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Is an active lessons program feasible and acceptable to teachers and students in a UK secondary school?

Submission date
13/02/2017

Recruitment status
No longer recruiting

Registration date
17/02/2017

Overall study status
Completed

Last Edited
27/11/2020

Condition category
Mental and Behavioural Disorders

[X] Prospectively registered
[ ] Protocol
[ ] Statistical analysis plan
[X] Results
[ ] Individual participant data

Plain English summary of protocol

Background and study aims
There is a lot of research showing that physical activity is beneficial for health. During adolescence levels of physical activity decline, and time spent being inactive (sedentary), which has detrimental health consequences, increases. Half of an adolescent's day is spent sitting during the school day and as such, schools may be an ideal avenue for increasing physical activity in adolescents. Early work conducted with teachers and students found that introducing 'Active Lessons' for increasing physical activity among adolescents in schools would be acceptable. Active lessons incorporate physical activity into the teaching of academic content, and show promise as a means of increasing physical activity among primary school students. The aim of this study is to look at their feasibility and effectiveness for increasing physical activity among secondary school students. Added 04/08/2017: This study record has been amended to include the pilot study.

Who can participate?
Pilot and feasiblity study:
Teacher participants in this study will be employed at one of the enrolled schools. Student participants in this study will be in years 7-10 at one of the three enrolled schools.

What does the study involve?
A group of 60 students (feasibility study) or 65 students (pilot study) from each participating year group is chosen at random to help the research team understand how well the active lessons program works." Those chosen students have their height, weight, physical activity and well-being measured before the active lessons program starts. The research team carry out some classroom observations to measure student's attention during typical desk-based lessons. After this, teachers attend a training session during which they are introduced to ways to make their current lesson plans more active. The teachers complete some questionnaires. Teachers then have a 'trial period' (about two weeks) during which they attempt to deliver active lessons to their students. After the trial period teachers attend a second training session during which they discuss barriers and challenges to delivering active lessons and the trainers help them find solutions to those challenges. At the end of the second training session teachers complete

another questionnaire. After the second training session the teachers start a 6-week period of delivering active lessons. In the final two weeks of the study, teachers and students complete some questionnaires and attend group discussions about their active lessons experience. Students have their physical activity measured and the research team carry out some classroom observations during active lessons to measure student's attention.

What are the possible benefits and risks of participating?
The students participating in the study receive a physical activity feedback report at the end of the study. The active lessons training for the teachers introduces a new teaching style that educators may wish to incorporate into their lessons in the future. The risks of taking part in the study are minimal. To reduce the risk of injuries occurring during the active lessons, all teachers delivering the intervention are trained to complete a risk-benefit analysis for their classroom. The team delivering the teacher training also encourages all teachers to be aware of the range of physical abilities of students within their group, encourages them to incorporate physical activities which can be completed by all students. This minimises the risk of students experiencing physical and psychological discomfort during active lessons.

Where is the study run from?
UKCRC Centre for Diet and Activity Research (CEDAR), MRC Epidemiology Unit, University of Cambridge School of Clinical Medicine (UK)

When is the study starting and how long is it expected to run for?
Feasibility Study: February to June 2017
Pilot Study: August 2017 to March 2018

Who is funding the study?
Department of Health Policy Research Program (UK)

Who is the main contact?
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Scientific

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Additional identifiers

Protocol serial number
RG70065

Study information

Scientific Title
Creating Active School Environments (CASE): Testing the feasibility of an active lessons intervention for secondary school students.

Acronym
CASE

Study objectives
An active lessons programme will be feasible and acceptable to students and teachers in a secondary school setting.

Ethics approval required
Old ethics approval format

Ethics approval(s)
1. School of Humanities and Social Sciences (CSHSS), 01/12/2016
2. Amendment #1: 27/01/2017
Added 04/08/2017: Approval for the pilot study: 23/06/2017

Study design

Current as of 04/08/2017:
Feasibility study: Single-centre non-randomised feasibility trial
Pilot Study: Multi-centre non-randomised pilot study

Primary study design
Interventional

Study type(s)
Other

Health condition(s) or problem(s) studied
Physical activity and mental wellbeing

Interventions
Current interventions as of 04/08/2017:
The intervention comprises two, 2-hour active lessons training sessions. These training sessions are delivered to secondary school teachers of all subjects at each of the two schools randomised to the intervention condition. The school randomised to the control condition receives no intervention/treatment. Computer software is used to randomise schools into intervention (2 schools) and control (1 school) conditions. An external team (3-4 people) with expertise in developing and delivering active lessons will deliver the teacher training sessions.

During the first training session teachers at intervention schools are advised on how to incorporate physical activity into their teaching of academic content. Teachers subsequently have a 'trial period' (1-2 weeks), during which they attempt to deliver active lessons. After the trial period, teachers will attend a second training session with the external team of experts (delivered at the intervention schools). During the second training session teachers will discuss barriers and challenges to delivering active lessons which arose during the trial period. After this second training session, the delivery period will commence when teachers will be asked to deliver active lessons on a regular basis.
A sub-set (N=65 per year group) of students from intervention and control schools will be randomly selected to participate in study evaluation measures. All teachers attending the teacher training sessions will also be invited to participate in study evaluation measures. Student and teacher participants at intervention and control schools will complete baseline measurements approximately one week prior to the first training session. Teacher participants will complete some post-training measures after the second training session. Teacher and student participants will complete follow-up measurements approximately 8 weeks after baseline measures. The duration of the study is approximately 12 weeks.

Previous interventions:
Teachers will attend an active lessons training session, delivered at the intervention school by an external team of experts. During this training session teachers will be advised on how to incorporate physical activity into their teaching of academic content. Teachers will subsequently have a two week 'trial period', during which they will attempt to deliver active lessons. After the trial period, teachers will attend a second training session with the external team of experts (delivered at the intervention school). During this training session teachers will discuss barriers and challenges to delivering active lessons which arose during the trial period. After this second training session, the 6-week delivery period will commence when teachers will be asked to deliver active lessons on a regular basis. Teachers will be asked to deliver at least one active lesson per week. A sub-set (N=60 per year group) of all students receiving active lessons will be

randomly selected to participate in study evaluation measures. Student and teacher participants will complete follow-up measurements during the final two weeks of intervention delivery. The duration of the intervention is 10 weeks (from the first teacher training session to the last week of intervention delivery).

Intervention Type
Behavioural

Primary outcome(s)
Feasibility Study and Pilot Study:
Physical activity is measured using a wrist-worn accelerometer at baseline, and for a one-week period during follow up (~8 weeks after baseline measures).

Key secondary outcome(s))
Current secondary outcome measures as of 04/08/2017:
Feasibility Study and Pilot Study:
1. Student enjoyment is measured using a short version of the Positive and Negative Affect Scale at baseline and follow up (~8 weeks after baseline measures)
2. Student academic self-efficacy is measured using a validated questionnaire (Midgley et al., 2000) at baseline and follow up (~8 weeks after baseline measures)
3. Student disruptive behaviour is measured using a validated questionnaire (Midgley et al., 2000) at baseline and follow up (~8 weeks after baseline measures)
4. Student engagement in class is measured using a validated question (Jones, 2009) at baseline and follow up (~8 weeks after baseline measures)
5. Student quality of life is measured using a validated questionnaire (Stevens, 2009) at baseline and follow up (~8 weeks after baseline measures)
6. Student coping skills are measured using items from a validated questionnaire (Schroder, 1997) at baseline and follow up (~8 weeks after baseline measures) (Please note that this is not measured in the Pilot Study)
7. Student enjoyment of, and perceptions of the intervention are assessed using a series of questions adapted from those used by other groups who have explored the feasibility of active lesson interventions and through focus group discussions. These will be assessed at follow up (~8 weeks after baseline measures).
8. Teacher efficacy to deliver active lessons is measured using a validated questionnaire (Webster et al., 2013) at baseline, at the end of the second teacher training session, and follow up (~8 weeks after baseline measures)
9. Teacher's perceptions of the importance of promoting activity to children is measured using a previously used question (Edmundson et al., 1994) at baseline, at the end of the second teacher training session, and follow up (~8 weeks after baseline measures)
10. Teacher's perceptions of school support for, and the complexity and compatibility of incorporating physical activity into their classes are measured using a validated questionnaire (Webster et al., 2013) at baseline, at the end of the second teacher training session, and follow up (~8 weeks after baseline measures)
11. Teacher's mastery approaches and personal teaching efficacy are measured using a validated questionnaire (Midgley et al., 2000) at baseline, at the end of the second teacher training session, and follow up (~8 weeks after baseline measures)
12. Teacher's satisfaction with teaching is measured using a validated questionnaire (Ho and Au, 2006) at baseline, at the end of the second teacher training session, and follow up (~8 weeks after baseline measures)
13. The feasibility and acceptability of implementing active lessons are measured by asking teachers questions adapted from previous studies (e.g., Gibson et al., 2008 and Edmundson et

al., 1994) at follow up (~8 weeks after baseline measures). Questions will ask about classroom management during active lessons, teacher's enjoyment of teaching active lessons and their intentions to continue to deliver active lessons
14. Teachers' perceptions of the active lessons training program are measured using questions that ask teachers to rate the depth, relevance, clarity and completeness of the training at follow up (~8 weeks after baseline measures)
15. Recruitment rate of teachers is recorded as the number of eligible teachers who consent to participate in the study at baseline
16. Attrition rate is recorded as the number of teachers that consented to participate in the study at baseline that remained in the study until the end of follow up
17. Dose delivered to students is recorded as the number of active lessons a student receives per week at follow up (~8 weeks after baseline measures)
18. Student time-on-task is measured using classroom observations at baseline and follow up (~8 weeks after baseline measures)
19. Teacher's active lesson implementation rate is assessed by calculating the percentage of a teacher's total lessons that were delivered in an active way, during follow up (~8 weeks after baseline measures)

Previous secondary outcome measures:
1. Student enjoyment is measured using a short version of the Positive and Negative Affect Scale at baseline and once during the final two weeks of the intervention
2. Student academic self-efficacy is measured using a validated questionnaire (Midgley et al., 2000) at baseline and once during the final two weeks of the intervention
3. Student disruptive behaviour is measured using a validated questionnaire (Midgley et al., 2000) at baseline and once during the final two weeks of the intervention
4. Student engagement in class is measured using a validated question (Jones, 2009) at baseline and once during the final two weeks of the intervention
5. Student quality of life is measured using a validated questionnaire (Stevens, 2009) at baseline and once during the final two weeks of the intervention
6. Student coping skills are measured using items from a validated questionnaire (Schroder, 1997) at baseline and once during the final two weeks of the intervention
7. Student enjoyment of, and perceptions of the intervention are assessed using a series of questions adapted from those used by other groups who have explored the feasibility of active lesson interventions and through focus group discussions. These will be assessed during the final two weeks of the intervention.
8. Teacher efficacy to deliver active lessons is measured using a validated questionnaire (Webster et al., 2013) at baseline, at the end of the second teacher training session, and once during the final two weeks of the intervention
9. Teacher's perceptions of the importance of promoting activity children is measured using a previously used question (Edmundson et al., 1994) at baseline, at the end of the second teacher training session, and once during the final two weeks of the intervention
10. Teacher's perceptions of school support for, and the complexity and compatibility of incorporating physical activity into their classes are measured using a validated questionnaire (Webster et al., 2013) at baseline, at the end of the second teacher training session, and once during the final two weeks of the intervention
11. Teacher's mastery approaches and personal teaching efficacy are measured using a validated questionnaire (Midgley et al., 2000) at baseline, at the end of the second teacher training session, and once during the final two weeks of the intervention
12. Teacher's satisfaction with teaching is measured using a validated questionnaire (Ho and Au, 2006) at baseline, at the end of the second teacher training session, and once during the final two weeks of the intervention
13. The feasibility and acceptability of implementing active lessons are measured by asking

teachers questions adapted from previous studies (e.g., Gibson et al., 2008 and Edmundson et al., 1994) at the end of the intervention. Questions will ask about classroom management during active lessons, teacher's enjoyment of teaching active lessons and their intentions to continue to deliver active lessons
14. Teachers' perceptions of the active lessons training program are measured using questions that ask teachers to rate the depth, relevance, clarity and completeness of the training at the end of the second training session
15. Recruitment rate of teachers is recorded as the number of eligible teachers who consent to participate in the study at baseline
16. Attrition rate is recorded as the number of teachers that consented to participate in the study at baseline that remained in the study until the end of follow up
17. Dose delivered to students is recorded as the number of active lessons a student receives per week in one of the final two weeks of the intervention
18. Student time-on-task is measured using classroom observations at baseline and during the final weeks of the intervention
19. Teacher's active lesson implementation rate is assessed by calculating the percentage of a teacher's total lessons that were delivered in an active way, during one of the final two weeks of the intervention

Completion date
31/03/2018

Eligibility

Key inclusion criteria
Current as of 04/08/2017:
Feasibility and Pilot study:
1. Student participants must attend one of the schools enrolled in the study
2. Each school will select two year groups to participate in study evaluation measures (year 7 or 8, and year 9 or 10). Student participants must be in one of the two year groups that each school selects. Year group choices may vary by school
3. Teacher participants must be employed by one of the schools enrolled in the study
4. Schools invited to participate in this study are non-private schools
5. Schools invited to participate in this study are based in the East of England
6. Schools invited to participate in this study are mixed gender schools

Previous:
1. Year 7 and year 9 pupils
2. Attending schools participating in the study

Participant type(s)
All

Healthy volunteers allowed
No

Age group
Mixed

Sex
All

Total final enrolment
321

Key exclusion criteria
Current as of 04/08/2017:
Feasibility and Pilot study:
1. If any potential participant aged less than 16 years is judged, by the form teacher or the research team, to be unable to assent meaningfully, then they will not be included in the study.
2. Parents of potential student participants will be given the opportunity to opt their child out of the study evaluation. Students opted out of the trial by their parents will not be included in the pool of potential student participants, from which a random selection will be made.

Previous:
Private schools

Date of first enrolment
20/02/2017

Date of final enrolment
15/03/2017

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
MRC Epidemiology Unit, University of Cambridge
Cambridge School of Clinical Medicine, Box 285
Institute of Metabolic Science, Level 3
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Sponsor information

Organisation
University of Cambridge

ROR
https://ror.org/013meh722

Funder(s)

Funder type
Government

Funder Name
Department of Health Policy Research Program

Results and Publications

Individual participant data (IPD) sharing plan
The datasets generated during and/or analysed during the current study are not expected to be made available because the trialists stipulated in the participant information sheets and the ethics application that the data will not be shared with anyone outside of the study's research team. The data will be held at the MRC Epidemiology Unit at the University of Cambridge.

IPD sharing plan summary
Not expected to be made available

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	06/05/2019	27/11/2020	Yes	No
Study website	Study website	11/11/2025	11/11/2025	No	Yes