

Université de Nantes  
UFR STAPS

Année universitaire 2010/2011

1ère session – 1er semestre

Année d'étude : M1  
Spécialité : MEF  
Enseignants responsables : *J-Luc Bodin., Benoît Huet*

Etudiants dispensés d'assiduité.  
Durée de l'épreuve : 2 H00  
Documents autorisés : oui.

**UEF 2 : Formation scientifique et disciplinaire générale.**  
**EC 2.1 : EPS et développement des ressources psychosociales.**

Traitez un des deux sujets proposés

Sujet A (20 points) :

Développez, argumentez l'affirmation suivante:

« Nous démontrerons que l'utilisation de la procédure dite « en montante-descendante », au-delà des avantages pratiques qu'elle présente pour l'enseignant, s'avère être un levier particulièrement inefficace pour tendre vers une équité de traitement de tous les élèves. »

Sujet B (20 points) :

Commentez l'article de la revue EPS n° 343 :

«Le rugby mixte, une richesse éducative en EPS » Jean-Jacques Sarthou - 2010

Université de Nantes  
UFR STAPS

Année universitaire 2010/2011

1ère session – 1er semestre

Année d'étude : M1  
Spécialité : MEF

Enseignants responsables : *Guy DERSOIR,*  
*Claude LEVEAU*

Etudiants dispensés d'assiduité.

Durée de l'épreuve : 2 H00

Documents autorisés : oui

**EC 2.2 : EPS et développement des ressources physiques.**

Traitez un des deux sujets proposés

**Sujet A (20 points) :**

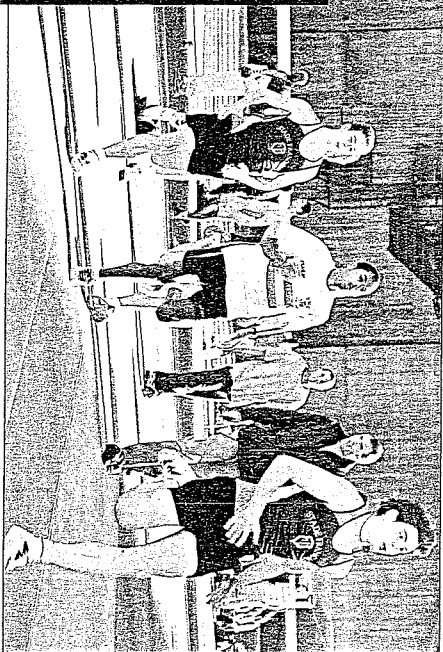
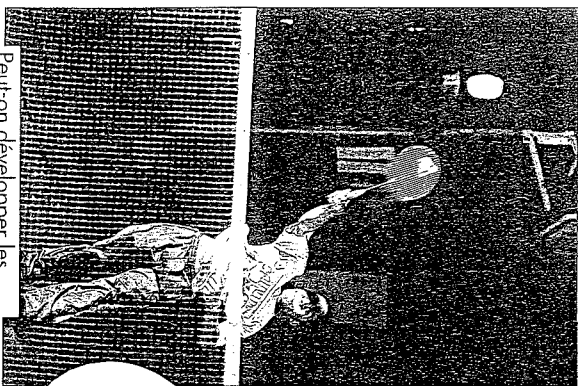
**Développez, argumentez l'affirmation suivante:**

*« Nous démontrerons que la pratique des exercices brefs, intenses et répétés chez les élèves de collège revêt un intérêt particulier pour augmenter leurs aptitudes aérobies et anaérobies »*

**Sujet B (20 points) :**

**Commentez l'article de la revue EPS n° 286 et montrez l'intérêt pour l'enseignant d'EPS de s'inspirer de cette proposition dans sa pratique professionnelle:**

*« Aérobie : étude comparée de 6 APSA », C. GINDRE, 2000.*



MARC BEAUDENON

## ÉTUDE COMPARÉE DE ACTIVITÉS PHYSIQUES

Peut-on développer les qualités aérobies des élèves indépendamment de l'activité enseignée ? L'auteur tente de montrer comment l'enseignant peut faire du développement aérobie un objectif transversal applicable, sans souci à chaque séance toute l'année, quelle que soit l'activité enseignée.

PAR C. GINDRE

Les physiologistes nous ont montré que les exercices doivent être suffisamment soutenus et ne pas s'interrompre au-delà de quelques semaines pour prétendre améliorer la filière aérobie [1]. Or si l'impact aérobie des exercices d'endurance est bien établi, il reste à le confirmer pour de nombreuses autres activités physiques. Nous nous proposons de rendre compte du niveau aérobie atteint par des élèves de première au cours de situations d'apprentissage pratiquées dans six activités physiques différentes.

### LE DÉVELOPPEMENT DES QUALITÉS AÉROBIE

Continuité et intensité des sollicitations sont les deux conditions requises pour assurer le développement de la filière aérobie de transformation d'énergie (encadré 1). La continuité suppose une répétition des efforts au moins deux fois par semaine sans marqueur d'interruption allant au-delà de quelques semaines [2]. Pour chaque exercice, une durée de 15 à 20 minutes réalisée à une intensité proche de 70 % de la fréquence cardiaque maximale de l'élève semble un minimum pour permettre les progrès.

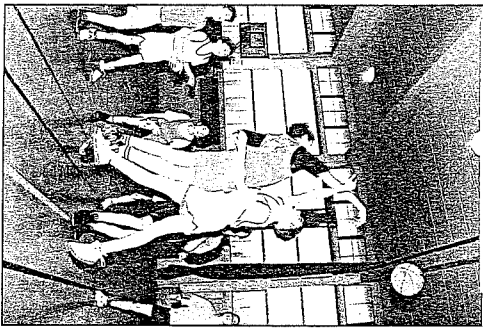
1. La filière aérobie

Les processus métaboliques assurant la transformation de l'énergie des substrats en utilisant l'oxygène de l'air comme accepteur final sont appelés aérobie. En pratique la filière aérobie correspond à l'ensemble des intensités d'effort permettant le développement des qualités aérobies. Physiologiquement, ces qualités traduisent l'aptitude de l'organisme à extraire, transporter et utiliser l'oxygène pour « produire de l'énergie ». La fréquence cardiaque est un indicateur relativement précis du niveau de sollicitation de la filière aérobie [4].

Temps maximal d'exercice sans arrêt	aucun	aucun	30 min	20 min	15 à 20 min	5 min
Vitesse moyenne élève en km/h	9	10,2	11,6	13,1	14,6	
% d'oxygène consommé	80	70	80	90	90	Vo <sub>2</sub> max
% de FC	70	80	90	95	100	

\* VO<sub>2</sub> max : consommation maximale d'oxygène  
 → % Vo<sub>2</sub> max : pourcentage aérobie du moment. La vitesse aérobie Vo<sub>2</sub> max est appelée vitesse maximale aérobie (VMA).

JACQUES POCHARD



MARC BEAUDENON

Le problème est de déterminer si les élèves se situent à ce niveau d'effort dans les situations d'apprentissage qu'ils réalisent en cours d'éducation physique. Pour le savoir, nous avons relevé les fréquences cardiaques de 20 élèves, garçons âgés de 17 à 19 ans appartenant à une classe de première de lycée professionnel, dans six situations d'apprentissage effectuées respectivement en badminton, basket-ball, endurance, escalade, football et volley-ball (encadré 2). Afin de déterminer leur fréquence cardiaque maximale, les élèves ont également accompli le test progressif de course de Léger-Bouchet [3]. L'ensemble de l'expérimentation s'est déroulé sur sept leçons d'une heure, entre février et mars 1998.

### RÉSULTATS ET DISCUSSION

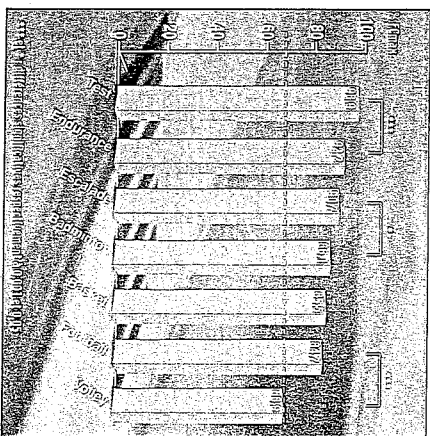
Les résultats des élèves au test de course sont présentés dans le tableau ci-contre. La figure ci-dessous présente les moyennes des FC relevées (en % du maximum) obtenues au cours des six situations d'apprentissage. Dans cinq situations, l'effort est suffisant pour participer au développement des qualités aérobies des élèves. Seul le volley-ball ne peut être retenu sous la forme étudiée.

Il est remarquable de constater combien le classement établi à partir des situations d'apprentissage est semblable à celui des activités sportives, réalisé en fonction de la consommation physique qu'elles imposent ou de la consommation (suite page 34)

### Résultats du test de course

	VMA (km/h)	FC maximale (puls/min)
Valeur la plus élevée	18,4	204
Valeur la plus faible	11,8	180
Moyenne (n = 20)	14,6	194,4
Déviations standard	1,8	7,6

Classement des activités en pourcentage de la fréquence cardiaque maximale (le trait pointillé représente le niveau minimal théorique de développement).



FREDERIC ALEPEE



MARC BEAUDENON

2. Les situations d'apprentissage

Dans tous les cas étudiés, les séances prennent corps dans une cohérence de cycle établie en tenant compte des caractéristiques des élèves. Les situations proposées sont avant tout déterminées par les objectifs de cycle et articulées de manière à permettre un investissement énergétique conséquent (règles et objectifs nécessitant un déplacement important).

**Badminton**

**Mise en place**

1 contre 1 sur terrain de badminton de double (lignes extérieures), en trois manches de 5 min., récupération 3 min. Opposition homogène, un seul adversaire.

**Objectifs/réussite**

Marquer plus de points que mon adversaire. Le point est marqué lorsque le volant tombe au sol sans être touché par mon adversaire.

**Volley-ball**

**Mise en place**

3 contre 3 sur terrain de 16 m sur 8 m, en trois manches de 5 min., récupération 3 min. Opposition homogène entre les équipes, niveaux hétérogènes dans les équipes.

**Objectifs/réussite**

Marquer plus de points que mon adversaire. Le point est marqué lorsque le ballon tombe au sol sans être touché par mon adversaire.

**Remarque :** en badminton et en volley-ball, ces situations concernent un cycle centré sur l'intention « jouer où l'autre n'est pas » et s'appliquant aux déplacements et aux déplacements.

**Football**

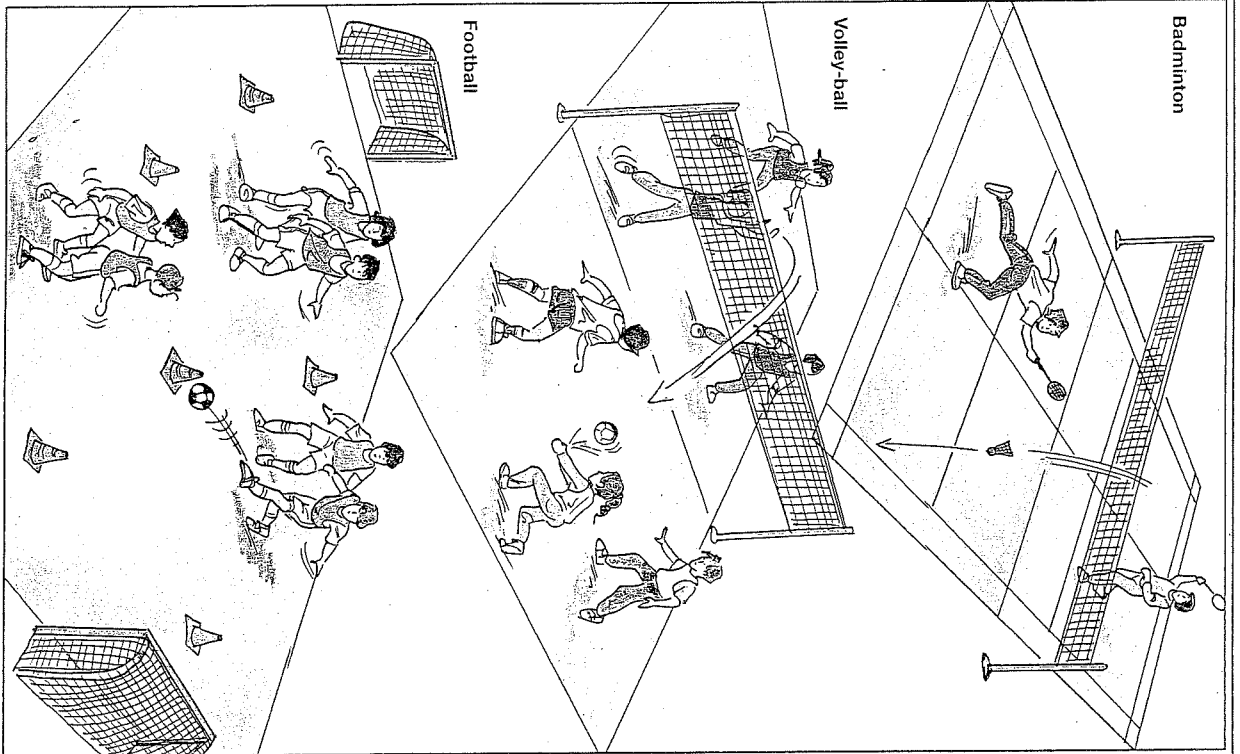
**Mise en place**

3 contre 3 avec placement libre sur un terrain de 20 m sur 20 m (demi-terrain de handball). Trois matches de 5 min., dans 3 situations différentes, récupération 3 min.

Opposition homogène entre les équipes, niveaux hétérogènes dans les équipes.

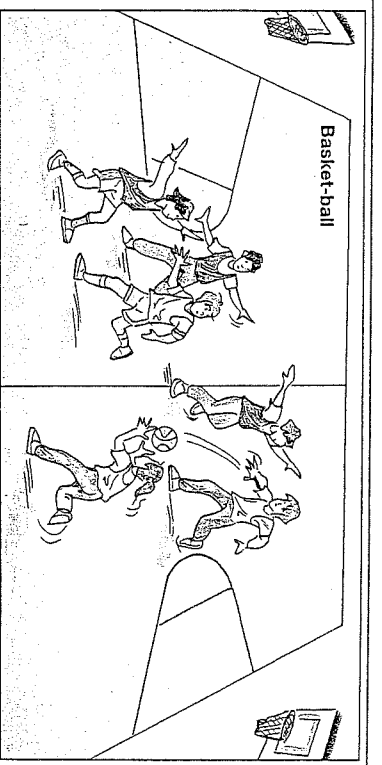
**Objectifs/réussite**

**Situation 1 :** renverser le plus de cônes avec le ballon. Un cône renversé égal un point marqué par l'équipe, l'élève qui a renversé le cône le relève. Le jeu se déroule en continu.



CARMEN MÜLLER

**Basket-ball**



**Situation 2 :** renverser le plus de cônes dans « sa » couleur. **Situation 3 :** arrêter le ballon sur une ligne délimitant le terrain. On ne peut arrêter le ballon deux fois de suite sur la même ligne. **Situation 4 :** arrêter le ballon sur une ligne de « sa » couleur.

**Basket-ball**

**Mise en place**

3 contre 3 sur terrain de 20 m sur 15 m. Trois matches de 5 min., en montées/descentes, récupération 3 min. L'équipe qui a gagné le match monte d'un terrain. Opposition homogène entre les équipes, niveaux hétérogènes dans les équipes.

**Objectifs/réussite**

Marquer plus de points que l'équipe adverse. Se rapprocher du terrain des « meilleurs ».

**Règle de jeu**

Quand le marqueur le panier, le reste en possession de la balle et le change de panier d'attaque.

**Endurance**

**Mise en place**

3 x 5 min., de 30 s. - 30 s. Depuis la ligne de départ, l'élève court 30 s., récupère 30 s. sur place et repart en sens inverse pour 30 s. de course.

Par deux : un coureur et un observateur qui note à chaque course, la distance réalisée.

**Objectifs/réussite**

Pour relâche : parcourir au moins la distance correspondant à sa vitesse maximale aérobie (vitesse du dernier palier réalisé au test de Léger-Bouchet). Être régulier (différences entre les courses inférieures à 10 m). Pour la classe : arriver tous ensemble sur la ligne « départ-arrivée ».

**Escalade**

**Mise en place**

2 x 5 min de montées/descentes, récupération 4 min. Trois voies de difficulté différente selon le niveau des élèves.

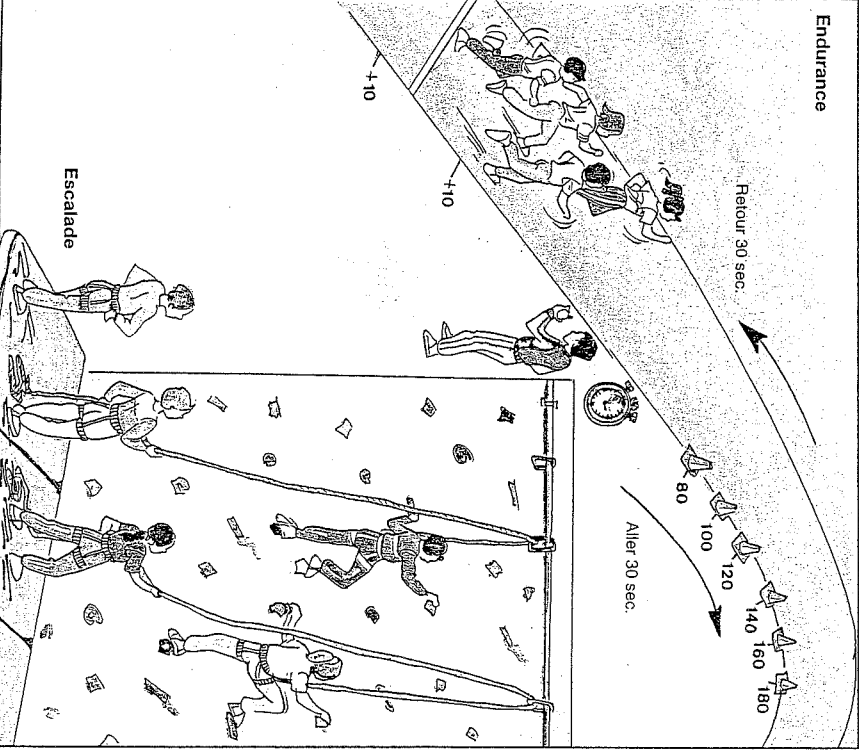
**Objectif**

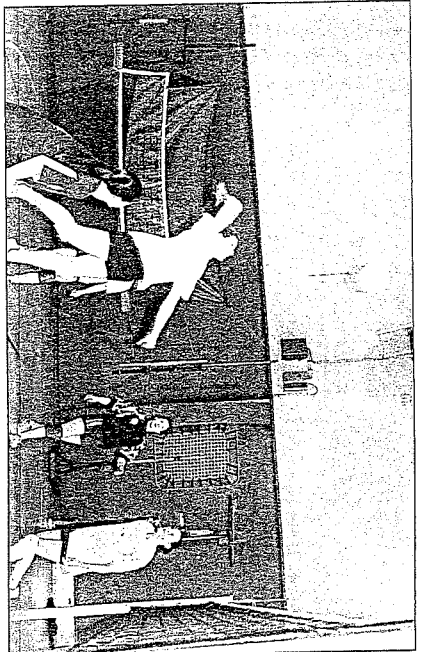
Cumuler le dénivelé le plus important.

**Remarque**

En co-observation, si l'observateur se rend compte que l'élève utilise toujours les mêmes prises, il supprime une prise particulièrement intéressante pour lui.

CARMEN MÜLLER





MARC BEAUDENON

nation maximale d'oxygène des sportifs qui la pratiquent [4] et [5]. Concernant les cinq activités autres que le volley-ball, on peut distinguer deux groupes. Le premier composé du badminton, du basket-ball et du football sollicite 83 % de la FCMA alors que l'endurance et l'escalade provoquent une adaptation cardiaque à plus de 90 % de FCMA. La différence entre ces groupes est significative ( $p < 0,05$ ).

Dans les situations étudiées, les élèves ont pratiqué entre 20 minutes (escalade) et 30 minutes (badminton, basket-ball, football) alors que nous disposons d'une leçon d'une heure. De tels efforts sollicitent la filtre aérobie de manière marquée. Cette observation constitue une base très favorable laissant penser que l'objectif « aérobie sans souci » est réalisable.

#### CONCLUSION

Notre préoccupation est de fournir à l'enseignant d'EPS des indices lui permettant d'asseoir sur des bases solides une stratégie de développement à long terme des qualités aérobie des élèves. Dans les conditions étudiées le badminton, le basket-ball, l'endurance, l'escalade et le football peuvent servir cet objectif.

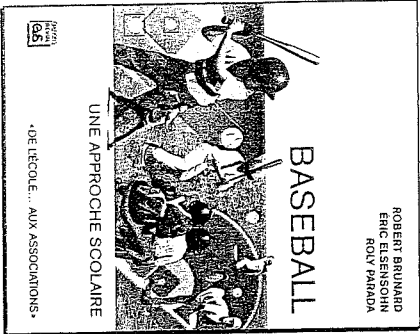
Le caractère effectif de ce développement reste à établir par une étude longitudinale. Reste également à apporter à l'enseignant les moyens de fixer et de vérifier aisément le niveau d'effort atteint par les élèves.

Cyrille Gindre  
Professeur EPS.

#### Bibliographie

- (1) Whinnoc (J.H.), Coшил (D.L.), *Physiologie du sport et de l'exercice physique*. Paris, Bruxelles, Ed. Deboeck Université, 1998.
- (2) Méadel (W.D.), Kaech (F.), Kaech (V.), *Physiologie de l'exercice physique : Energie, Nutrition et performance*. Paris, Ed. Vigot Edissem, 1994.
- (3) Lager (L.), Boucher (R.), "An indirect continuous running multistage field test : the université de Montréal Track Test". *Can J Appl Sports Sci*, 1980, 5:77-84.
- (4) Astrand (P.O.), Rodahl (K.), *Pédic de physiologie de l'exercice musculaire*. Paris, Ed. Masson, 1994.
- (5) Sahlin (B.), Astrand (P.O.), "Maximal oxygen uptake in athletes". *Int J Appl Physiol*, 1967, 23:353-8.

à paraître en décembre

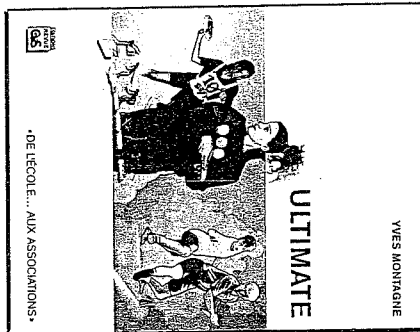


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Année universitaire 2010/2011

1<sup>ère</sup> session, 1er semestre

Année d'études : **M1 MEF EPS**  
Enseignants responsables : Philippe Macquet,  
Julien Salliot

Durée de l'épreuve : **4h**  
Documents autorisés : **aucun**

**UEF 2 *Formation scientifique et disciplinaire générale***

**EC 2.3** : Déterminants politiques, sociaux et économiques, et évolutions du système éducatif

**EC 2.4** : Fondements socio-historiques de l'Education Physique et Sportive

**Sujet :**

« Depuis la fin du XIX<sup>e</sup> siècle, le système scolaire a subi des transformations visant officiellement à favoriser l'égalité des chances des élèves. En quoi l'éducation physique est-elle traversée par cette problématique ? »

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Année universitaire 2010/2011

1<sup>ère</sup> session, 1er semestre

Année d'études : *MI MEF-EPS - D.A*  
Enseignants responsables : *G. Dersoir, B. Huet,*  
*B. Lebouvier, J. Le Nuz*

Durée de l'épreuve : *1h30*  
Documents autorisés : *aucun*

**UE n°3 : Analyse des situations d'intervention**  
**EC n°3.4 : Dispositifs d'observation et d'analyse**  
**des situations d'Enseignement-apprentissage**

**Sujet :**

Présentez une approche théorique et méthodologique des situations d'enseignement-apprentissage permettant d'étudier l'une des dimensions suivantes :

- les comportements des enseignants et/ou des élèves en situation de classe
- les interactions langagières à caractère didactique en situation de classe
- les interactions entre élèves dans les contextes d'apprentissage coopératif

Vous prendrez soin de préciser le cadre théorique dans lequel s'inscrit l'approche retenue ainsi que les outils de recueil de données appropriés à cette approche.

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1<sup>ère</sup> session, 1er semestre

Année d'études : *MEF 1- DA*  
Enseignant responsable : *Philippe Amarouche*

Durée de l'épreuve : *2h*  
Documents autorisés : *aucun*

**UEF 1 - Tronc commun**  
**EC 1.2 - Projet professionnel**

**Sujet :**

Les enseignements de cet EC visent à articuler des problématiques de conception de projet de recherche, et de projet professionnel.

***Expliquez en quoi votre projet de recherche s'inscrit dans une démarche qui questionne les enjeux actuels du métier d'enseignant EPS, et/ou d'une formation à ce métier ?***

Vous organiserez votre réponse en vous appuyant sur les éléments qui organisent la profession de professeur d'EPS : les textes officiels et programmes de la discipline, les savoirs de la discipline et les questions éthiques posées par la relation pédagogique.



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1<sup>ère</sup> session, 1<sup>er</sup> semestre  
Dispensés d'assiduité.

Année d'études : *Master 1 MEF*  
Enseignant responsable : *Franck Le Goff*

Durée de l'épreuve : *2 h.*  
Documents autorisés : *aucun.*

**UE n° 3** *Analyse des situations d'intervention*  
**EC n° 3.1** *L'activité dans les situations sportives comme objet d'analyse pluridisciplinaire. Activité/contraintes/effets. Approches anthropologique et sociologique.*

**Sujet :** Peut-on dire que les apprentissages sportifs visent le corps et l'esprit ?

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Année universitaire 2009/2010

1<sup>ère</sup> session, 1<sup>er</sup> semestre

Année d'études : M1 MEF  
Enseignant responsable : Sève Carole, Jacques  
Saury

Durée de l'épreuve : 2H  
Documents autorisés : *sans*

**UEF 3 : Analyse des situations sportives**  
**EC 3.2 Analyse de l'activité : approches psychologiques et ergonomique**

**Sujet :**

En quoi le fait de recourir à une théorie cognitiviste ou à une approche située de l'apprentissage influe-t-il sur les stratégies d'enseignement en EPS ? Illustrez avec des exemples de situations d'apprentissage et de modalités d'intervention variées.

*Note* : la réponse au sujet doit être organisée en respectant les exigences minimales d'un devoir (une introduction, un développement, une conclusion)

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Année universitaire 2010/2011

1<sup>ère</sup> session, 1er semestre

Année d'études : *MEF 1*  
Enseignant responsable : *Stéphane MORIN*

Durée de l'épreuve : *2 heures*  
Documents autorisés : *aucun*

**UE UEF 3 : Analyse des situations d'intervention**

**EC 3.3 - Activité / contraintes / effets : approches physiologiques et biomécaniques**

Sujet :

Tous les enfants et les adolescents devraient être physiquement actifs tous les jours ou presque. Ils devraient pratiquer des activités physiques d'intensité moyenne ou plus élevée, trois fois ou plus chaque semaine, pendant au moins 20 minutes.

En tant que futur enseignant d'EPS vous proposerez :

- un plan de "mise en mouvement" des élèves qui prennent en compte toutes les activités des élèves (scolaire et extra scolaire)
- un ou plusieurs outils objectivant l'effort des élèves et permettant son suivi annuel

Vous justifierez et illustrerez vos propositions.

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Année universitaire 2010/2011

1<sup>ère</sup> session, 1<sup>er</sup> semestre

Année d'études : M1 MEF DA  
Enseignant responsable : Julie MORERE

Durée de l'épreuve : 2 :00  
Documents autorisés : aucun

UE 1  
EC 1.4 Anglais

Write a **150-word abstract** of the article reprinted below:

Jobling, A. "Physical education for the person with Down syndrome: More than playing games?" *Down Syndrome Research and Practice*. 1994; 2(1): 31-35.

Think of **5 keywords** in relation with this article.

Give **your own opinion** about this article (100 words).

# Physical education for the person with Down syndrome: More than playing games?

Anne Jobling

Assistant Lecturer  
Fred and Eleanor Schonell Special  
Educational Research Centre  
The University of Queensland  
Australia.

Children and adolescents with Down syndrome are at risk from a wide range of physical problems and difficulties that may interfere with their attainment of motor milestones and subsequent motor skill development. Such children present challenges for teachers and therapists as they require carefully considered instruction and the maintenance of quality in physical education practices. These practices need to ensure not only that injuries are prevented but that the person's developing physical abilities are not further handicapped by poorly acquired movements or techniques.

However, quality in physical education instruction involves more than just its 'physical' expression. It also requires that children have access to, and learn to understand, the knowledge-based set of principles, practices and values into which the 'physical' expression of the skill or movement fits. Skills acquired and practised are learnt, not just for their own sake, but to be used in different activity contexts. Children need to be taught to understand their skills in everyday movement and games activities.

An emphasis on more than just the 'physical' expression of skill enables the physical education program to present and develop exciting challenges and problems. These can be presented in an enjoyable way which will assist not only the physical, but also the social, emotional and cognitive growth of the individual.

Rather than adopting a restrictive remedial focus for those with Down syndrome, quality in physical education programs can provide learning experiences in all aspects of development which can lead to positive attitudes, and the adoption of an active and healthy lifestyle.

Graham (1992) defined and described a process of teaching which results in a qualitatively successful physical education program. He used the Franck et al (1991) definition of a 'physically educated person' to propose that Physical Education is "about more than simply keeping children busy, happy and good two or three days a week" (p.8) but that quality physical education programs are about the development of a 'physically educated person'. 'Physically educated persons' are individuals who can demonstrate the following attributes:

- \* they have learnt skills necessary to perform a variety of physical activities.
- \* they are physically fit.
- \* they participate regularly in physical activities.
- \* they know the implications of and benefits from involvement in physical activities.
- \* they value physical activity and its contribution to a healthy lifestyle.

Graham (1992) p.8-9.

However, do children with Down syndrome have the opportunities to learn the above aspects of physical education and thus the means to become a physically educated person? Or do their difficulties and deficits in the motor development area lead to modified, selective and adapted-type programs that limit their attainment of this status? I suspect the latter is often the case, so it may be useful to consider programs in terms of the five attributes of the 'physically educated person'.

© 1993, 1999. The Down Syndrome Educational Trust  
Down Syndrome Research and Practice  
1994, 2 (1) 31-35

Firstly, do programs provide opportunities to learn skills that will enable the performance of a variety of physical activities?

To enable the body to move efficiently and effectively, many personal physical characteristics and developed skills need to work together. Strength, agility, postural stability, speed, coordination and reaction time form the basis from which more complex skills such as throwing, catching and kicking can be developed. As these complex skills are refined and practised, games and sports can be played.

The motor skills of children with Down syndrome are reported to be below their age-matched peers and even in some cases below other persons with intellectual disability (Burns & Gunn, 1993; Block, 1991). Studies have also indicated specific deficits in aspects of movement such as timing (Henderson, Morris & Frith, 1981), balance (Shurway-Cook & Woolacott, 1985) and co-ordination, as well as in physiological aspects such as muscle tone and strength (Harris, 1984). The development of motor skill proficiency through childhood and into adolescence is slower for those with Down syndrome and in some areas they persistently make slow progress that is below their mental age (Jobling and Gunn, in press).

Physical education programs need to address these problem areas specifically, but also to focus on the development of a comprehensive complement of movement abilities that can be developed and practised. These should include activities involving body awareness, space awareness and the concepts of balance, time and effort in movement (Barham, 1993; Sherborne 1990). At all ages these aspects of movement and their quality development are the basic requirements for the successful progression to other more complex skills.

Varied opportunities for practice can be given in games and sports as well as in dance, gymnastics, and in leisure pursuits such as walking, fishing and cycling.

Many programs in physical education are chronologically age-based. As the person with Down syndrome is known to be delayed in motor development, this style of programming may lead to little progress and frustration for the child. The age-appropriateness of activities deemed necessary as part of these programs may be of little value if the children and adolescents do not have the basic movement skills required. It would be more beneficial for the child and the physical education teacher to consider the basic movements in the skill development. This means a 'back to basics' approach, with the person with Down syndrome considered as a novice learner rather than as an age-appropriate participant. Ask yourself: if you can't do this and you have these abilities and/or disabilities where would you start to teach the skill and how?

As yet we do not know how skilled in movement children with Down syndrome can become, so we must be careful about modifying motor skills. Although the equipment and the environment may need to be modified and/or adapted, modifications to the performance of the actual skill may not be appropriate. You may need to break down the skill into small components, teach each of these specifically before 'chaining' all the pieces gradually together again to form the whole.

Also, in the learning of motor tasks, errorless learning (that is a learning approach which enables errorless practice, supported as necessary until the skill is mastered) is important as incorrectly learnt movements or faults in style are extremely difficult to correct. Can you remember that faulty golf, tennis or swimming stroke that you never corrected, or the old habit that was hard to break? There is the further disadvantage that incorrect motor skill patterns, especially if repeated frequently, can cause injury.

The practising of movements and skills is vital. However, constant repetition of skills can make sessions boring. Thus, practice routines and sessions need to be creative and varied. There needs to be plenty of pertinent, purposeful, progressive, paced and participatory practice (Stedentop, 1993). This practice also needs to be pleasurable as enjoyment is a key element in motivation to continue with an activity.

The learning context for skill development needs to establish a 'mastery climate': one that encourages improvements and efforts rather than performances and ability (Roberts & Treasure, 1992). The facilitation of a 'mastery' learning environment for those with Down syndrome includes not only the physical skills but also the teaching and learning of social and emotional aspects related to the game or the activity. Thus, children and adolescents with Down syndrome can learn about themselves, about their abilities and the abilities of others in the game situation, about winning and losing, and about doing their best.

Secondly, do the programs provide opportunities to become physically fit?

The general fitness level in children, adolescents and adults with Down syndrome is low and is believed to have both a motivational and physiological basis (Farnhall, Tymeson, Miller & Burkett, 1989; Plett, Climstein, Campbell, Barrett & Jackson, 1992). It is suggested that some of this may be due to syndrome-specific conditions such as heart problems, but it seems also that there is a lack of expectations in programming. Individuals with Down syndrome have a tendency to become obese in childhood (Cronk, Chumlea & Roche, 1985) which leads to an adolescent and adult who is less likely to participate in physical activity.

It is acknowledged that this, of course is true of all obese children, not just those with Down syndrome. Heart and respiratory problems, and abnormalities in thyroid function in some children, as well as orthopaedic problems, may also contribute to low activity levels and the lack of participation in activities of a vigorous nature. Children and adults with Down syndrome require some skill in locomotion and a certain level of muscular strength in order to gain fitness benefits from their activities. This can be difficult for individuals with Down syndrome. These factors need consideration, and remediation needs to provide alternatives to prevent the adoption of a sedentary lifestyle.

So, activities in physical education need to be carefully taught and chosen for their fitness benefit. For example, an adolescent program may include social dance rather than social bowling, or cycling instead of cricket (for a list of activities with fitness benefits see Corbin & Lindsey, 1984).

Laban is a useful resource for teachers to help encourage this learning (Laban, 1971).

Wall (1990) discussed a knowledge-based approach to motor skill acquisition for children with developmental delays. It was suggested that there are five types of knowledge about actions that could assist in the development of motor skills. These were:

1. knowledge about the body and how it functions motorically with relationship to the object (holding the ball) and the context (throwing the ball into the basket or ring, passing the ball) - that is the movement interaction between the person, the equipment and the environment (in the game, i.e. netball).
2. knowledge about how to perform a movement sequence (leap, frog) or action (catching); to develop an understanding of each aspect of the action perceptually, and then to put this perceptual information into an order which generates a response, to initiate and execute the task. These motor tasks in sequence then need to be understood in relationship to the game.
3. knowledge about subjective feelings of self-confidence and competence in the activity situation and the development of the ability to deal with low self-worth which could lead to discontinued participation. The use of music and a style of activities such as Sherborne's relationship play in movement classes can assist in this aspect (Sherborne, 1990).
4. self-knowledge about skills, which are the 'best' skills and 'what' skills need to improve? Knowledge of the 'when', 'what' and 'how' to participate in relationship to choosing to participate?
5. Knowledge about how to think (mental rehearsal) about moving, an awareness developed from talking, observing and solving movement problems such as those that children can discover using Laban's analysis of movement. These are the relationships between the concepts of time in movement - quick and slow, or levels of movement - high and low, or space of movement - big and small as they occur in actions.

Physical education programs for children and adolescents with Down syndrome should include all these opportunities to learn to understand both kinesthetically and cognitively movements within skills (quick/slow release the ball) and also the movement sequence or motor skill (throwing or kicking) within the game or activity context. Games have etiquette, strategies, tactics and rules, and opportunities to learn them are part of this knowledge-based approach. An understanding of these will enable young people with Down syndrome not only to play, but to be more informed about their play and, as a spectator, to appreciate the skills of elite performers who may also be their 'heroes'.

The development of self-perception about their motor skill abilities and an understanding of the concepts within games such as winning and losing and 'doing your best' are related to this type of knowledge and a young person's understanding of it. Therefore, these aspects should be an essential aspect of any physical education program.

Another suggestion to help create opportunities for the development of fitter young people with Down syndrome is to relate certain activity aspects of the physical education 'get-fit' program to classroom programs. Corbin (1991) suggests that there are many factors which influence the development of fitness and an integrated approach in programming is essential to ensure exercise involvement. In health and home economics the teacher could assist children to develop an athletes' eating plan, and in geography, an around Australia/England run or cycle could be simulated on the school oval or field.

**Thirdly, do the programs provide opportunities to participate in regular physical activities?**

Opportunities to participate in regular physical activities are often restricted in two ways. Firstly, children and young people with Down syndrome often do not have the skill level necessary to participate. Secondly, there is a certain lack of spontaneity because many of their activities are structured and organised by adults rather than by peers (Cheseldine & Jeffrey, 1981 and Buckley & Sacks, 1987). Thus, 'spur of the moment' activities are sometimes difficult and in many cases non-existent.

However, worthwhile participation can be developed and encouraged. It may not just happen! The skills developed for a variety of physical activities need to be related to participation in a realistic way for the individual either through family or community groups. Experiences given need to be related to the development of skills. For experience without skills or skills without experiences leave the learner without the context and/or the ability to regularly participate. Young people with Down syndrome need opportunities to be able to use what they have learnt.

These opportunities need to be realistically related to the lifestyle of their families initially, and then to the individuals' own independent way of life. The range of opportunities must also allow for choice, not only between various activities, but also between various levels of involvement for the young person. The levels of involvement can be along a continuum from competitive to recreational or from segregated to integrated. Young people need to have both the skills and the knowledge to make choices, and also to be able to change that choice later if they desire to do so.

The social contacts and networks that are developed from regular participation, as with all of us, bring the social benefits and friendships that are part of being in a club, group or team. These may be of greater benefit to the young person with Down syndrome than the activity itself.

**Fourthly, do the programs provide opportunities to know and understand about physical activities and education?**

Young people with Down syndrome need to be taught to understand movement; the where, what and how about their movements. There is a need for them to develop an understanding of the 'feeling' of movement, and to process this feedback information in order to repeat movement and movement sequences in their skill development. The 'feeling' of movement or kinesthesia is an important factor in movement retention (Geron, 1986). The movement work of

**Fifthly, do the programs provide opportunities to learn to value physical activity as part of their life?**

The affective domain should also be considered in quality physical education programs. Young people with Down syndrome need opportunities to learn to cherish activities, gain enjoyment from them and thus to remain active throughout their lives. In order to do this, young persons with Down syndrome need not only the skills to play but also the ability to be able to relate physical activity to other aspects of life. They need to feel good about themselves, to gain from their personal achievements and to have fun times with family and friends.

The motivation to remain active for people with intellectual disabilities has often been seen as a major problem facing those who teach them. Both Scanlan (1990) and Czikszenmihalyi (1985 & 1990) view enjoyment as a prime motivator in the person's continuing involvement in activity. Czikszenmihalyi (1985) considers that when an individual's skills and the challenges of the activity are held in 'balance' an effect which he calls 'flow' is produced. This feeling of 'flow' about the activity enables the person to continue to participate without personal boredom or anxiety. The activity becomes enjoyable, repeatable and valued for its own sake.

**Conclusion**

It has been asserted here that there are five aspects in the planning of learning opportunities that are vital to the quality physical education program for children, adolescents and adults with Down syndrome. They should not be considered as separate aspects or content areas, but be interwoven throughout the programs from kindergarten to adulthood. For some persons with Down syndrome, development and the learning of skills and concepts may take longer than for others. Each child's needs are different and progress may be slow. But no matter how limited the potential of the person with Down syndrome may seem or how burdened school resources in physical education are, to be 'physically educated' is essential. Modification in the rate of progress and in the instructional steps as well as in some equipment items may be necessary, however opportunities should be given.

Aspects of programming should not be discarded because children with Down syndrome are considered too slow or the task is perceived as too difficult. All the five presented opportunities to learn must be addressed in a continuing program that enhances success. Physical education programs that provide only fitness routines, or games experiences or remedial-type instruction can be developmentally limiting for the child and adolescent with Down syndrome. Such programs neglect the aspects in physical education that are vital to the young person's continued understanding and enjoyment of physical activity. Therefore, in terms not only of physical development but also in terms of the young person's social, emotional and cognitive growth, the quality physical education curricula needs to address the interweaving of its 'physical' expressions with opportunities that help the individual to develop an understanding of activity and its value to health and self-worth across the lifespan. This gives children, adolescents and adults with Down syndrome an opportunity to become a 'physically educated person'.

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