Grant Agreement Number 612367

Including Responsible Research and innovation in cutting Edge Science and Inquiry-based Science education to improve Teacher's Ability of Bridging Learning Environments

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Author(s)*: Jan Apotheker*

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Executive Summary

Ethics report.
In the description of work a number of actions were agreed upon. In this report the results of these actions is recorded.
This document contains the report of the ethics committee on the project.
It contains the master version of the documents used for the first Community of learners.
Included are also the documents used by the different partners. A list of signees is added for each country.

Glossary

Acronym/Abbreviation	Description
EC	European Commission
IRRESISTIBLE	Including Responsible Research and innovation in cutting Edge Science and Inquiry-based Science education to improve Teacher's Ability of Bridging Learning Environments
FP7	Seventh Framework Programme
DoW	Description of Work
PC	Project Coordinator
PSC	Project Steering Committee
WPL	Work Package Leader
WP	Work Package
IBSE	Inquired Based Science Education
RRI	Responsible Research and Innovation
CoL	Communities of Learners

1. Introduction

In the Description of Work for the project it was agreed that an ethical review of the whole project would be made. The committee to be approached is the ethical committee of the faculty of pedagogy and educational sciences at the university of Groningen.

After the Community of Learners are formed and before activities in the classroom are carried out, partners will inform their local ethics board and ask for a approval of the activities.

In this first report the response of the ethical committee of the University of Groningen is discussed, as well as the forms that have been used during the formation of the CoL's.

2. Actions taken

2.1 The Ethical Committee of the faculty of behavioural Sciences of the University of Groningen was approached on February 14 2014, using the appropriate forms. On March 4 2014 a letter(see appendix 1) was received from the committee stating:
The Ethics Committee sees no fundamental objections to the proposal concerning participants and has approved it

2.2 As indicated in the DOW informed consent forms will be used for both the participants in the CoL as well as for the students in the class that will participate in the project. As that still needs to start at this time we have included only the forms signed by the teachers. Both the English master version of the form as well as the forms used by the partners have been included in appendix 2.

2.3. In Appendix 3 the master form to be used to obtain parental consent is reproduced. This form will be used when material will be tried out in the classroom.

3. CONCLUSIONS

With this report we have fulfilled the requirements of the DOW.

Appendices

Appendix 1. Letter from Ethical Committee

rijksuniversiteit groningen / faculty of behavioural and social sciences / pedagogical and educational sciences

Ethics Committee PES
Drs. L.C. Hartemink-Bolt (secr.)
T 050 363 9162
l.c.hartemink-bolt@rug.nl
Grote Rozenstraat 38
9712 TJ Groningen

Drs. J.H. Apotheker
PO Box 407
9700 AK Groningen

March 4, 2014

Dear Mr Apotheker

research proposal

The Ethics Committee Pedagogical and Educational Sciences received your research proposal of the project Irresistible with number 612367.

The Ethics Committee sees no fundamental objections to the proposal concerning participants and has approved it.

Yours faithfully

On behalf of the Ethics Committee

Prof. dr. H.W.E. Grietens (chairman)

members
Prof. dr. mr. M.E. Kalverboer (vice- chairman)
dr. P.C.M. Bakker (member)
dr. H. Kuyper (member)
dr. D.D.N.M. Kostons (member)
drs. L.C. Hartemink-Bolt (secretary)

Appendix 2. RESEARCH PARTICIPANT SCHOOL CONSENT FORM

IRRESISTIBLE - A project on teacher training, combining formal and informal learning focused on Responsible Research and Innovation
(name of local university researchers)
Jan Apotheker, University of Groningen, Netherlands

We request your permission to conduct a Science Education research project at your school with select teachers and classrooms. This research project will begin in September 2014 and last until September 2016.

Purpose of Research

The project IRRESISTIBLE spreads activities designed to foster the involvement of students and the public in the process of responsible research and innovation (RRI) via a teacher training course.

In teacher training, our project uses Communities of Learners. Within the Community of Learners each group has a different role: teachers have expertise with working in the classroom; science educators have a large theoretical background about education; science centres have experience in informal learning activities. Our Communities of Learners include experts from the field of formal and informal education, both in research and practice.

Topics are chosen from cutting edge research taking place in the local universities, supported by the researchers that will be part of the Communities of Learners. The Community of Learners will work on modules to be used in the classroom. The teachers and the other experts will learn how to use these techniques by fitting the existing material into an Inquiry-Based Science Education format. They will then use this material in the classroom, if necessary being coached by the local experts in formal education.

Modules will be adapted based on the experience in the classroom. These modules will then be used in the second round. Each teacher will participate as a coach in a new Community of Learners with 4 to 5 other teachers. The teachers from round 1 will act as coaches and introduce the teachers from round 2 into the Inquiry-Based format used for teaching. The science centres will use or adapt their exhibition to draw attention towards the role of the research studied for society.

After the first two rounds, at least 25 teachers in the region of the partners will have used the materials and become familiar with using the informal learning setting of the partners' science centre, involving on average 1000 students after the first two years of the project in each country.

Specific procedures

The teachers involved in the project will attend meetings of the Community of Learners and adapt to their own students Inquiry-Based science education materials. During the training, they will be able to attend a web2.0 workshop to work with in their classrooms and plan how to integrate informal setting in their formal science teaching. The teachers will then use the materials in their classroom.

In the following year, the teachers will lead new Communities of Learners and act as coaches. They will continue to have access to their own improved materials and new inquiry-based materials in the project and are able to use them in their classrooms after the project.

Data collection

To evaluate the teaching materials and the effect of the teacher training, we will use one or more of the following methods: analysis of the products and documents produced in the programme; analysis of learning diaries of the leading teachers; analysis (recordings) of group discussions and interviews (pre-post) with representatives of COL's. In addition we will conduct a pre-post-questionnaire on students' and teachers' attitudes to RRI. This quantitative data will be complemented by qualitative content analysis of student work.

All of the materials collected for analysis will be kept strictly confidential and no names of students or teachers will be published alongside the results. The data will only be accompanied with the mention of the country it ascends from and the general information of its source (small or large, rural or city school; the age and sex of student).

Duration of study

This research project will begin in September 2014 and last until September 2016. The first community of learners operates in the first year, developing materials and using them in the classrooms. The data collection takes place during the teaching of the material and its timing depends on when the teacher chooses to implement the project.

Contact Information

If you have any questions about this research project, you can contact Professor Jan Apotheker, University of Groningen (j.h.apotheker@rug.nl) or <LOCAL REPRESENTATIVE> (e-mail).

Documentation of Informed consent

I have had the opportunity to read this consent form and have the research study explained. I have had the opportunity to ask questions about the research project and my questions have been answered. I agree to have the following teacher(s) at my school participate in the research project described above. I will receive a copy of this consent form after I sign it.

_____ _____

Printed teacher name Class

_____ _____

Printed teacher name Class

_____ _____
_____

Principal signature Printed name Date

_____ _____
_____

Researcher signature Printed name Date

Forms partner 1 Netherlands

TOESTEMMINGSFORMULIER VOOR ONDERZOEK - SCHOLEN

IRRESISTIBLE – Een project over docent-professionalisering gericht op verantwoord onderzoek en innovatie *(Responsible Research en Innovation - RRI)*, waarin formeel en informeel leren gecombineerd worden

Doel van het onderzoek

In het IRRESISTIBLE-project zal de komende jaren in elf landen gewerkt worden aan het betrekken van scholieren en het algemeen publiek bij het proces van *Responsible Research and Innovation.* Dit zal gebeuren via een professionaliseringstraject voor docenten, waarbij wetenschappers, vakdidactici en medewerkers van science centra betrokken zijn.

In dit project worden *Communities of Learners* gebruikt om docenten te trainen. In deze *Communities* zitten deelnemers met verschillende achtergronden: docenten hebben ervaring met werken in klassen; vakdidactici hebben theoretische kennis over educatie en medewerkers van science centra hebben ervaring met informeel leren. In de *Communities of Learners* zitten experts op zowel het gebied van formeel en informeel leren, zowel uit het onderzoek als uit de praktijk.

Vanuit het actuele onderzoek dat plaatsvindt op de universiteiten in de verschillende landen worden onderwerpen gekozen, de onderzoekers ondersteunen de *Communities of Learners* inhoudelijk. De *Communities* ontwikkelen lesmodules om deze onderwerpen aan bod te brengen in de klas. De docenten en andere experts verwerken het materiaal in het format van *Inquiry-Based Science Education* en leren zo deze methodes te gebruiken. Zij zullen het materiaal toepassen in de klas, zo nodig gecoacht door vakdidactici.

Gebaseerd op de ervaringen uit de lessen zullen de modules worden aangepast en gebruikt voor een tweede ronde, waarin iedere docent uit de eerste ronde als coach zal optreden in een nieuwe *Community of Learners* met 4-5 andere docenten. De coaches introduceren de nieuwe docenten in het format van *Inquiry-Based* lesgeven. Binnen de science centra zullen tentoonstellingen gebruikt of aangepast worden om aandacht te vestigen op de rol van het onderzoek voor de maatschappij.

Na de eerste twee ronden zullen zo tenminste 25 docenten in de regio van de partner het materiaal gebruikt hebben en vertrouwd geraakt zijn met het gebruik van informeel leren via het science centrum van de partner. Na de eerste twee jaar zullen landelijk zo'n 1000 leerlingen betrokken zijn geweest bij het project.

Werkwijze *Communities of Learners*

De docenten die betrokken zijn bij het project zullen bijeenkomsten van de *Community of Learners* bijwonen en gezamenlijk werken aan het ontwikkelen van een lesmodule over de rol van koolhydraten in moedermelk. Bij de Rijksuniversiteit Groningen wordt hier onderzoek naar gedaan, bij FrieslandCampina worden resultaten van het onderzoek toepast in hun

producten. De lesmodule wordt gemaakt in samenwerking met wetenschappers van de onderzoeksgroep in Groningen, medewerkers van FrieslandCampina en van Science LinX, het science centrum van de Rijksuniversiteit Groningen. De docenten zullen gedurende het project leren hoe zij een informele leeromgeving kunnen integreren in hun normale formele leeromgeving, en zullen de materialen in hun lessen gaan gebruiken.

In verband met het project betalen de docenten geen bijdrage aan deelname aan het docentontwikkelteam (normaal 750 euro) en vergoedt de RuG ook de reiskosten. De bijeenkomsten zullen plaatsvinden in Zwolle, nabij het station, op woensdagen van 16.00 tot 20.00. Data zijn voorlopig: 10 en 24 september, 8 en 22 oktober, 5, 12 en 26 november en 10 december. Op 17 december is er een docentendag in Groningen waar het materiaal gepresenteerd gaat worden. De geschatte studietijd is 60 uur.

Het jaar daarop zullen de docenten een nieuwe *Community of Learners* begeleiden en hierin als coach optreden. Zij zullen toegang houden tot hun eigen verbeterde lesmaterialen en de lesmaterialen van andere groepen binnen het project en zij zullen ook na afloop van het project toegang blijven houden tot de materialen.

Dataverzameling

Om het lesmateriaal en het effect van de docententraining te evalueren zullen we één of meerdere van de volgende methodes gebruiken: analyse van producten en documenten die tijdens het programma worden geproduceerd; eventueel analyses (opnames) van groepsdiscussies en interviews (zowel voor als na het programma) met vertegenwoordigers van de *Communities of Learners*. Hiernaast zullen zowel voor als na het project een vragenlijst worden afgenomen bij leerlingen en docenten om hun houding ten opzichte van *Responsible Research and Innovation* te monitoren. Deze kwantitatieve gegevens zullen worden gecombineerd met kwalitatieve analyses van de kennis van de leerlingen over de stof.

Alle verzamelde onderzoeksmaterialen zullen strikt vertrouwelijk worden behandeld en er zullen geen namen van leerlingen of docenten worden gepubliceerd samen met de resultaten. De gegevens zullen slechts begeleid worden door de vermelding van het land en algemene informatie over de herkomst (stads- of streekschool; leeftijd en geslacht van de leerlingen).

Lengte van de studie

Dit onderzoeksproject zal starten in september 2014 en duren tot september 2016. De eerste *Community of Learners* zal gedurende het eerste jaar het materiaal ontwikkelen en gebruiken in de lessen. Dataverzameling zal plaatsvinden wanneer het lesmateriaal wordt gebruikt, de timing hiervan is afhankelijk van wanneer de docent besluit het project te implementeren.

Contactinformatie

Voor vragen over het project kunt u terecht bij vakdidacticus scheikunde van de Rijksuniversiteit Groningen, Jan Apotheker (j.a.apotheker@rug.nl) of coördinator van de Nederlandse *Community of Learners* Eva Teuling (e.teuling@rug.nl).

Toestemmingsformulier

Ik heb de uitleg van het onderzoeksproject gelezen. Ik geef toestemming aan de volgende docent(en) van mijn school om deel te nemen aan het onderzoeksproject zoals hierboven beschreven. Na het ondertekenen van dit formulier ontvang ik hiervan een kopie.

_____ _____

Naam docent Klas

_____ _____

Naam docent Klas

_____ _____ _____

Handtekening schoolhoofd Naam schoolhoofd Datum

_____ _____ _____

Handtekening projectmedewerker Naam Datum

Teachers from the Netherlands

name teacher	school	city
Ton Schijvens	Haags Montessori Lyceum	Den Haag
Margreet de Boer	Zeldenrust-Steelant College	Terneuzen
Elma Schenkelaars	Gymnasium Arnhem	Arnhem
Jaap Bes	PABO HvR	Bleiswijk
Else Henneke	Linde College	Wolvega
Emely Meijerink	Reggesteijn	Nijverdal
Auke Cuiper	UT	Twente
Goos Bus	Marne College	Bolsward
Jolanda v. Duijvenbode	Linde College	Wolvega
Niels Hoebe	Johannus Fontanus College	Barneveld

Forms partner 2 Israel

In Israel the English form was used.
Participants:
Teachers:
Malka Yayon
Ronit Barad
Sohair Sakhnini
Fadia Khatib
Shelley Rap
Yamit Sharaabi-Naor
Esty Zemler

Forms partner 3 +4 Germany
RESEARCH PARTICIPANT SCHOOL CONSENT FORM

1. IRRESISTIBLE - A project on teacher training, combining formal and informal learning focused on Responsible Research and Innovation

Dr. Lorenz Kampschulte, IPN Leibniz Institute for Science and Mathematics Education, Kiel, Germany

We request your permission to conduct a Science Education research project at your school with select teachers and classrooms. This research project will begin in September 2014 and last until September 2016.

• Purpose of Research

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Modules will be adapted based on the experience in the classroom. These modules will then be used in the second round. Each teacher will participate as a coach in a new Community of Learners with 4 to 5 other teachers. The teachers from round 1 will act as coaches and introduce the teachers from round 2 into the Inquiry-Based format used for teaching. The science centres will use or adapt their exhibition to draw attention towards the role of the research studied for society.

After the first two rounds, at least 25 teachers in the region of the partners will have used the materials and become familiar with using the informal learning setting of the partners' science centre, involving on average 1000 students after the first two years of the project in each country.

• Specific procedures

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To evaluate the teaching materials and the effect of the teacher training, we will use one or more of the following methods: analysis of the products and documents produced in the programme; analysis of learning diaries of the leading teachers; analysis (recordings) of group discussions and interviews (pre-post) with representatives of COL's. In addition we will conduct a pre-post-questionnaire on students' and teachers' attitudes to RRI. This quantitative data will be complemented by qualitative content analysis of student work.

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- ## Duration of study

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- ## Contact Information

If you have any questions about this research project, you can contact Professor Jan Apotheker, University of Groningen (j.h.apotheker@rug.nl) or Dr. Lorenz Kampschulte, IPN Kiel (kampschulte@ipn.uni-kiel.de).

- ## Documentation of Informed consent

I have had the opportunity to read this consent form and have the research study explained. I have had the opportunity to ask questions about the research project and my questions have been answered. I agree to have the following teacher(s) at my school participate in the research project described above. I will receive a copy of this consent form after I sign it.

_____ _____

Printed teacher name Class

_____ _____

Printed teacher name Class

_____ _____ _____

Principal signature Printed name Date

_____ _____ _____

Researcher signature Printed name Date

Participants Germany:
Christine Bethke, Humboldt-Schule, Kiel
Katja Weber, Helene-Lange Schule, Rendsbur

Forms partner 5 Turkey

Members of Community of Learners in Turkey

Name	Subject	School	Grade Level
Başak Gonce	Chemistry	Nişantaşı Işık Private High School	Prep., 9
İlkay Buket Ataç	Chemistry	V.K.V. Koç Private High School	9, 10, 11, 12
İsmail Ateş	Chemistry	İstanbul Bilim ve Sanat Merkezi	5, 6, 7, 8, 9, 10, 11
Sema Bakioğlu	Physics	Fen Bilimleri Private High School	Prep., 9, 10
Erkan Yaşar	Physics	Bahçeşehir Private Middle School	6, 7
Seda Arslan	Physics	Yakacık Doğa Private Middle School	6, 7, 8
Ezgi Akdeniz Korkut	Chemistry	Erenköy Işık Private High School	9, 10, 11, 12
Gülseren Yıldız	Physics	Cengizhan Anadolu High School	9, 10, 11, 12
Zeynep Yılmaz	Chemistry	Şişli Science Center	
Sanem Üner	Science Outreach	Şişli Science Center	
Sevil Akaygun	Chemical Education	Boğaziçi University	
Emine Adadan	Science Education	Boğaziçi University	
Amitav Sanyal	Chemistry	Boğaziçi University	

KATILIMCI BİLGİ ve ONAM FORMU
(Lise Öğretmenleri)

Proje başlığı: Proje IRRESISTIBLE (Öğrenci, Öğretmen, Uzman Ve Toplumu Birleştiren Köprü: Sorumlu Araştırma Ve İnovasyonun Fen Eğitimine Entegrasyonu)
Proje yürütücüsü: Yrd. Doç. Dr. Sevil Akaygün
Adres: Boğaziçi Üniversitesi, Eğitim Fakültesi, Ortaöğretim Fen ve Matematik Alanları Eğitimi Bölümü – Bebek – İstanbul 34342
Telefon: 0-212-359-4409
e-posta: sevil.akaygun@boun.edu.tr

Proje konusu: Avrupa Komisyonu tarafından, 7. Çerçeve Programı, Bilim ve Toplum Proje Çağrısı kapsamında desteklenen Proje IRRESISTIBLE, 10 ülkenin katıldığı 14 ortaklı bir projedir. Proje IRRESISTIBLE'ın amacı, sorgulamaya-dayalı fen eğitimi yöntemi ile güncel bilimsel araştırma konularını "Sorumlu Araştırma ve İnovasyon (SAİ)" çerçevesinde, örgün ve yaygın eğitime dahil ederek bilim ve toplum arasında bir köprü kurmaktır. Yaklaşık 3 yıl sürecek olan bu çalışmanın birin aşamasının ilk yarısında, öğretmenler öncelikle "nanobilim ve nanoteknolojinin öğretilmesi" ile ilgili bir modül geliştirecek, ardından bu modüldeki etkinlikleri örgün eğitimin bir parçası olarak uygulayacak, ve son olarak öğrencilerinden aynı konuda bir çalışma (proje, video, tasarım, vb.) ortaya koymalarını isteyip bu süreçte onlara destek olacaktır. Projenin ilk aşamasının ikinci yarısında, öğretmenler öncelikle proje ortaklarından seçtikleri bir başka ülkenin geliştirdiği modülü yine örgün eğitimin bir parçası olarak sınıflarında uygulayacak, ardından öğrencilerinin yeni modülün konusu üzerine bir çalışma ortaya koymalarını isteyip bu süreçte onlara destek olacak ve son olarak 4-5 yeni öğretmene geliştirdikleri modülü tanıtacaktır. Öğretmenler proje başlangıcında ve sonrasında projeyle ve nanobilim ve nanoteknoloji ile ilgili düşüncelerini bildirecekleri bireysel görüşmeler yapacaklardır. Modüldeki etkinlikleri sınıflarında uygulamaları esnasında öğrenci çalışmalarını ve gelişmelerini yakından takip etmek üzere ses kaydı ve video kaydı yapılacaktır.

Onay: Yukarıda bahsi geçen bireysel görüşmeler, ses kaydı ve video kaydı dışında öğretmenler, onların hakkında demografik bilgi edinmek, onların SAİ'nin öğretimi ve paylaşımına ilişkin endişe ve yaklaşımlarını belirlemek ve "sorgulamaya dayalı fen eğitimine" ilişkin görüşlerini tespit etmek amacıyla *ÖTo Anketi*'ni; nanoteknolojiye ilişkin farkındalıklarını belirlemek amacıyla *Nanoteknoloji Farkındalık Anketi*'ni; onların bilimsel araştırma ile ilgili görüşleri hakkında bilgi edinmek amacıyla *BAİG (Bilimsel Araştırma ile İlgili Görüşler) Anketi*'ni; ve onların bilimin doğası hakkındaki görüşlerine ilişkin bilgi edinmek amacıyla da *Bilimin Doğası Ölçeği (VNOS-C)*'ni dolduracaklardır.

Bu araştırmaya katılım tamamıyla gönüllülük esasına dayanmaktadır. Araştırmaya katılıp katılmaması sizin tercihinizdir. Önce katılmayı tercih etmenize rağmen, ilerleyen dönemde katılmama yönünde karar alabilirsiniz. Bu durumda verdiğiniz karar doğrultusunda verileriniz araştırma dışında tutulacak, (eğer toplandıysa) veriler imha edilecektir. Proje için sağlamış olduğunuz tüm bilgiler tamamıyla gizli tutulacak, sadece bu araştırma için kullanılacak ve başka bir kurum ya da kuruluşla paylaşılmayacaktır. İzin vermeniz durumunda, bireysel görüşme video kamera ile kayıt edilecektir. Video kamerada yüzünüz görünmeyecek ve cihaz sizin izniniz olmadıkça kullanılmayacaktır. Araştırma tamamlandıktan sonra, bilimsel amaçlar dahilinde kullanım için izin verdiğiniz veriler dışındaki bütün veriler imha edilecektir. Nanobilim ve nanoteknoloji öğretimi ile ilgili modül geliştirmenin ve bu modüldeki etkinleri sınıfta uygulamanın risk getirmesi beklenmemektedir. Bu çalışmanın eğitim materyalleri geliştirme, sorgulamaya-dayalı öğrenme metodunu uygulama, Web 2.0 araçlarını kullanma becerilerinizi geliştireceği ve güncel bilimsel konulara ve bu konuların öğretilmesine ilişkin farkındalığınızı artıracağı düşünülmektedir.

Bu formu imzalamadan önce, çalışmayla ilgili sorularınız varsa lütfen sorun. Daha sonra sorunuz olursa, Yrd. Doç. Dr. Sevil Akaygün'e (Telefon: 0-212-359-4409) ulaşabilirsiniz.

Ben, (katılımcının adı) ...Gülseren YILDIZ..... yukarıdaki metni okudum, katılmam istenen çalışmanın kapsamını ve amacını, gönüllü olarak üzerime düşen sorumlulukları tamamen anladım. Bu çalışmayı istediğim zaman ve herhangi bir neden belirtmek zorunda kalmadan bırakabileceğimi ve bıraktığım takdirde herhangi bir olumsuzluk ile karşılaşmayacağını anladım.

Bu koşullarda söz konusu araştırmaya kendi isteğimle, hiçbir baskı ve zorlama olmaksızın katılmayı kabul ediyorum. Bu formun bir kopyasını aldım.

Katılımcı Adı-Soyadı: Gülseren YILDIZ	İmzası:	Tarih: 22/9/2014
Araştırmacının Adı-Soyadı: Yrd. Doç. Dr. Sevil Akaygün	İmzası:	Tarih: 09 / 02 / 2014

Forms

partner 6 Portugal

PORTUGUESE CoL - LIST OF TEACHERS WHO SIGNED THE CONSENT FORM

Alda Maria Gomes Cordeiro Rodrigues Pais
Ana Isabel Morgado da Silva Antunes
Carla Alexandra Vilhena dos Santos Almeida
Carla Manuela de Pacífico Cardoso David Dias
Carla Maria Mendes Matoso
Catarina Galo Liques
Eduardo José Gonçalves Pinheiro
Eunice Irene da Mata Carriço
Filipa Alexandra da Cunha Pescador Fonseca
Inês Duarte Bruno
Joana Maria Pinto da Silva Rodrigues
José Carlos de Oliveira e Silva Boto
Letícia Carvalho
Luísa Maria Geraldes Lourenço
Maria Alexandra Silvano Pato
Maria d'Aires Baltazar Sítima
Maria dos Anjos Tomaz
Maria Dulce Campos Nisa Pereira
Maria Filomena Sousa
Maria João Teodoro dos Santos
Marta Isabel da Rosa Constantino
Marta Morais Espírito Santo
Marta Sofia Fonseca Gomes
Neusa Maria John Scheid
Paula Alexandra Frias Rebelo
Relíquia Teixeira Viegas d'Abreu
Rita Isabel Batista da Silva Filipe
Sandra dos Anjos Canário Custódio Ribeiro
Venina de Fátima Cerqueira Bastos
Vera Lúcia Calçada Malaquias

www.irresistible-project.eu

Um Projeto sobre a formação de professores, combinando a aprendizagem formal e não formal focada na Investigação e Inovação Responsáveis

TERMO DE CONSENTIMENTO

Pedro Guilherme Rocha dos Reis, Instituto de Educação da Universidade de Lisboa, Portugal
Luís Alexandre da Fonseca Tinoca, Instituto de Educação da Universidade de Lisboa, Portugal
Mónica Luísa Mendes Baptista, Instituto de Educação da Universidade de Lisboa, Portugal
Ana Rita Lima Marques, Instituto de Educação da Universidade de Lisboa, Portugal
Vanessa Figueiredo de Andrade, Instituto de Educação da Universidade de Lisboa, Portugal
Jan Apotheker, Universidade de Groningen, Holanda

1. Finalidades da Investigação

O Projeto IRRESISTIBLE - envolvendo dezasseis parceiros de dez países europeus - pretende desenvolver e disseminar atividades destinadas a promover a participação dos alunos e do público em geral no processo de Investigação e Inovação Responsáveis (IIR) através da formação de professores.

O Projeto implica o desenvolvimento de Comunidades de Aprendizagem (CdA) em cada país-parceiro - com a participação de professores de ciências, formadores de professores, cientistas que investigam nas áreas científicas selecionadas e especialistas em educação não formal (profissionais de centros e museus de ciência). No seio destas CdA pretende-se que cada grupo desempenhe um papel distinto, e igualmente relevante: os professores detêm a experiência de trabalho em sala de aula; os formadores de professores possuem um amplo background teórico sobre educação em ciência; os centros e museus de ciência detêm uma valiosa experiência na educação científica não formal; os cientistas são especialistas nos temas de investigação atuais e polémicos escolhidos pelos parceiros.

Numa primeira fase do Projeto, cada CdA produzirá módulos de ensino que:

(a) Introduzam e contextualizem o tema científico - através de uma situação do dia-a-dia - de modo a torná-lo relevante para os alunos;

(b) Façam uso de uma abordagem Inquiry Based Science Educacion (IBSE) com recurso a aplicações da web2.0, estimulando e promovendo a observação, classificação, experimentação e explicação dos fenómenos e propriedades científicas relevantes do tema sob investigação;

(c) Abordem os aspetos IIR do tema em causa - implicações éticas, sociais, ambientais, e outras;

(d) Incluam sugestões metodológicas para os professores acerca da implementação do módulo em sala de aula - por exemplo, a calendarização das atividades, os planos de aula, entre outros;

(e) Disponibilizem fontes de informação adicionais sobre o tema científico em questão - quer para alunos como para professores;

(f) Permitam aos alunos planear e construir uma exposição sobre o tema investigado, garantindo que esta apresente o tema escolhido, realçando os seus fenómenos e propriedades mais relevantes e abordando as implicações éticas, sociais e ambientais, numa perspetiva IIR.

2. Procedimentos específicos

Pretende-se que os professores frequentem uma ação de formação no âmbito da qual serão abordados os principais domínios alvo do projeto - o ensino das ciências por IBSE, a IIR de temas científicos de ponta, as ferramentas da web2.0 e a construção de exposições interativas - e que produzam módulos de ensino contemplando estes domínios.

IRRESISTIBLE is a project on teacher training, combining formal and informal learning focused on Responsible Research and Innovation.
It is a coordination and support action under FP7-SCIENCE-IN-SOCIETY-2013-1, ACTIVITY 5.2.2 Young people and science: Topic SIS.2013.2.2.1-1 Raising youth awareness to Responsible Research and Innovation through Inquiry Based Science Education.
This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 612367.

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3. Recolha de dados

De modo a ser possível avaliar os materiais didáticos e o impacto da formação de professores, pretendemos recorrer a algumas das seguintes metodologias de recolha de dados: análise dos produtos e documentos produzidos no âmbito do projeto de investigação e análise dos registos áudio/vídeo das sessões da ação de formação. Adicionalmente aplicaremos questionários aos professores para levantamento das suas perceções relativamente aos diferentes domínios do projeto: IIR de temas científicos de ponta, ensino das ciências por IBSE, aplicações da web2.0 e construção de exposições interativas.

Todos os materiais recolhidos para análise serão mantidos sob estrita confidencialidade e o anonimato dos professores será salvaguardado. Os dados publicados apenas virão acompanhados da menção do país de proveniência.

4. Duração do estudo

Esta fase do projeto de investigação - correspondente à ação de formação - terá início em março de 2014 e decorrerá até junho de 2014. A recolha de dados decorrerá durante e após a conclusão da ação de formação.

5. Contacto para informações

Caso tenha dúvidas relativamente ao projeto de investigação poderá contactar o Professor Jan Apotheker da Universidade de Groningen (j.h.apotheker@rug.nl) ou o Professor Pedro Reis, do Instituto de Educação da Universidade de Lisboa (preis@ie.ul.pt).

Confirmo que li o presente termo de consentimento e que me foi explicado o projeto de investigação. Tive a oportunidade de colocar questões acerca do projeto de investigação e as mesmas foram-me esclarecidas.

Pretendo participar no projeto de investigação acima descrito. Receberei uma cópia deste termo de consentimento, assinado.

_____

Assinatura do Professor

_____, _____ de 2014

Data

_____

Assinatura do Investigador

_____, _____ de 2014

Data

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Forms partner 7+9 Italy

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irresistible

Engaging the Young with
Responsible Research and Innovation

Modulo di consenso dei genitori alla partecipazione al progetto IRRESISTIBLE

IRRESISTIBLE è un progetto per la formazione dei docenti focalizzato su Ricerca e Innovazione Responsabile che abbina l'insegnamento formale a quello informale.

(Coordinatore del progetto Prof. Jan Apotheker, University of Groningen, Netherlands; responsabile locale Prof.ssa Margherita Venturi, Università degli Studi di Bologna).

Scopo della ricerca

Il progetto IRRESISTIBLE si propone di disseminare attività progettate per migliorare il coinvolgimento degli studenti e dei cittadini nel processo di ricerca e innovazione responsabile (Responsible Research and Innovation o RRI) attraverso corsi di formazione per gli insegnanti. Gli insegnanti progettano moduli di insegnamento che prevedono un approccio di Apprendimento Scientifico Basato sull'Indagine (Inquiry-Based Science Education o IBSE) sviluppando i temi di ricerca più innovativi affrontati nelle varie università coinvolte, con l'aiuto dei ricercatori di tali università. I moduli saranno rivisti in base alle esperienze condotte in classe e verranno usati in una seconda fase in cui saranno coinvolti un numero maggiore di insegnanti.

Dopo le prime due fasi in ogni nazione almeno 25 insegnanti dovrebbero aver usato i materiali ed aver familiarizzato con le modalità di apprendimento informale utilizzate dai musei della scienza e dopo i primi due anni del progetto dovrebbero essere stati coinvolti circa 1000 studenti.

Le informazioni raccolte nella classe di vostro/a figlio/a saranno usate per adattare e migliorare i moduli e contribuiranno alla formazione degli insegnanti nella seconda fase.

Procedure specifiche

Per tutta la durata del progetto raccoglieremo informazioni sull'apprendimento degli studenti usando normali materiali didattici. Gli insegnanti utilizzeranno i nuovi moduli di insegnamento nelle loro classi e con i risultati verrà progettato e realizzato dagli studenti un exhibit. Durante le lezioni tenute dagli insegnanti analizzeremo documenti prodotti dagli studenti, quali schede di laboratorio, compiti scritti e risposte a domande informali. All'inizio e al termine delle attività verrà inoltre somministrato un questionario relativo all'opinione degli studenti nei confronti della Ricerca e Innovazione Responsabile. Questi dati quantitativi saranno integrati dall'analisi qualitativa dei lavori degli studenti, identificati da un codice alfanumerico per proteggere l'identità di ciascuno studente; tutti i nomi quindi verranno rimossi.

L'analisi dei lavori prodotti dagli studenti, effettuata dai ricercatori, costituirà la banca dati del progetto ma non influenzerà in nessun modo la valutazione dello studente in classe.

Durata della partecipazione alla ricerca

La ricerca si svolgerà durante il normale orario scolastico, o in orario concordato con l'insegnante responsabile.

Rischi

La ricerca riguarda ciò che accade normalmente in classe. I partecipanti non correranno nessun rischio in più di quelli tipici della vita di tutti i giorni.

Benefici

I vostri figli beneficeranno della possibilità di apprendere contenuti scientifici importanti, attraverso l'uso di materiali didattici innovativi. Inoltre, svolgendo attività quali costruire un exhibit scientifico e partecipare a discussioni in classe, saranno sollecitati a riflettere su ciò che stanno imparando e raggiungeranno così un apprendimento complessivamente più approfondito. I futuri studenti poi godranno dei benefici derivanti dallo sviluppo delle conoscenze prodotte dalla ricerca.

Riservatezza

Tutti i nomi e altri mezzi di identificazione degli studenti saranno rimossi dagli elaborati e sostituiti con un codice che garantisce la riservatezza dei dati. Tale codice verrà usato in tutta la documentazione scritta e in tutte le pubblicazioni. I dati relativi agli studenti saranno accompagnati solo dal nome della nazione e da una generica informazione sulla fonte (scuola di piccole o grandi dimensioni, in sede rurale o metropolitana, età e genere degli studenti). I materiali relativi ad indagini, questionari e copie dei lavori degli studenti, privati dell'identificazione, saranno conservati dai ricercatori sottochiave in un luogo sicuro presso il Dipartimento di Chimica "Ciamician", Università di Bologna. Tutta la documentazione sarà a disposizione degli addetti al controllo della ricerca.

Partecipazione su base volontaria

La partecipazione al progetto avviene su base volontaria. Se voi o i vostri figli decidete di non partecipare, potete ritirarvi in qualsiasi momento informando i ricercatori attraverso i contatti riportati di seguito. Gli studenti che non parteciperanno non saranno comunque esclusi dalle lezioni e dalle attività in classe.

Contatti

Per qualsiasi domanda circa il progetto di ricerca potete contattare il Prof. Jan Apotheker, University of Groningen (j.h.apotheker@rug.nl) o il responsabile locale Prof.ssa Margherita Venturi, Università degli Studi di Bologna (margherita.venturi@unibo.it).

Documentazione del consenso informato

Ho letto questo modulo per il consenso informato e mi è stato spiegato in che cosa consiste la ricerca. Ho avuto l'opportunità di porre domande circa il progetto di ricerca e mi è stato risposto esaurientemente.

Acconsento che il/la mio/a figlio/a partecipi al progetto di ricerca descritto sopra.

(nome in stampatello dello studente, classe)

(firma del genitore) (firma del Ricercatore)

(nome in stampatello del genitore) (nome in stampatello del Ricercatore)

(data) (data)

☐ Desidero ricevere una copia firmata di questo modulo dopo averlo consegnato

the list of the people that signed or are signing the school consent form concerning Unibo partner:

Secondary School: IIS "L. Nobili", Reggio Emilia; teacher: Paola Ambrogi

Secondary School: Liceo Scientifico "E. Fermi", Bologna; teacher: Elisabetta Bonfatti

Secondary School: Liceo Ginnasio "Luigi Galvani", Bologna; teacher: Mariagrazia Fabbri

Secondary School: Liceo Scientifico Albert Einstein, Rimini; teacher: Fabio Filippi

Palermo:
Anna Caronia - ITI E. Majorana
Tiziana Di Silvestre - IPSIA E. Ascione
Antonella Giangalanti - Liceo Scientifico B. Croce
Roberta Maniaci - Liceo artistico D. Almeyda
Antonino Pinizzotto - ISS E. Basile

Forms partner 8 +13 Finland

Participating teachers: Antti Pyrhönen, Taina Nupponen and Sari Reinikainen, Liisa Virtanen

Osallistuvan koulun suostumuslomake

IRRESISTIBLE - A project on teacher training, combining formal and informal learning focused on Responsible Research and Innovation

Ilkka Ratinen, Anssi Lindell ja Anna-Leena Kähkönen, Jyväskylän yliopisto
Jan Apotheker, University of Groningen, Netherlands

Pyydämme lupaa luonnontieteen opetuksen tutkimusprojektin toteuttamiseen koulussanne valittujen opettajien ja luokkien kanssa. Projekti alkaa syyskuussa 2014 ja päättyy syyskuussa 2016.

Tutkimuksen tarkoitus

IRRESISTIBLE-projektissa käytetään opettajankoulutusta lisäämään oppilaiden ja suuren yleisön mielenkiintoa vastuulliseen tutkimus-, kehitys- ja innovaatiotoimintaan (eng. Responsible Research and Innovation, RRI).

Projektissa on perustettu oppijoiden yhteisöjä (eng. Communities of Learners, CoL). Kussakin yhteisössä ryhmillä on erilaiset roolit: opettajaopiskelijat ovat käytännön luokkatyöskentelyn osaajia, tiedeopettajilla on teoreettinen tietopohja opettamisesta, tiedemuseo taas osaa hyödyntää luokkahuoneen ulkopuolisen opetuksen.

Aiheet on valittu ajankohtaisista tutkimusongelmista kunkin osallistujamaan yliopistossa. Yhteisö muokkaa aiheista kouluihin sopivia opetuskokonaisuuksia, joissa opitaan tutkimalla. Sitten kokonaisuudet opetetaan paikallisissa kouluissa ja opetuskokonaisuuksia muokataan kokemusten pohjalta. Näitä päivitettyjä kokonaisuuksia käytetään projektin toisella kierroksella, jolla ensimmäisen kierroksen opettajaopiskelijat toimivat valmentajina ja ohjaavat uusia opettajaopiskelijoita käyttämään materiaaleja. Tiedemuseon näyttely tukee osaltaan opetusta ja opetukseen kuuluu vierailu tiedemuseossa.

Kahden kierroksen jälkeen projektin materiaaleja on käyttänyt n. 30 opettajaopiskelijaa, jotka ovat oppineet myös hyödyntämään paikallisia tiedemuseoita opetuksessaan. Vastuulliseen tutkimukseen tutustuu heidän ja tiedemuseon kautta jopa sata oppilasta.

Koulun osallisuus

Projektiin osallistuvat opettajat ottavat luokkaansa harjoittelemaan opettajaopiskelijat, jotka kuuluvat projektin oppijoiden yhteisöihin. Opettajaopiskelijat opettavat luokkaa noin 6-8 tuntia sekä käyttävät luokkaa Jyväskylän yliopiston Tiedemuseossa. Opettajat saavat käyttää projektissa kehitettyjä oppimateriaaleja opetuksessaan.

Aineisto tutkimukseen

Opetusmateriaalien ja opettajankoulutuksen vaikutuksen arviointiin käytämme aineistona oppilaiden kyselyä sekä seuraamme oppilaiden museovierailua. Pyydämme joitakin oppilaita lyhyesti haastateltavaksi (muutama kysymys heidän osuudestaan näyttelyssä); oppilaat voivat halutessaan kieltäytyä haastattelusta. Riippuen opettajaopiskelijoiden suunnittelemista opetusmateriaaleista, keräämme myös kopioita oppilaiden tuotoksista oppitunneilla.

Aineiston oppilaiden, opettajien tai opettajaopiskelijoiden nimiä ei julkaista tutkimuksessa. Aineistoon liitetään vain maininta sen tuottaneesta valtiosta sekä yleinen kuvaus (pieni vai suuri koulu, kaupunki vai maaseutu, oppilaan ikä ja sukupuoli).

Yhteystiedot

Voit halutessasi kysyä lisää tutkimuksesta koordinaattori Jan Apothekeriltä Groningenin yliopistosta (j.h.apotheker@rug.nl) tai Ilkka Ratiselta (ilkka.ratinen@jyu.fi)

Suostumus

Olen tutustunut lomakkeen tietoihin ja tutkimus on selitetty minulle. Olen voinut kysyä lisätietoja projektista ja kysymyksiini on vastattu. Koulustani seuraavat opettajat osallistuvat ylläkuvattuun projektiin. Saan kopion tästä lomakkeesta allekirjoitettuani sen.

LIISA VIRTANEN	6A / Pohjanlampi
Opettajan nimi	Luokka
Opettajan nimi	Luokka

	ILKKA RATINEN	2.12.2014
Tutkijan allekirjoitus	Nimi	Päiväys

Forms partner 10+14 Greece

2. ΦΥΛΛΟ ΠΛΗΡΟΦΟΡΗΣΗΣ ΓΙΑ ΓΟΝΕΙΣ ΚΑΙ ΜΑΘΗΤΕΣ

IRRESISTIBLE: ***Ένα πρόγραμμα για την εκπαίδευση των εκπαιδευτικών, που συνδυάζει την τυπική και την άτυπη μάθηση και επικεντρώνεται στην Υπεύθυνη Έρευνα και την Καινοτομία***

3. ΕΠΙΣΤΗΜΟΝΙΚΟΣ ΥΠΕΥΘΥΝΟΣ: Δημήτρης Σταύρου, ΠΤΔΕ, Πανεπιστήμιο Κρήτης
ΣΥΝΤΟΝΙΣΤΗΣ: Jan Apotheker, University of Groningen, Netherlands

4. Σκοπός της έρευνας

Το πρόγραμμα IRRESISTIBLE αφορά σε δραστηριότητες σχεδιασμένες να προωθήσουν την ενεργό συμμετοχή των μαθητών και του κοινού στη διαδικασία της υπεύθυνης έρευνας και της καινοτομίας, μέσω μιας διαδικασίας εκπαίδευσης των εκπαιδευτικών. Στην πρώτη φάση του έργου, οι εκπαιδευτικοί πρόκειται να σχεδιάσουν και θα εφαρμόσουν σε τάξεις διδακτικές ενότητες βασισμένες στη μάθηση μέσω διερεύνησης, που θα αφορούν αντικείμενα της έρευνας αιχμής που λαμβάνει χώρα στα κατά τόπους πανεπιστήμια και υποστηρίζεται από ερευνητές.
Οι διδακτικές αυτές ενότητες στη συνέχεια θα προσαρμοστούν βάσει της εμπειρίας που θα αποκομίσουν από τις σχολικές τάξεις και θα χρησιμοποιηθούν ύστερα σε μια δεύτερη φάση. Μετά και από τις δύο φάσεις του προγράμματος, τουλάχιστον 25 εκπαιδευτικοί θα έχουν χρησιμοποιήσει το εκπαιδευτικό υλικό και θα έχουν εξοικειωθεί με τη χρήση άτυπων περιβάλλοντος μάθησης του κέντρου επιστημών που συνεργάζεται ο κάθε εταίρος, εμπλέκοντας με τον τρόπο αυτό κατά μέσο όρο 1000 μαθητές από κάθε χώρα.
Οι πληροφορίες που θα συλλεχθούν από την τάξη του παιδιού σας θα χρησιμοποιηθούν για την προσαρμογή και βελτίωση των αναπτυσσόμενων διδακτικών ενοτήτων και της εκπαίδευσης των εκπαιδευτικών που θα εμπλακούν στη δεύτερη φάση του προγράμματος.

5. Επιμέρους διαδικασίες

Στη διάρκεια του προγράμματος θα συγκεντρωθούν πληροφορίες σχετικά με το τι μαθαίνουν οι μαθητές χρησιμοποιώντας διδακτικό υλικό τυπικό για σχολικές τάξεις. Οι εκπαιδευτικοί θα χρησιμοποιήσουν τις καινοτόμες διδακτικές ενότητες στην τάξη και θα δημιουργήσουν μια έκθεση με βάση τα αποτελέσματα που θα προκύψουν από τη υλοποίηση του project με μαθητές. Κατά τη διάρκεια της διδασκαλίας θα επεξεργάζονται οι γραπτές εργασίες των μαθητών, όπως εργαστηριακά φύλλα εργασίας, φύλλα δραστηριοτήτων, γραπτές εργασίες και ανεπίσημα τεστ. Επίσης θα δοθούν ερωτηματολόγια στους μαθητές (πριν και μετά τη διδασκαλία) για να διερευνηθούν οι στάσεις τους απέναντι στην Υπεύθυνη Έρευνα και την Καινοτομία. Τα ποσοτικά αυτά δεδομένα θα συμπληρωθούν και από μια ποιοτική ανάλυση περιεχομένου της δουλειάς των μαθητών.

Οι εργασίες των μαθητών που θα χρησιμοποιηθούν στην έρευνα θα προσδιορίζονται από έναν αλφαριθμητικό κωδικό για να προστατευθεί η ταυτότητα των μαθητών. Όλα τα ονόματα θα αφαιρεθούν.
Η ανάλυση των εργασιών των μαθητών θα γίνει από ερευνητές και θα αποτελέσει τη βάση δεδομένων για αυτήν τη μελέτη, αλλά δε θα επηρεάσει με κανένα τρόπο τη βαθμολογία των μαθητών στο αντίστοιχο μάθημα.

6. Διάρκεια Συμμετοχής

Η έρευνα θα διεξαχθεί στα πλαίσια του κανονικού ωρολογίου προγράμματος των μαθητών.

7. Κίνδυνοι

Η έρευνα αυτή μελετά ό,τι διαδραματίζεται σε μια κανονική τάξη διδασκαλίας φυσικών επιστημών. Οι συμμετέχοντες θα εκτεθούν μόνο στον ελάχιστο κίνδυνο, δηλ. όχι περισσότερο απ' ό,τι συνήθως αντιμετωπίζουν στην καθημερινότητά τους.

8. Οφέλη

Το κυριότερο όφελος για το παιδί σας είναι ότι θα μπορέσει να γνωρίσει εξαιρετικής σημασίας επιστημονικό περιεχόμενο χρησιμοποιώντας σύγχρονο εκπαιδευτικό υλικό. Επιπρόσθετα, συμμετέχοντας σε δραστηριότητες όπως η δημιουργία μιας επιστημονικής έκθεσης και η εμπλοκή σε επιστημονικές συζητήσεις στην τάξη θα βοηθηθούν στο να αναστοχαστούν για μια καλύτερη συνολική κατανόηση της επιστήμης. Ακόμα, μελλοντικοί μαθητές θα επωφεληθούν τελικά από το υλικό που θα σχεδιαστεί βάσει της γνώσης που θα έχουμε αποκομίσει.

9.

10. Εμπιστευτικότητα

Όλα τα ονόματα και τα μέσα ταυτοποίησης των μαθητών θα αφαιρεθούν από τις εργασίες τους και θα αντικατασταθούν με ένα κωδικό αναφοράς για να τηρηθεί η εμπιστευτικότητα. Ένας τέτοιος κωδικός αναφοράς θα χρησιμοποιηθεί για ταυτοποίηση σε όλα τα έντυπα και τις δημοσιεύσεις. Τα δεδομένα των μαθητών θα συνοδεύονται από την αναφορά της χώρας από την οποία προέρχονται και από γενικές πληροφορίες για την προέλευσή τους (μικρό ή μεγάλο, αστικό ή επαρχιακό σχολείο, ηλικία και φύλο του μαθητή). Μελέτες, ερωτηματολόγια και αντίγραφα της γραπτής δουλειάς των μαθητών θα παραμείνουν κλειδωμένα σε ένα ασφαλές ερμάριο των ερευνητών στο ΠΤΔΕ του Πανεπιστημίου Κρήτης. Όλα τα αρχεία του παρόντος προγράμματος μπορεί να ελεγχθούν από φορείς αρμόδιους για κανονιστική και ερευνητική εποπτεία.

11. Εθελοντικός χαρακτήρας συμμετοχής

Η συμμετοχή στο ερευνητικό πρόγραμμα είναι εθελοντική. Εάν εσείς ή το παιδί σας αποφασίσετε να μη συμμετέχει μπορείτε να αποσυρθείτε οποιαδήποτε στιγμή ενημερώνοντας τους ερευνητές, κάνοντας χρήση των κάτωθι στοιχείων

επικοινωνίας. Οι μαθητές ωστόσο δε θα εξαιρούνται από οποιαδήποτε εκπαιδευτική δραστηριότητα ή μαθησιακή εμπειρία λόγω της μη συμμετοχής τους στη μελέτη.

12. Στοιχεία επικοινωνίας

Εάν έχετε οποιαδήποτε απορία σχετικά με το συγκεκριμένο ερευνητικό έργο μπορείτε να επικοινωνήσετε με τον Καθηγητή Jan Apotheker, University of Groningen (j.h.apotheker@rug.nl) ή με τον Επίκουρο Καθηγητή Δημήτρη Σταύρου, ΠΤΔΕ, Πανεπιστήμιο Κρήτης (dstavrou@edc.uoc.gr).

Σας ευχαριστούμε για την προσοχή σας.

13. ΕΝΤΥΠΟ ΣΥΓΚΑΤΑΘΕΣΗΣ ΓΟΝΕΑ

Έχω διαβάσει τη φόρμα συγκατάθεσης και έχω κατανοήσει το πλαίσιο διεξαγωγής της έρευνας. Είχα την ευκαιρία να θέσω ερωτήματα σχετικά με το ερευνητικό έργο και οι απορίες μου επιλύθηκαν. Δέχομαι να συμμετέχει το παιδί μου στο ερευνητικό πρόγραμμα που περιγράφηκε ανωτέρω.

_____ _____

Τυπωμένο όνομα μαθητή Τάξη

_____ _____ _____

Υπογραφή Γονέα Τυπωμένο όνομα γονέα Ημερομηνία

_____ _____ _____

Υπογραφή Ερευνητή Τυπωμένο όνομα ερευνητή Ημερομηνία

□ Επιθυμώ να λάβω αντίγραφο του παρόντος εντύπου συγκατάθεσης μετά την επιστροφή του

14. ΦΥΛΛΟ ΠΛΗΡΟΦΟΡΗΣΗΣ ΓΙΑ ΓΟΝΕΙΣ ΚΑΙ ΜΑΘΗΤΕΣ

IRRESISTIBLE: ***Ένα πρόγραμμα για την εκπαίδευση των εκπαιδευτικών, που συνδυάζει την τυπική και την άτυπη μάθηση και επικεντρώνεται στην Υπεύθυνη Έρευνα και την Καινοτομία***

15. ΕΠΙΣΤΗΜΟΝΙΚΟΣ ΥΠΕΥΘΥΝΟΣ: Δημήτρης Σταύρου, ΠΤΔΕ, Πανεπιστήμιο Κρήτης
ΣΥΝΤΟΝΙΣΤΗΣ: Jan Apotheker, University of Groningen, Netherlands

16. Σκοπός της έρευνας

Το πρόγραμμα IRRESISTIBLE αφορά σε δραστηριότητες σχεδιασμένες να προωθήσουν την ενεργό συμμετοχή των μαθητών και του κοινού στη διαδικασία της υπεύθυνης έρευνας και της καινοτομίας, μέσω μιας διαδικασίας εκπαίδευσης των εκπαιδευτικών. Στην πρώτη φάση του έργου, οι εκπαιδευτικοί πρόκειται να σχεδιάσουν και θα εφαρμόσουν σε τάξεις διδακτικές ενότητες βασισμένες στη μάθηση μέσω διερεύνησης, που θα αφορούν αντικείμενα της έρευνας αιχμής που λαμβάνει χώρα στα κατά τόπους πανεπιστήμια και υποστηρίζεται από ερευνητές.
Οι διδακτικές αυτές ενότητες στη συνέχεια θα προσαρμοστούν βάσει της εμπειρίας που θα αποκομίσουν από τις σχολικές τάξεις και θα χρησιμοποιηθούν ύστερα σε μια δεύτερη φάση. Μετά και από τις δύο φάσεις του προγράμματος, τουλάχιστον 25 εκπαιδευτικοί θα έχουν χρησιμοποιήσει το εκπαιδευτικό υλικό και θα έχουν εξοικειωθεί με τη χρήση άτυπων περιβάλλοντος μάθησης του κέντρου επιστημών που συνεργάζεται ο κάθε εταίρος, εμπλέκοντας με τον τρόπο αυτό κατά μέσο όρο 1000 μαθητές από κάθε χώρα.
Οι πληροφορίες που θα συλλεχθούν από την τάξη του παιδιού σας θα χρησιμοποιηθούν για την προσαρμογή και βελτίωση των αναπτυσσόμενων διδακτικών ενοτήτων και της εκπαίδευσης των εκπαιδευτικών που θα εμπλακούν στη δεύτερη φάση του προγράμματος.

17. Επιμέρους διαδικασίες

Στη διάρκεια του προγράμματος θα συγκεντρωθούν πληροφορίες σχετικά με το τι μαθαίνουν οι μαθητές χρησιμοποιώντας διδακτικό υλικό τυπικό για σχολικές τάξεις. Οι εκπαιδευτικοί θα χρησιμοποιήσουν τις καινοτόμες διδακτικές ενότητες στην τάξη και θα δημιουργήσουν μια έκθεση με βάση τα αποτελέσματα που θα προκύψουν από τη υλοποίηση του project με μαθητές. Κατά τη διάρκεια της διδασκαλίας θα επεξεργάζονται οι γραπτές εργασίες των μαθητών, όπως εργαστηριακά φύλλα εργασίας, φύλλα δραστηριοτήτων, γραπτές εργασίες και ανεπίσημα τεστ. Επίσης θα δοθούν ερωτηματολόγια στους μαθητές (πριν και μετά τη διδασκαλία) για να διερευνηθούν οι στάσεις τους απέναντι στην Υπεύθυνη Έρευνα και την Καινοτομία. Τα ποσοτικά αυτά δεδομένα θα συμπληρωθούν και από μια ποιοτική ανάλυση περιεχομένου της δουλειάς των μαθητών.

Οι εργασίες των μαθητών που θα χρησιμοποιηθούν στην έρευνα θα προσδιορίζονται από έναν αλφαριθμητικό κωδικό για να προστατευθεί η ταυτότητα των μαθητών. Όλα τα ονόματα θα αφαιρεθούν.
Η ανάλυση των εργασιών των μαθητών θα γίνει από ερευνητές και θα αποτελέσει τη βάση δεδομένων για αυτήν τη μελέτη, αλλά δε θα επηρεάσει με κανένα τρόπο τη βαθμολογία των μαθητών στο αντίστοιχο μάθημα.

18. Διάρκεια Συμμετοχής

Η έρευνα θα διεξαχθεί στα πλαίσια του κανονικού ωρολογίου προγράμματος των μαθητών.

19. Κίνδυνοι

Η έρευνα αυτή μελετά ό,τι διαδραματίζεται σε μια κανονική τάξη διδασκαλίας φυσικών επιστημών. Οι συμμετέχοντες θα εκτεθούν μόνο στον ελάχιστο κίνδυνο, δηλ. όχι περισσότερο απ' ό,τι συνήθως αντιμετωπίζουν στην καθημερινότητά τους.

20. Οφέλη

Το κυριότερο όφελος για το παιδί σας είναι ότι θα μπορέσει να γνωρίσει εξαιρετικής σημασίας επιστημονικό περιεχόμενο χρησιμοποιώντας σύγχρονο εκπαιδευτικό υλικό. Επιπρόσθετα, συμμετέχοντας σε δραστηριότητες όπως η δημιουργία μιας επιστημονικής έκθεσης και η εμπλοκή σε επιστημονικές συζητήσεις στην τάξη θα βοηθηθούν στο να αναστοχαστούν για μια καλύτερη συνολική κατανόηση της επιστήμης. Ακόμα, μελλοντικοί μαθητές θα επωφεληθούν τελικά από το υλικό που θα σχεδιαστεί βάσει της γνώσης που θα έχουμε αποκομίσει.

21.

22. Εμπιστευτικότητα

Όλα τα ονόματα και τα μέσα ταυτοποίησης των μαθητών θα αφαιρεθούν από τις εργασίες τους και θα αντικατασταθούν με ένα κωδικό αναφοράς για να τηρηθεί η εμπιστευτικότητα. Ένας τέτοιος κωδικός αναφοράς θα χρησιμοποιηθεί για ταυτοποίηση σε όλα τα έντυπα και τις δημοσιεύσεις. Τα δεδομένα των μαθητών θα συνοδεύονται από την αναφορά της χώρας από την οποία προέρχονται και από γενικές πληροφορίες για την προέλευσή τους (μικρό ή μεγάλο, αστικό ή επαρχιακό σχολείο, ηλικία και φύλο του μαθητή). Μελέτες, ερωτηματολόγια και αντίγραφα της γραπτής δουλειάς των μαθητών θα παραμείνουν κλειδωμένα σε ένα ασφαλές ερμάριο των ερευνητών στο ΠΤΔΕ του Πανεπιστημίου Κρήτης. Όλα τα αρχεία του παρόντος προγράμματος μπορεί να ελεγχθούν από φορείς αρμόδιους για κανονιστική και ερευνητική εποπτεία.

23. Εθελοντικός χαρακτήρας συμμετοχής

Η συμμετοχή στο ερευνητικό πρόγραμμα είναι εθελοντική. Εάν εσείς ή το παιδί σας αποφασίσετε να μη συμμετέχει μπορείτε να αποσυρθείτε οποιαδήποτε στιγμή ενημερώνοντας τους ερευνητές, κάνοντας χρήση των κάτωθι στοιχείων

επικοινωνίας. Οι μαθητές ωστόσο δε θα εξαιρούνται από οποιαδήποτε εκπαιδευτική δραστηριότητα ή μαθησιακή εμπειρία λόγω της μη συμμετοχής τους στη μελέτη.

24. Στοιχεία επικοινωνίας

Εάν έχετε οποιαδήποτε απορία σχετικά με το συγκεκριμένο ερευνητικό έργο μπορείτε να επικοινωνήσετε με τον Καθηγητή Jan Apotheker, University of Groningen (j.h.apotheker@rug.nl) ή με τον Επίκουρο Καθηγητή Δημήτρη Σταύρου, ΠΤΔΕ, Πανεπιστήμιο Κρήτης (dstavrou@edc.uoc.gr).

Σας ευχαριστούμε για την προσοχή σας.

25. ΕΝΤΥΠΟ ΣΥΓΚΑΤΑΘΕΣΗΣ ΓΟΝΕΑ

Έχω διαβάσει τη φόρμα συγκατάθεσης και έχω κατανοήσει το πλαίσιο διεξαγωγής της έρευνας. Είχα την ευκαιρία να θέσω ερωτήματα σχετικά με το ερευνητικό έργο και οι απορίες μου επιλύθηκαν. Δέχομαι να συμμετέχει το παιδί μου στο ερευνητικό πρόγραμμα που περιγράφηκε ανωτέρω.

_____ _____

Τυπωμένο όνομα μαθητή Τάξη

_____ _____ _____

Υπογραφή Γονέα Τυπωμένο όνομα γονέα Ημερομηνία

_____ _____ _____

Υπογραφή Ερευνητή Τυπωμένο όνομα ερευνητή Ημερομηνία

□ Επιθυμώ να λάβω αντίγραφο του παρόντος εντύπου συγκατάθεσης μετά την επιστροφή του

ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ
ΥΠΟΥΡΓΕΙΟ ΠΑΙΔΕΙΑΣ ΚΑΙ ΘΡΗΣΚΕΥΜΑΤΩΝ

Βαθμός Ασφαλείας:
Να διατηρηθεί μέχρι:
Βαθμός Προτεραιότητας:

ΕΝΙΑΙΟΣ ΔΙΟΙΚΗΤΙΚΟΣ ΤΟΜΕΑΣ
ΠΡΩΤΟΒΑΘΜΙΑΣ ΚΑΙ ΔΕΥΤΕΡΟΒΑΘΜΙΑΣ
ΕΚΠΑΙΔΕΥΣΗΣ
ΔΙΕΥΘΥΝΣΗ ΣΠΟΥΔΩΝ ΠΡΩΤΟΒΑΘΜΙΑΣ
ΕΚΠΑΙΔΕΥΣΗΣ
ΤΜΗΜΑ Α' ΕΦΑΡΜΟΓΗΣ ΠΡΟΓΡΑΜΜΑΤΩΝ

Μαρούσι, 30-6-2014

Αρ. Πρωτοκόλλου :Φ15/424/100795/Γ1

Ταχ. Δ/νση : Ανδρέα Παπανδρέου 37
Τ.Κ. – Πόλη : 15180 – Μαρούσι
Ιστοσελίδα : http://www.minedu.gov.gr
Email : spudonpe@minedu.gov.gr
Πληροφορίες : Ρ. Γεωργακόπουλος
Τηλέφωνο : 210 344 2248

√ ΠΡΟΣ : κ. Δημήτρη Σταύρου
Παιδαγωγικό Τμήμα Δημοτικής
Εκπαίδευσης
Πανεπιστήμιο Κρήτης
Πανεπιστημιούπολη Γάλλου
74 100 Ρέθυμνο

ΚΟΙΝ.: 1. Ι.Ε.Π.
Αν. Τσόχα 36
115 21 Αθήνα
2. Διευθυντή Εκπ/σης Π.Ε. Ανατ. Αττικής
3. Αρμόδιο Σχολικό Σύμβουλο
(Μέσω της Δ/νσης Π.Ε Ανατ. Αττικής)

ΘΕΜΑ : **Έγκριση έρευνας**

Σχετικά έγγραφα: το σχετικό 80180/Γ1/22-5-2014

Απαντώντας σε σχετικό αίτημά σας και έχοντας υπόψη την αριθμ. 31/12-5-2014 πράξη του Δ.Σ. του Ι.Ε.Π., σας κάνουμε γνωστό ότι εγκρίνουμε τη διεξαγωγή της έρευνάς σας με θέμα «*Including Responsible Research and innovation in cutting Edge Science and Inquiry-based Science education to improve Teacher's Ability of Bridging Learning Environments (IRRESISTIBLE) fp-7 EU-Project*» η οποία θα πραγματοποιηθεί στο 4° δημοτικό σχολείο Βούλας με τις ακόλουθες επισημάνσεις:

1. Η άδεια χορηγείται για μια τριετία.
2. Πριν από τις επισκέψεις σας στα σχολεία να υπάρχει συνεννόηση με τους Διευθυντές τους, το Σχολικό Σύμβουλο και συνεργασία με το διδακτικό προσωπικό, ώστε να εξασφαλίζεται η ομαλή λειτουργία των σχολικών μονάδων.
3. Τα αποτελέσματα της έρευνάς σας να κοινοποιηθούν ηλεκτρονικά στη βιβλιοθήκη του Ινστιτούτου Εκπαιδευτικής Πολιτικής.
4. Η συμμετοχή των εκπαιδευτικών στην έρευνα είναι πάντα προαιρετική, γίνεται με δική τους ευθύνη και εφόσον το επιθυμούν.
5. Για την διεξαγωγή της έρευνάς σας στους μαθητές θα πρέπει να προηγηθεί ενημέρωση των γονέων και των εκπαιδευτικών, ώστε να υπάρχει **ενυπόγραφη-υπεύθυνη**

δήλωση των γονέων έχοντας υπόψη ότι για όλες τις περιπτώσεις η συμμετοχή στην έρευνα δεν είναι υποχρεωτική.

6. Το εν λόγω πρόγραμμα παρέμβασης θα διεξαχθεί σε δύο φάσεις. Η πρώτη εξ αυτών θα διενεργηθεί κατά την περίοδο Οκτωβρίου 2014-Ιανουαρίου 2015, ενώ η δεύτερη κατά την περίοδο Οκτωβρίου 2015-Ιανουαρίου 2016. Κατά τη διάρκεια των εν λόγω φάσεων η συμμετοχή των εκπαιδευτικών τόσο στις Κοινότητες μάθησης όσο και σε δράσεις προσωπικής τους επιμόρφωσης θα γίνει εκτός σχολικού ωραρίου. Η υλοποίηση των εκπαιδευτικών δραστηριοτήτων, καθώς και η αξιολόγηση του προγράμματος θα διαρκέσουν 6-8 ώρες και θα γίνουν εντός του σχολικού ωραρίου.

7. Για την εφαρμογή της διδακτικής παρέμβασης να υπάρχει η σύμφωνη γνώμη του αρμόδιου Σχολικού Συμβούλου, του Διευθυντή του σχολείου και του εκπαιδευτικού της τάξης Οι δραστηριότητες που θα εφαρμοστούν δεν θα αντίκεινται στο αναλυτικό πρόγραμμα του σχολείου και σε καμία περίπτωση δεν θα παρακωλύεται το ωρολόγιο πρόγραμμα.

8. Ο ερευνητής, μετά τη φάση του σχεδιασμού της προς διδασκαλία θεματικής ενότητας, θα καταθέσει τα πλήρη στοιχεία της στο ΥΠΑΙΘ προς ενημέρωση. Η πρώτη φάση του προγράμματος θα εφαρμοστεί στο 4^{ο} δημοτικό σχολείο Βούλας. Στη δεύτερη φάση υλοποίησης του προγράμματος ο ερευνητής θα προσδιορίσει εκ νέου τα σχολεία στα οποία θα εφαρμοστεί η ανωτέρω εκπαιδευτική παρέμβαση.

9. Ο ερευνητής θα προσδιορίσει τα ονόματα και τις ιδιότητες των προπτυχιακών και μεταπτυχιακών φοιτητών που θα λάβουν μέρος στη μελέτη στο πλαίσιο της νέας αίτησης που πρόκειται να κατατεθεί κατά τη β΄ φάση του ερευνητικού προγράμματος.

10. Τα ερευνητικά εργαλεία για τη συγκεκριμένη έρευνα (ερωτηματολόγια, οδηγοί συνέντευξης) θα αναπτυχθούν κατά τη διάρκεια του προγράμματος και ο ερευνητής θα τα προσκομίσει μόλις ολοκληρωθεί η σύνταξή τους.

11. Σε κάθε περίπτωση η συμμετοχή των μαθητών, η οποία θα γίνεται πάντα με υπεύθυνη δήλωση των γονέων τους, και των εκπαιδευτικών στο πρόγραμμα είναι εθελοντική. Όλο το υλικό που θα συγκεντρωθεί κατά τη διάρκεια της παρέμβασης με στόχο την αξιολόγηση αυτής θα έχει χαρακτήρα εμπιστευτικό και σε καμία περίπτωση, στο πλαίσιο της τήρησης των προσωπικών δεδομένων, δεν θα δημοσιοποιηθούν σε αυτό τα ονόματα των μαθητών ή των εκπαιδευτικών. Τα ερωτηματολόγια είναι πάντα ανώνυμα και κωδικοποιημένα.

Ο Διευθυντής Πρωτοβάθμιας Εκπαίδευσης στον οποίο κοινοποιείται το έγγραφο αυτό, παρακαλείται να ενημερώσει σχετικά το σχολείο στο οποίο θα διεξαχθεί η έρευνα.

ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ
ΥΠΟΥΡΓΕΙΟ ΠΑΙΔΕΙΑΣ & ΘΡΗΣΚΕΥΜΑΤΩΝ

Πιστό Αντίγραφο
Από τη Διεύθυνση Διοικητικού
Τμήμα Διεκπ/σης & Πρωτοκόλλου
ΣΠΗΛΙΟΠΟΥΛΟΣ ΙΩΑΝΝΗΣ

Ο ΠΡΟΪΣΤΑΜΕΝΟΣ ΤΗΣ ΔΙΕΥΘΥΝΣΗΣ

ΚΩΣΤΑΣ ΠΑΠΑΧΡΗΣΤΟΣ

Εσωτερική Διανομή:
Διεύθυνση Σπουδών Π.Ε

ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ
ΥΠΟΥΡΓΕΙΟ ΠΑΙΔΕΙΑΣ ΚΑΙ ΘΡΗΣΚΕΥΜΑΤΩΝ

ΔΙΟΙΚΟΥΣΑ ΕΠΙΤΡΟΠΗ ΠΡΟΤΥΠΩΝ ΠΕΙΡΑΜΑΤΙΚΩΝ ΣΧΟΛΕΙΩΝ
Ταχ. Δ/νση : Ανδρέα Παπανδρέου 37
Τ.Κ. – Πόλη : 151 80 Μαρούσι
Πληροφορίες: Αικ. Ριζάκη
Τηλέφωνα : 210 3443966
Email: depps@minedu.gov.gr

Μαρούσι 04/09/2014

Αρ. πρωτ. : Γ1/139846

ΠΡΟΣ: Πανεπιστήμιο Κρήτης
Παιδαγωγικό Τμήμα Δημοτικής Εκπαίδευσης
Πανεπιστημιούπολη Γάλλου
74100 Ρέθυμνο (Υπόψη κ. Δημητρίου Σταύρου)

ΚΟΙΝ.: 1)Διεύθυνση Σπουδών Δ/θμιας Εκπ/σης του Υ.ΠΑΙ.Θ , τμήμα Α'
2) Ι.Ε.Π.
Αν. Τσόχα 36 , Τ.Κ 11521 Αθήνα

Θέμα: «Απάντηση στο με αριθμ. 53434/Γ1/07-04-2014 έγγραφο του Πανεπιστημίου Κρήτης »

Η Διοικούσα Επιτροπή Πρότυπων Πειραματικών Σχολείων (Δ.Ε.Π.Π.Σ.), σε απάντηση στο με αρ. πρωτ. 53434/Γ1/07-04-2014 έγγραφό σας, σας ενημερώνει ότι εγκρίνει την πραγματοποίηση έρευνας σε εκπαιδευτικούς και μαθητές Πρότυπων Πειραματικών Σχολείων Δευτεροβάθμιας Εκπαίδευσης στα πλαίσια του ευρωπαϊκού εκπαιδευτικού προγράμματος *IRRESISTIBLE*. Στόχος του παραπάνω προγράμματος είναι ο σχεδιασμός δραστηριοτήτων για την προώθηση της ενεργού συμμετοχής των μαθητών στη διαδικασία της Υπεύθυνης Έρευνας και Καινοτομίας, μέσω μιας διαδικασίας εκπαίδευσης των εκπαιδευτικών.
Η χορήγηση άδειας για διεξαγωγή έρευνας συνιστά αυτόματα δέσμευση των ερευνητών για: α) πιστή εφαρμογή του εγκριθέντος προγράμματος που έχει υποβληθεί στη Δ.Ε.Π.Π.Σ, β) ενημέρωση του αρμόδιου Σχολικού Συμβούλου ΠΕ04, του Διευθυντή της σχολικής μονάδας, του Συλλόγου Διδασκόντων και όπου απαιτείται και σύμφωνη γνώμη των γονέων των μαθητών και γ) κοινοποίηση των ερευνητικών αποτελεσμάτων στη Δ.Ε.Π.Π.Σ.

ΓΙΑ ΤΗ Δ.Ε.Π.Π.Σ.

Ο ΠΡΟΕΔΡΟΣ

ΓΕΩΡΓΙΟΣ ΘΕΟΦ. ΚΑΛΚΑΝΗΣ

Εσωτ. Κοιν.: Δ.Ε.Π.Π.Σ

ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ ΥΠΟΥΡΓΕΙΟ ΠΑΙΔΕΙΑΣ & ΘΡΗΣΚΕΥΜΑΤΩΝ

Πιστό Αντίγραφο
Από τη Διεύθυνση Διοικητικού
Τμήμα Διοικ/σης & Πρωτοκόλλου

ΑΘΑΝΑΣΟΠΟΥΛΟΣ ΚΩΝ/ΝΟΣ

Forms Partner 11 Poland

The list of Polish teachers – members of CoL who have signed an ethical approval

Surname and name
Biederman Wojciech
Holeksa Janina
Hudziak Grzegorz
Jakubiec Piotr
Kajda Barbara
Kamińska Dorota
Kotarba Katarzyna
Sobesto Beata
Zaraska Agnieszka

Warunki współpracy:

Nauczycielom współpracującym z Uniwersytetem Jagiellońskim w ramach projektu 7PR IRRESISTIBLE **gwarantujemy:**

1. Udział w pracach grupy tzw. *Wspólnoty Uczących się*, możliwość dzielenia się własnymi opiniami, doświadczeniem i pomysłami w trakcie opracowania modułu poświęconego katalizie i ochronie środowiska

2. Bezpłatne szkolenie od kwietnia 2014 do czerwca 2015 na Wydziale Chemii UJ (pokrycie kosztów przejazdów spoza Krakowa, wyżywienia i ew. noclegów) poświęcone m.in.

a) metodologii nauczania kształtującego postawy badawcze uczniów - IBSE ,

b) najnowszym osiągnięciom w naukach przyrodniczych o dużym znaczeniu dla życia i gospodarki człowieka, w tym zagadnieniom nanotechnologii i nanomateriałów, energii odnawialnej, zmian klimatycznych, zdrowego żywienia w kontekście podstawy programowej do chemii i przyrody w liceum ogólnokształcącym,

c) przygotowaniu uczniowskiej wystawy popularno-naukowej

d) posługiwaniu się wybranymi mediami elektronicznymi, aplikacjami, platformą e-learningową

3. Konsultacje on-line z ekspertami z chemii i dydaktyki chemii
4. Wyjazd do Centrum Nauki Kopernik w Warszawie
5. Materiały dydaktyczne do pracy z uczniami: tekstowe oraz drobny sprzęt laboratoryjny, odczynniki i modele niezbędne do prowadzenia badań i przygotowania wystawy, zgodne z planem i kosztorysem zatwierdzonym przez koordynatora
6. Wynagrodzenie w wysokości 1000 EURO na koniec drugiego roku pracy za prowadzenie kolejnej grupy *Wspólnoty Uczących się*
7. Pokaz najlepszych prac uczniowskich w Muzeum Uniwersytetu Jagiellońskiego w czerwcu 2016
8. Udział najlepszej pracy uczniowskiej (wygranej w konkursie) w międzynarodowej wystawie projektu w Stambule latem 2016 r.

Oczekujemy:

1. Systematycznej współpracy przez okres 2 lat m.in. poprzez:
   - uczestnictwo w comiesięcznych (od kwietnia 2014 do czerwca 2015) 2-3 godzinnych spotkaniach na Wydziale Chemii UJ lub w muzeum Collegium Maius
   - uczestnictwa w aktywnościach na platformie e-learningowej
2. przygotowania z co najmniej 15 uczniami ze swojej szkoły (ponadgimnazjalnej) do końca roku szkolnego 2014/2015 wystawy popularno-naukowej w oparciu o ich badania z zakresu nanotechnologii, ochrony środowiska i katalizy z wykorzystaniem wiedzy i materiałów zdobytych na spotkaniach projektowych połączonej z konkursem na najlepszą pracę
3. zorganizowania w następnym roku szkolnym tj. 2015/2016 lokalnej grupy *Wspólnoty uczących się* składającej się z kolejnych 6 nauczycieli oraz doraźnie, w

zależności od potrzeb także konsultantów z Wydziału Chemii i Muzeum UJ, spotykającej się systematycznie i pracującej w oparciu o nowe tematy opracowane przez innych partnerów projektu. Prace tej nowej *Wspólnoty* powinny się zakończyć wystawami zorganizowanymi w szkołach nowych nauczycieli

4. zorganizowania konkursu na najlepszy uczniowski eksponat wystawowy opracowany w efekcie działań lokalnej grupy *Wspólnoty Uczących się*
5. dzielenia się wynikami, doświadczeniami, wrażeniami z pracy we *Wspólnocie Uczących się* w formie pisemnej lub na forum internetowym projektu
6. udziału w procesie ewaluacji i sprawozdawczości projektu

Każdy nauczyciel chemii ma prawo dobrowolnie przystąpić do projektu, jak również z niego zrezygnować w trakcie realizacji.

Kontakt:

Zakład Dydaktyki Chemii UJ dr Iwona Maciejowska

www.irresistible.zmnch.pl Kierownik projektu

www.irresistible-project.eu maciejow@chemia.uj.edu.pl

Forms partner 12 Romania

PROIECT: "IRRESISTIBLE - Including *Responsible Research and Innovation* in Cutting Edge Science and Inquiry-based Science Education to Improve Teacher's Ability of Bridging Learning Environments"
A coordination and support action under FP7-SCIENCE-IN-SOCIETY-2013-1, SiS.2013.2.2.1-1, Activity 5.2.2: Young People and Science - Topic SiS.2013.2.2.1-1: *Raising youth awareness to Responsible Research and Innovation through Inquiry Based Science Education*, **Grant Agreement Number: 612367**

Formular de Consimţământ
Pentru Participarea la Activităţi de Cercetare

În cadrul Proiectului **IRRESISTIBLE** - un proiect dedicat formării profesionale a cadrelor didactice, care combină activităţi de învăţare formale şi non-formale orientate pe *Cercetare şi Inovare Responsabilă* (*Responsible Research and Innovation*) -, se desfăşoară o serie de activităţi de cercetare care implică actori educaţionali, experţi şi cercetători din *Comunitatea de Învăţare din România - CoL* (constituită la nivelul proiectului), cadre didactice din învăţamântul primar şi secundar, elevi, responsabili din educaţie, responsabili ai mediului economic, personal din Muzee şi Biblioteci.

În perioada 1 Noiembrie 2013 - 31 octombrie 2014, *Comunitatea de Învăţare* a Proiectului IRRESISTIBLE, cuprinde următoarele persoane:

Personal academic:

- Luminiţa Mihaela DRĂGHICESCU - Coordonatorul Comunităţii de Învăţare, Universitatea Valahia din Târgovişte
- Rodica-Mariana ION - Cercetător în Nanoştiinţe, Universitatea Valahia din Târgovişte
- Radu Lucian OLTEANU - Cercetător în Chimie, Universitatea Valahia din Târgovişte
- Gabriela MĂNTESCU - Cercetător în Chimie, Expert în Energii Regenerabile, Universitatea Valahia din Târgovişte
- Mihai BÎZOI - Expert IT, Universitatea Valahia din Târgovişte
- Ana-Maria Aurelia PETRESCU - Expert în Curriculum, Universitatea Valahia din Târgovişte
- Alina Gabriela ANGHEL - Expert în Educaţie, Universitatea Valahia din Târgovişte
- Agnes ERICH - Expert în Biblioteconomie şi Gestiunea Informaţiei, Universitatea Valahia din Târgovişte

Cadre didactice:

- Gabriel STATE - Profesor de Fizică, Colegiul Naţional "Ienăchiţă Văcărescu" Târgovişte
- Carmen ANTONESCU - Profesor de Fizică, Liceul de Arte "Bălaşa Doamna" Târgovişte
- Niculina ZUGA - Profesor de Chimie, Colegiul Naţional "Constantin Cantacuzino" Târgovişte

- Maria TOMA BĂDEANU - Profesor de Chimie, Colegiul Naţional "Constantin Carabella" Târgovişte
- Adela VĂTAVU - Profesor de Biologie, Şcoala "Iulian Rusu" Mărceşti
- Georgiana Flory ŞTEFAN - Profesor de Învăţământ Primar, Şcoala "Ioan Alexandru Brătescu-Voineşti" Târgovişte

Personal din Muzee:

- Ovidiu CÎRSTINA - Director al Muzeului de Istorie Târgovişte
- Emilia IANCU - Director al Muzeului de Ştiinţe Naturale Prahova

Personal din Industrie:

- Ecaterina SARAGEA - S.C. Sedachim S.R.L. Târgovişte

Monitori (din partea Universităţii Valahia, având responsabilităţi în proiectul IRRESISTIBLE):

- Gabriel GORGHIU - Responsabil ştiinţific al proiectului şi coordonatorul activităţilor în România
- Laura Monica GORGHIU - Expert Monitor, Reprezentant LEAR al Universităţii Valahia din Târgovişte
- Ana-Maria SUDUC - Responsabil cu activităţile de diseminare
- Mihail Florin STAN - Responsabil cu activităţile expoziţionale

Începând cu 1 noiembrie 2014, *Comunitatea de Învăţare* a Proiectului IRRESISTIBLE va fi îmbogăţită cu alte cadre didactice din învăţământul primar şi secundar, în vederea realizării activităţilor propuse în cadrul proiectului.

În scopul desfăşurării activităţilor de cercetare prevăzute în cadrul proiectului IRRESISTIBLE, vă cerem permisiunea de a conduce şi realiza acţiuni şi proiecte de cercetare specifice Educaţiei prin Ştiinţe în şcoala dumneavoastră, implicând profesorii şi clasele (elevii) selectaţi. Acţiunile şi proiectele de cercetare vor debuta în decursul anului 2014 şi se vor finaliza în Septembrie 2016.

Scopul cercetării

Activitățile proiectului IRRESISTIBLE sunt destinate să promoveze implicarea elevilor și a publicului în procesul de *Cercetare și Inovare Responsabilă* (*RRI*), prin intermediul unui program de dezvoltare profesională a cadrelor didactice.

În procesul de formare a cadrelor didactice, proiectul se bazează pe *Comunitatea de Învăţare* (*CoL*) constituită de către fiecare partener. În cadrul *Comunității de Învățare*, fiecare grup component are un rol distinct: cadrele didactice posedă expertiză în lucrul la clasă cu elevii, experţii în educaţie au experienţă în implementarea unor strategii şi metode pedagogice moderne, cercetătorii sunt dedicaţi obţinerii unor rezultate ştiinţifice de valoare, centrele de știință, muzeele şi bibliotecile au experiență în desfăşurarea activităților de învățare non-formale. Comunitățile de Învăţare - propuse de către proiect - cuprind experți atât din domeniul educației formale, cât şi non-formale, având expertiză în cercetare, dar şi în practica curentă.

Subiectele sunt alese din topicile de cercetare de vârf, care îşi găsesc interesul în universităţile partenere, şi sunt propuse şi susținute de cercetătorii care face parte din *Comunitatea de Învăţare*. *Comunitatea de Învăţare* va propune şi realiza Module (Activităţi) de Instruire cu scopul de a fi utilizate în clasă. Cadrele didactice, dar şi experţii Comunităţii, vor învăța cum să folosească şi să implementeze aceste Module prin introducerea în demersurile didactice a formatului (strategiei) *instruirii bazate pe investigaţie ştiinţifică*. Materialele vor fi utilizate în clasă, în

procesul de implementare fiind antrenaţi şi experţi locali în educaţie formală, acolo unde este necesar.

Modulele (Activităţile) propuse vor fi adaptate în relaţie cu experienţa cadrului didactic în clasă. Ulterior, acestea vor fi apoi utilizate în al doilea stagiu al *Comunităţii de Învăţare* (al doilea an al proiectului). Fiecare cadru didactic - membru al Comunităţii - va participa în calitate de formator (tutor) în al doilea stagiu, coordonând alte 4-5 cadre didactice. În consecinţă, cadrele didactice pregătite în runda întâi vor activa în calitate de formatori pentru cadrele didactice din runda a doua şi vor promova în activitatea de formare strategia şi formatul *instruirii bazate pe investigaţie ştiinţifică*. Centrele de știință, muzeele şi bibliotecile vor folosi sau adapta expozițiile proprii, astfel încât să atragă atenția către rolul cercetării ştiinţifice şi a aspectelor specifice studiate, pentru societate.

După primele două stagii, cel puțin 25 de cadre didactice (de la fiecare partener al proiectului) vor folosi materialele propuse și se vor familiariza cu utilizarea şi exploatarea cadrului non-formal de învățare a centrelor de știință, muzeelor şi bibliotecilor propose de partenerii din proiect, şi vor implica - în medie - 1000 de studenți după primii doi ani ai proiectului, în fiecare țară.

Proceduri specifice

Cadrele didactice implicate în proiect vor participa la reuniunile *Comunității de Învăţare* și vor adapta pentru proprii elevi materialele bazate pe strategia (formatul) *instruirii bazate pe investigaţie ştiinţifică*. În timpul procesului de instruire, ei vor trebui să participe la ateliere (workshop-uri) web 2.0, astfel încît să folosească facilităţile web 2.0 în clasă, dar şi să planifice modul de integrare a cadrului non-formal în activităţile formale de predare a științelor. Ulterior, cadrele didactice vor folosi materialele de învăţare la propriile clase.

În anul următor, cadrele didactice vor tutora noii colegi primiţi în Comunitatea de Învăţare, şi vor activa în calitate de formatori (tutori). Ei vor continua să aibă acces la propriile materiale îmbunătățite și la materialele care utilizează strategia (formatul) *instruirii bazate pe investigaţie ştiinţifică* dezvoltate în cadrul proiectului, fiind liberi să le folosească în clasele lor chiar şi după încheierea proiectului.

Colectarea datelor

Pentru a evalua materialele didactice, dar și efectul procesului de instruire a cadrelor didactice, se vor folosi una sau mai multe dine următoarele metode: analiza produselor și a documentelor realizate înainte şi în cadrul programului de formare; analiza (înregistrarea) jurnalelor de coordonare (mentorat) ale cadrelor didactice ce îndeplinesc rolul de formatori; analiza (înregistrarea) grupurilor de discuţii şi a interviurilor (pre-post) cu reprezentanți ai *Comunităţii de Învăţare*. În plus, se va efectua o chestionare *pre-post* cu privire la atitudinile elevilor și a cadrelor didactice referitoare la *Cercetarea şi Inovarea Responsabilă* (*RRI*). Aceste date cantitative vor fi complementate de către analize de conținut calitative ale activităţilor desfăşurate de către elevi.

Toate materialele colectate în vederea realizării analizelor vor fi păstrate în regim „strict confidențial“ și nici un nume de elev sau de cadru didactiuc nu va fi publicat alături de rezultatele

obţinute. Datele vor fi însoțite doar cu menționarea partenerului (țării), precum şi sursei, alături de informaţii generice (școală, zonă urbană sau rurală, vârsta și sexul elevilor).

Durata studiului (cercetării)

În cadrul proiectului IRRESISTIBLE, studiul (cercetarea) va începe în decursul anului 2014, şi se va încheia în luna septembrie 2016. Prima *Comunitate de Învăţare* (*CoL*) va opera în primul an al proiectului şi va dezvolta materiale specifice care vor fi folosite la clasă. Colectarea datelor va avea loc în timpul activităţilor de predare şi desfăşurarea cercetării va depinde de momentul implementării Modulelor (Activităţilor) la clasă, de către profesori.

Informaţii de Contact

În cazul în care există întrebări sau se solicită informaţii suplimentare despre cercetarea propusă în cadrul proiectului IRRESISTIBLE, acestea pot fi adresate *Coordonatorului Proiectului*, Domnului *Jan Apotheker* (Universitatea din Groningen, Olanda), e-mail: j.h.apotheker@rug.nl, sau *Coordonatorului Proiectului la Universitatea Valahia din Târgovişte*, Domnului *Gabriel Gorghiu*, e-mail: ggorghiu@gmail.com.

Declaraţia de Consimțământ

Am avut oportunitatea de a citi acest *Formular de Consimţământ pentru Participarea la Activităţi de Cercetare* şi am înţeles scopul acestui studiu / acestei cercetări.

Am avut ocazia să adresez întrebări despre proiectul IRRESISTIBLE şi despre studiul (cercetarea) propusă, şi am primit răspuns la întrebările adresate.

Sunt de acord ca următoarele cadre didactice din școală, să participe la studiul (cercetarea) propusă, descrisă anterior.

Voi primi o copie a *Formularului de Consimțământ*, după semnarea acestuia.

_____ _____

Clasa / Clasele Numele cadrului didactic

_____ _____

Clasa / Clasele Numele cadrului didactic

_____ _____

_____

Semnătura Directorului Şcolii Nume şi prenume Data

_____ **Lect.univ.dr. Luminiţa Mihaela DRĂGHICESCU**

_____

Semnătura Coordonatorului *CoL* Nume şi prenume Data

(în numele cercetătorilor din *CoL*)

MINISTERUL EDUCAȚIEI NAȚIONALE
UNIVERSITATEA "VALAHIA" din TARGOVISTE
RECTORAT
B-dul Regele Carol I, Nr. 2 - 130024 Târgoviște, Romania
Tel: +40-245-206101; Fax: +40-245-217692/211809
rectorat@valahia.ro, www.valahia.ro

ETHICHAL PROCEDURES IN RESEARCH AND EDUCATION AT VALAHIA UNIVERSITY OF TARGOVISTE

Valahia University of Targoviste (VUT) will support the work of the EU Commission to promote our researchers to work in line with the ethical principles laid down by the Charter and Code. The C&C describes best practice in Europe regarding recruitment, working conditions, career development and research ethics for researchers. The C&C recommendations are in line with Valahia University of Targoviste's policy of being an attractive research institution by implementing good common principles for responsibilities and obligations for researchers, employees and funders.

As Valahia University of Targoviste obtained since 2011 the «High Confidence Rating» after the evaluation of the national organism of higher education institutions accreditation, ARACIS (The Romanian Agency for Quality Assurance in Higher Education) – which is full member of the European Association for Quality Assurance in Higher Education, ENQA – and it was external evaluated in 2013 by European University Association in the frame of Institutional Evaluation Programme, our institution will continue to work to implement the same principles concerning the ethical procedures, as those stipulated in the University Chart and the "University's Ethics and Academic Deontology Code".

The approach within the IRRESISTIBLE project will comply fully with the ethical standards of research in Romania and at Valahia University of Targoviste.

Rector,

Assoc. Prof. Calin Dinu OROS

Date: 26th of May, 2014

Appendix 3. Parental consent form

RESEARCH PARTICIPANT PARENT CONSENT FORM

IRRESISTIBLE - A project on teacher training, combining formal and informal learning focused on Responsible Research and Innovation

(name of local university researchers)
Jan Apotheker, University of Groningen, Netherlands

Purpose of Research

The project IRRESISTIBLE spreads activities designed to foster the involvement of students and the public in the process of responsible research and innovation (RRI) via a teacher training course. The teachers design Inquiry-Based teaching modules from topics in cutting edge research taking place in the local universities, supported by local researchers.

The modules will be adapted based on the experience in the classroom. These modules will then be used in the second round (WHEN?). After the first two rounds, at least 25 teachers in the region of the partners will have used the materials and become familiar with using the informal learning setting of the partners' science centre, involving on average 1000 students after the first two years of the project in each country.

The information collected in your child's classroom will be used in adapting and improving the developed modules as well as influence the teacher training we offer for the second round of teachers.

Specific Procedures

Throughout this project we will gather information to about what students are learning, using normal classroom materials. The teachers will use the novel teaching modules in their classroom and work out an exhibit from the results as a class project. During the course of the teacher's lessons we will examine and document students' written work, such as laboratory/activity worksheets, written assignments and informal quizzes. We will conduct a pre-post-questionnaire on students' attitudes to Responsible Research and Innovation. This quantitative data will be complemented by qualitative content analysis of student work.

All student work used in this study will be identified by an alphanumeric code to protect the identity of the students; all student names will be removed.

Analysis by researchers of students' work will provide the data base for this study, but will not affect any students' grade in class in any way.

Duration of Participation

This research will take place during the normal teaching schedule.

Risks

This research is studying what normally would happen in science classrooms. Participants will experience only minimal risk, i.e. no more than they normally encounter in everyday life.

Benefits

The benefit to your child is that he or she may learn important science content using state-of-the-art teaching materials. In addition, participating in activities such as building a science exhibit and engaging in scientific debates in the classroom may help students reflect on what they are learning for a better overall understanding. Future students, too, will ultimately benefit from the materials designed based on knowledge we obtain.

Confidentiality

All names and means of identifying students will be removed from all of student work and replaced with a reference code to maintain confidentiality. Such reference code number will be used for identification in all manuscripts and publications. The student data will only be accompanied with the mention of the country it ascends from and the general information of its source (small or large, rural or city school; the age and sex of student). De-identified surveys, questionnaires and copies of written work will be kept securely locked in a secure cabinet by the researchers at [NAME OF LOCAL PARTNER UNIVERSITY]. All records from this project may be reviewed by departments responsible for regulatory and research oversight.

Voluntary Nature of Participation

Participation in this research project is voluntary. If you or your child should decide against participation, you or your child may withdraw at any time by informing the researchers using the contact information below. Students will not be excluded from any lesson activities or learning experiences, however, based on their non-participation in this study.

Contact Information:

If you have any questions about this research project, you can contact Professor Jan Apotheker, University of Groningen (j.h.apotheekr@rug.nl) or <LOCAL REPRESENTATIVE> (e-mail).

Thank you for your consideration.

Documentation of Informed Consent

I have had the opportunity to read this consent form and have the research study explained. I have had the opportunity to ask questions about the research project and my questions have been answered. I agree to have my child participate in the research project described above.

_____ _____

Printed child name Class

_____ _____ _____

Parent signature Printed name Date

_____ _____
_____

Researcher signature Printed name Date

☐ I want to receive a copy of this consent form after it is returned.