righteous and steady character. Physical training
was provided in addition to courses such as mythology, history, geography, jurisprudence, arithmetic, geometry and philosophy; this training was provided in Grammar schools, where basic teaching covered the “Seven free arts” (Aytac, 1980).

Due to the Scholastic structure of the Middle Ages, values respecting the human were forgotten. However, the “Renaissance” movement, which started in Europe and whose ideas inform the modern world, developed many theories related to education and physical training and attempted to apply this in various ways; the development of these ideas was continued in “The Age of Enlightenment”.

THE RENAISSANCE

General Aspects of the Renaissance: The word renaissance means “rebirth”; in this period, artists and philosophers tried to discover and learn the standards of Ancient Rome and Athens (Perry et al., 1989). In the main, the Renaissance represented a protest of individualism against authority in the intellectual and social aspects of life (Singer, 1960).
Renaissance reminded “Beauty” lovers of the development of a new art and imagination. From the perspective of a scientist, the Renaissance represented innovation in ancient sciences, and from the perspective of a jurist, it was a light shining over the shambles of old traditions. Human beings found their individuality again during this era, in which they tried to understand the basics of nature and developed a sense of justice and logic. However, the real meaning of “renaissance” was to be decent and kind to nature (Michelet, 1996).

The Renaissance was shaped in Italy beginning from the 1350s as a modern idea contradicting the Middle Ages. The creation of a movement for returning to the old age with the formidable memories of Rome naturally seemed plausible (Mcneill, 1985). New ideas that flourished in the world of Middle Age art and developed via various factors did not just arise by accident; incidents and thoughts that developed in a social context supported it strongly (Turani, 2003). Having reached its climax approximately in the 1500s, the Italian Renaissance constituted the peak of the Renaissance; Leonardo da Vinci observed the outside world, people and objects captiously via his art and Niccolo Machiavelli’s drastically analyzed nature and use of politics through his personal experiences and a survey of classical writers (Mcneill, 1985).
The Concept of Education and Approaches to Physical Training during the Renaissance

The humanist education model, which was concordant with the epitomes of the Renaissance, was a miscellaneous, creative idea. Its goal was to create an all-round advanced human being, “homo universale”. At the same time, such an educational epitome necessarily gained an aristocratic character. This educational epitome no longer provided education to students at school (Aytac, 1980).

In 14th century, the “humanist life epitome” was claimed. The humanism movement was gradually developing and spreading; however, in this phase, humanism-based formation or practice was not in question.

In the history of humanity, the humanism period has been acknowledged as a ‘transitional period’. Modern civilisation and education is based on this period. Philosophers, such as Erasmus, Rabelais, Montaigne and Luther, flourished during this period. Universities began to multiply, and latitudinarianism was created. Scholastic thought was shaken from its foundations at the beginning of this period via the influence of Roger Bacon, who lived during the 13th Century. Original forms of works constituting the culture of
Ancient Athens and Rome were found, read, and recreated concordantly; moreover, the ideas of latitudinarian, old educators such as Quintilianus were practiced. In teaching methods, formulae enabling pupils to improve their skills and abilities were adopted. Students started to learn outdoors, in touch with nature. Strict disciplinary methods gave way to rather tolerant methods. The importance and value of professional education were acknowledged (Binbasioglu, 1982). Positive sciences, such as history, geography and natural history were not given a place in the classroom for a long time, but Latin preserved its place until recent times (Aytac, 1980).

With Desiderius von Erasmus, who was alive during the height of European humanism, humanism adopted its first scientific principle: “Return to sources!”; for this reason, the works of ancient writers were published. Erasmus’ educational epitome consists of a humanist-scientific formulation; however, it does not externalise the moral-religious lifestyle. Having worked to expand humanity into higher levels, Erasmus summarises the conditions for this quest as follows: good teachers, a useful curriculum, good pedagogical methods, and paying attention to personal differences among pupils. With these ideas, Erasmus represents the height of German humanist pedagogy (Aytaç, 1980).
On the other hand, Martin Luther considered universities as institutions where “all kinds of iniquity took place, there was little faith to sacred values, and the profane master Aristotle was taught imprudently” and he demanded that schools and especially universities be inspected. Luther thought that schools and universities should teach religiously inclined youth in a manner heavily dependent on the Christian religion (Aytac, 1980). Alongside these ideas, Luther made statements about the benefits of chivalric games and training, and of wrestling and jumping to health, which, in his opinion, could make the body more fit (Alpman, 1972).

The French philosopher Michel de Montaigne, known for his “Essays”, was a lover of literature who avoided any kind of extreme and was determined, careful and balanced. In his opinion, the aim of education was to transfer “ethical and scientific knowledge via experiments” to pupils. De Montaigne believed that a person’s skills and abilities in education, which can be called natural powers, are more important than or even superior to logic and society (Binbasioglu, 1982).

The Humanist movement has played a very significant role in educational issues. This movement flourished in order to resurrect the
art and culture of ancient Athens and Rome with their formidable aspects, thereby enabling body and soul to improve concordantly with the education of humans (Alpman, 1972). Humanism was not a philosophical system but a cultural and educational program (Kristeller, 1961).

The necessity of physical training along with education of soul and mind has been emphasised; for this reason, physical practices and games have been suggested for young people. It is possible to see how the humanists formed the foundations of the Renaissance, beginning from the 14th century to the 18th century and working from Italy to Spain, Germany, France and England. Almost all of the humanists stated the significance of physical training in their written works on education (Alpman, 1972).

One of the humanists, Vittorino da Feltre may have viewed it as the most pleasant goal of his life to raise a group of teenagers and fed and educated poor but talented children at his home (Burckhardt, 1974). Feltre practiced a classical education in his school called “Joyful Residence”. In accord with Ancient Greek education concepts, he claimed that benefits were provided by the education of body and soul through daily exercises such as swimming, riding and swordplay,
and generating love towards nature via hiking; he also emphasised the importance of games and tournaments (Alpman, 1972; Aytac, 1980).

Enea Silvio de Piccolomini is also worthy of attention; alongside his religious character, he thought that physical training should be emphasised and that beauty and power should be improved in this way (Alpman, 1972). de Piccolomini attracted attention to the importance of education as a basis for body and soul while stressing the importance of avoiding things that cause laxity, games and resting (Aytac, 1980).

Juan Ludwig Vives, a systematic philosopher who had multiple influences, in one of his most significant works “De Tradendis Disciplinis”, which was published in 1531, advised such practices as competitive ball playing, hiking, jogging, wrestling and braggartism, beginning from the age of 15 (Alpman, 1972).

The German humanist Joachim Camerarius, who managed the academic gymnasium in the city of Nürnberg, is also very important in relation to this subject. Having practicing systematic physical training at the school in which he worked, Camerarius wrote his work, “Dialogus de Cynnasis”, which refers to the pedagogical and ethical
values of Greek gymnastics. In this work, he stressed such practices as climbing, jogging, wrestling, swordplay, jumping, stone throwing and games that were practiced by specially selected children according to their ages and physical abilities, all under the supervision of experienced teachers (Alpman, 1972).

The Italian Hieronymus Mercurialis’ De Arte Gymnastica, first published in Latin in Venice in 1569, contained very little on the Olympic Games. Indeed, the author was hostile to the idea of competitive athletics. The Frenchman Petrus Faber’s Agonisticon (1592), in its 360 pages of Latin text, brought together in one place many ancient texts concerning the Olympics but was disorganised, repetitive and often unclear (Lee, 2003). The first part of the De Arte Gymnastica included the definition of Ancient Greek gymnastics and an explanation of actual terminology whereas the second part contained precautions about the potential harms of exercises practiced in the absence of a doctor. Moreover, he separated gymnastics practised for health reasons from military gymnastics (Alpman, 1972).
The Transition to the Age of Enlightenment: Reformation, Counter-reformation and the Age of Method

The Age of Reformation: The most significant feature of European cultural life during this age was the dominant role played by religious issues, unlike the Renaissance in Italy (Mcneill, 1985). This age symbolises the uprising of less civilised societies against logic-dominated Italy (Russell, 2002). Bearing a different character from Renaissance and Humanism, the Reformation did not stress improvements in modern art or science, but rather improvements in politics and the Church; consonant with this, its education epitome emphasised being religious and dependent on the Church. Nevertheless, both Humanism and the Reformation struggled against Middle Ages scholasticism, and both appreciated the value of human beings (Aytac, 1980).

The Counter-reformation Movement: In this period, which includes the movement of the Catholic church to retake privileges that it had lost due to the Reformation, the “Jesuit Sect” was founded to preach, confess and collect “perverted minds” once again under the roof of the Catholic church via teaching activities (Aytac, 1980).
The Age of Method: Also known as the Age of Practice, this period saw efforts to save people from prejudice, and principles for religion, ethics, law and state were sought to provide systematic knowledge in a logic-based construction. Aesthetic educational approaches, which were ignored by religion and the Church because of the attitudes prevailing during the Reformation and Counter-reformation, were given fresh emphasis. Bacon, Locke, Ratke, Komensky, Descartes and Comenius are among the famous philosophers who lived during this period (Aytac, 1980).

The Age of Enlightenment

General Features and Educational Concepts of the Enlightenment

The Enlightenment Period had made itself clear approximately between 1680 and 1770 or even 1780. Science developed into separate disciplines, literature became an independent subject, and it was demanded that history also become independent (Chaunu, 2000).

During this period, educators transformed the concept of education from preparing students for the afterlife into preparing them for the world around them, so that they could be free and enlightened.
Moreover, educators of the period were usually optimistic and stressed the importance of study and work. At school, students were educated in such a way as to engrain a love of nature and human beings. Based on these ideas, learning was undertaken by experiment and experience (Binbasioglu, 1982).

William Shakespeare mentioned the concept of “Fair Play” and the ideas of “maintain equality of opportunity” and “show the cavalier style of thinking” at the end of the 16th century; by the 18th century, these ideas were included in sport (Gillmeister, 1988). Systematic changes in the foundations of the principles of fair play that occurred in the 19th century were directly related to the socio-cultural structure of Victorian England (Yildiran, 1992).

**The Concept of Physical Training during the Enlightenment and Its Pioneers**

Ideas and epitomes produced prior to this period were ultimately practiced in this period. Respected educators of the period stressed the significance of physical training, which appealed only to the aristocracy during the Renaissance; simulating the education system of the Ancient Age, educators started to address everyone from all classes and their views spread concordantly in this period.
John Locke: The Enlightenment reached maturity during the mid-to late eighteenth century. John Locke lead player in this new intellectual movement (Faiella, 2006), was most likely the most popular political philosopher during the first part of the 18th century, who stressed the necessity of education (Perry et al., 1989). Locke’s “Essay on Human Intellect” is acknowledged as his most prominent and popular work (Russell, 2002). His work, “Notions of Education” stressed the importance of child health, advised children to learn swimming and to maintain their fitness. Moreover, Locke noted that such activities as dance, swordplay and riding were essential for a gentleman (Alpman, 1972) and that education should be infused with game play (Binbaşoğlu, 1982).

Jean Jacques Rousseau: in his work, Emile, the philosopher from Geneva discussed educational matters in regard to the principles of nature (Russell, 2002). In this work, which he wrote in (1762) Rousseau argued that individuals should learn from nature, human beings or objects (Perry et al., 1989), and expressed his notions concerning the education of children and teenagers (Binbasioglu, 1982). Rousseau held that children should be allowed to develop and learn according to their natural inclinations, but in Emile, this goal was achieved by a tutor who cunningly manipulated his pupil’s
responses (Damrosch, 2007). The aforesaid education was termed “Natural education” of the public or “education which will create natural human beings” (Aytaç, 1980). Emile exercised early in the morning because he needed strength, and because a strong body was the basic requirement for a healthy soul. Running with bare feet, high jumping, and climbing walls and trees, Emile mastered such skills as jogging, swimming, stone throwing, archery and ball games. Rousseau demanded that every school would have a gymnasium or an area for training (Alpman, 1972).

Philanthropists and Philanthropinums

Before Pestalozzi organised his schools, there was a very important and influential movement in Germany to carry out some of the practical reforms in teaching methods that had been suggested in Rousseau’s Emile. Those reforms were successfully realised in certain experimental schools, one of which (Salzmann’s) continued in operation for over a century (Parker, 1912). Philanthropists who have contributed to the development of educational science have as their ideal the provision of enlightened education for citizens, and the world
and life were considered in their perspective of serving a certain, beneficial practice. The movement started from uniting “general features” rather than characterising features that separated people. Education should emphasise the practical enlightenment of human beings. Supporters of this movement called themselves “Philanthropists” (lovers of man) who in their opinion, not only should theoretical information be given in lessons, but students should also visit ateliers and have the chance to travel and go on tours. These supporters emphasised the regulation of classes in such a way as to provide students with “pleasure and joy” ideas of and contributed considerably to the improvement of “game play” and “sports” in education, accordingly (Aytac, 1980).

Johann Bernhard Basedow and the Dessau Philanthropinum: Basedow, who was born in Hamburg in 1724, thought that decency and the security of the state was proportionate to the happiness of the public and that the safest way to achieve this was through education (Aytac, 1980). Basedow aimed at the education of the human being as a whole. He emphasised practical knowledge over intellectual training and athletics, and attacked the rigid distinction between “work” and “play” by insisting on frequent breaks; he also suggested teaching languages not by rote memorisation but as a kind of game. Students
were to be educated to become independent citizens who could take care of themselves in their future lives (Kuehn, 2001). Acknowledged as the pioneer of the “Philanthropy” movement, in accord with the example provided by Ancient Greece, the “Dessau Pentathlon”, which was regulated by Basedow, consisted of a quintet of exercises: jogging, jumping, climbing, balance and carrying exercises; this was completed complemented by ball-playing games, and ring and shot rolling. Emphasising such studies as carpentry and gardening, this school founded modern gymnastics (Alpman, 1972).

Christian Gotthilf Salzmann and Schnepfenthal Philanthropinum: Salzmann’s school, which was founded in 1784 at Schnepfenthal farm, developed over a short time and continues to exist today (Alpman, 1972; Aytaç, 1980). Constructed away from the city and presenting a family ambiance, this school became immediately popular because students were given equal rights; this school adopted the programs of the Dessau school and provided expanded gymnastics programs (Alpman, 1972). At this school, physical education, nature study, school gardening, and geographical and other excursions, etc. were organised more effectively than in any other school since that time (Parker, 1912).
Johann Christian Friedrich GutsMuths: Having been born in Quedlinburg, GutsMuths (1759-1839) attended Salzmann’s school and continued his education there. After advancing his experience in gymnastics, he completely took over the entire class and improved gymnastics by turning it into a system (Alpman, 1972). He based the theory of gymnastics on physiological factors and pointed to the benefits of gymnastics for body and soul from a national and aesthetic perspective. Stating that the aim of gymnastics was to provide a balanced relation between soul, mind and body, GutsMuths had very important ideas about games (Capan, 1999).

The Concept of Gymnastics and the Individuals who Contributed towards it during the 19th Century

Gymnastics was put on a scientific basis by GutsMuths and Vieth in Germany and gained a methodical approach based on Pestalozzi’s efforts in Switzerland. Jahn, who presented gymnastics to the public by separating it from the parochial of educational institutions, has been acknowledged as the father of gymnastics (Turnvater). Amaros, however, who acted in accord with the basics espoused by Pestalozzi, was influenced by Jahn and overemphasised militaristic gymnastics, separating gymnastics practices into various disciplines (Alpman, 1972: 166,178).
Johann Heinrich Pestalozzi: Pestalozzi defined education as “the natural, progressive, harmonious development of all the powers and faculties of the human being” (Monroe, 1912). Bringing a new concept to gymnastics education, Pestalozzi discusses “Natural Gymnastics”, following an order that is concordant with child development. Believing that skilful, experienced, brash and successful youth could only develop on the game field, not in schools, Pestalozzi tried the “Stepping Principle” which is a method of systematically practicing known and trusted movements (Capan, 1999).

Gerhard Ulrich Anton Vieth: One of the people who helped to provide gymnastics with a scientific aspect, Vieth discussed the effects of exercise on the body and soul (Alpman, 1972).

Friedrich Ludwig Jahn: Known as the pioneer of gymnastics in Germany, Jahn benefited dramatically from the opinions of Basedow and GutsMuths (Capan, 1999). Jahn developed the use of apparatus in gymnastics, such as parallel bars, the chinning bar, horse and rings. Jahn’s goal was to develop generations of students who had body strength, who could give their lives for their country, swim well, use a sword, jump, jog and wrestle. In Jahn’s opinion, gymnastics could only be performed outdoors in the presence of the community;
therefore, even the smallest settlements should have an area set aside for gymnastics (Acet, 1999).

Pehr Henrik Ling: An early form of gymnastics was invented by Per Henrik Ling, the father of Swedish gymnastics, and this was later developed by his son, Hjalmar Ling. Part of the Ling system, termed pedagogical gymnastics, consisted of “daily gymnastic training exercises”, which showed how gymnastics should be taught and performed (Meebach, 2003). Ling observed the social and economic structure of his country and generated a new system based on science and physiology. Its aim was to give harmony and concord to the body, and the system was not intended to have any effect other than its curative effect (Capan, 1999: 48). Accordingly, Ling’s system is quite different from common gymnastics and requires no apparatus at all; the effect of these exercises is so important upon the mind and body that it may be worth noting their advantages to counteract prejudices that have hitherto opposed the general introduction of this system into schools, colleges, universities and military establishments (Rothstein, 1853). In this system, participants begin with easy exercises before advancing to more challenging ones; the exercises are practiced very slowly in order to enable the muscles to stretch to their utmost. In his work, ‘‘Basics of Gymnastics’’, Ling discussed the human organism,
pedagogy, the military, and the functions of gymnastics (including teachers and tools) (Acet, 1999).

**Modern “Reformist Education Movements”**

Germany constitutes the hometown of reformist education movements during 1900-1933. Modern “reformist education movements” always aimed at changing current education radically based on their world vision, aims, content and methods (Aytac, 1976).

The term “Reformist education movements” is covered by concepts such as “Educational reform movements”, “Reform movements in education” or “School reform movements” in the pedagogical literature. The meaning covered is as follows: changes in the basis of social policy and philosophy of culture that put forward new demands in education for different purposes; various reform manifestations that are willing to directly change education in various fields of social and cultural life; teaching didactic-directed reform applications aimed at changing schools through reforming their internal and external structure since the end of the 19th century (Aytac, 1976).
The “Child-initiated” movement left its mark at the beginning and during the first period (1900-1914) of modern educational reform movements. According to this movement, children are not small adults but are different in both mental and physical development and are individuals. A consistent principle of the child-initiated movement is “abandon to grow” (Aytac, 1976).

“Rural Education Dormitories”, which emerged with an enormous power in the last quarter of 19th century, were intended as community housing in accordance with youth structure and for the development of a lifestyle that suited the young. Therefore, education with the meaning of providing character was brought to the forefront while gaining knowledge was relegated to secondary importance (Aytac, 1976).

The requirement for a movement that began with necessary life activities gave way to an individually qualified race to reach “the best and the most virtuous” with the Greeks. The Olympic Games, which were played to earn moral success and honour, were among the most important organisations of its time. Just as a school system based on physical education emerged in the Ancient Age, and just as a health-oriented physical education mentality became dominant in the
Hellenistic Age, during which agonal gymnastics took a backseat, it was possible to discuss body movements performed for the purposes of preparation for war and military service during the Roman Era.

Just as physical education pertained to chivalry in the Middle Ages, during which body care and physical education were rejected, so too the idea of physical education was renewed in the 15th and 16th centuries with the Renaissance, meaning “rebirth”. Highly important philosophers lived and worked during the humanist period, which is accepted as a “transitional period” in the history of mankind. All of these philosophers proposed the requirement of body building for developing the soul and the ideal man based on a completely humanistic education; for this reason, they recommended body exercises and outdoor games for the young.

Ideas and ideals that had been generated prior to the Enlightenment were practiced in this era. Physical education was intended for everyone and began to proliferate, and this appealed to aristocrats only during the Renaissance period, which emulated ancient times. Philosophers belonging to that period discussed the importance of physical education and gaining that character. While opportunities existed for children to visit workplaces and travel was
allowed in courses that stood out as being simply based on theory, the
leaders tried to make the courses “joyful and amusing” for children by
“philanthrops”; “Philanthropinums” were the cradle of gymnastics,
and the Schnepfenthal Philanthropinum, which was founded at
Schnepfenthal farm, has continued in existence to this day (Alpman,
1972; Aytac, 1980).

Gymnastics, based upon a scientific foundation provided by
GutsMuths and Vieth in Germany, gained a methodological basis
through the work of Pestalozzi in Switzerland. Jahn Iken Amaros
classified gymnastic movements into various sections after having
taken gymnastics from the narrow framework of educational
institutions into the public domain (Alpman, 1972).

The “Child-initiated” movement, which accepted children as
being different from adults in terms of their mental and physical
development and considering the child as an individual, has left its
mark on the beginning of modern education reform movements.
“Rural Education Dormitories” placed education to the forefront in the
sense of building character (Aytac, 1976).
Antiquity shed light on the following periods and has been a guiding light that was clearly understood from educator’s and scientist’s attempts in the next period. As the works of educators’ emphasised physical education during the Enlightenment period, so body development gained more and more importance. The Humanists who understood the importance of the antic era of gymnasium and emphasised the place of physical education as well as scientific knowledge in general education set up convenient training centres.