

**What will the plenary lecturers talk about
at the 2nd International Conference
RECOGNIZING THE WORK AND WORKING WITH THEM IN EDUCATION?**

Thursday, September 21, 9:20 – 10:05; room 212

Dr. Fani Nolimal
Zavod RS za šolstvo



The Learning Environment for Gifted Students: Didactical Approaches and Strategies

The learning environment determines the dynamics and interactions between pupils, teachers, learning content and learning resources and technologies (Dumont and Istance, 2010), which is reflected in various didactic approaches (strategies) and learning activities. Which learning environment, didactic approaches and learning activities enable efficient learning and development of gifted students? Given the diverse characteristics of gifted ones, the answer is in a relaxed, flexible, supportive and sufficiently demanding but not overloading learning environment. Environment that promotes the development of responsibility and autonomy among gifted students, supports the different needs of individual learners, emphasizing students' strengths, and builds mutual responsibility for the classroom climate. From a didactic-methodical point of view, the best learning environment is structured in a way that enables project, collaborative, enquiry and independent learning, learner-centred didactical approaches supported with a modern technology. It should be personalized – sensitive to individual differences and based on individual feedback on learning. Moreover, it should provide independently learning in the small social learning group and be inclusive (Dumont and Istance, 2010; Tomlinson, 1999).

In accordance with the modern trends in education, the potential of gifted students is developed primarily in natural, heterogeneous learning groups and learning environments with appropriate internal (Strmčnik, 1993, 2001) or concentric differentiation (Visser, 1993; O'Brien & Guiney, 2001). All the students begin with the basics and the gifted ones can obtain broader and adaptive knowledge according to their abilities. With the method introduced, above all the students gain the most profit.

In accordance with this, we perform differentiated lessons in the framework of individual educational programs, in which we use differentiation measures and modifications of individual didactic elements, as well as strategies for organizing and managing differentiated lessons.

Učno okolje za nadarjene: Didaktični pristopi in strategije

Učno okolje določa dinamiko in interakcije med učencem, učiteljem, učno vsebino in učnimi viri ter tehnologijami (Dumont in Istance, 2010), kar se odraža v različnih didaktičnih pristopih (strategijah) in učnih aktivnostih. Katero učno okolje, didaktični pristopi in učne aktivnosti omogočajo učinkovito učenje in razvoj nadarjenih? Glede na raznolike značilnosti nadarjenih, je odgovor v sproščnem, fleksibilnem, podpornem in dovolj zahtevnem, a ne preobremenjujočem učnem okolju, ki pri nadarjenih spodbuja razvoj odgovornosti in avtonomije, podpira različne

potrebe posameznih učencev in poudarja njihova močna področja ter gradi vzajemno odgovornost za razredno klimo. Z didaktično-metodičnega vidika je to učno okolje, ki je strukturirano na način, da omogoča projektno, sodelovalno, raziskovalno in samostojno učenje; zagotavlja na učenca osredotočen in s sodobno tehnologijo podprt učni proces; je personalizirano – občutljivo za individualne razlike in individualno povratno informacijo o učenju; je inkluzivno in zagotavlja samostojno učenje v majhni socialni učni skupini (Dumont in Istance, 2010; Tomlinson, 1999). Skladno s sodobnimi trendi vzgoje in izobraževanja potencial nadarjenih razvijamo predvsem v naravnih, heterogenih učnih skupinah in učnih okoljih z ustrezno notranjo (Strmčnik, 1993, 2001) oz. koncentrično diferenciacijo (Visser, 1993; O'Brien in Guiney, 2001). Ta poleg temeljnega znanja in spretnosti za vse oz. večino učencev, omogoča tudi doseganje razširjenega in prilagojenega znanja ter spretnosti za nadarjene učence. Skladno s tem izvajamo diferenciran pouk v okviru individualnih izobraževalnih programov, kjer uporabljamo diferenciacijske ukrepe oz. modifikacije posameznih didaktičnih elementov, kot tudi strategij za organizacijo in vodenje diferenciranega pouka.

Thursday, September 21, 14:30 – 15:15; room 212

Heidrun Stoeger, Ph.D.
Universität Regensburg, South German Talent Centre



CyberMentor: An Online Mentoring Program for Talented Girls in STEM

Female students are less likely to choose STEM subjects in school and less likely to major in STEM when they go to college—regardless of their talents, and even when their scholastic performance equals or surpasses that of their male peers. Furthermore, early interest in STEM typically decreases as girls get older. In-school educational interventions often fail to improve this situation. An increasing number of programs are attempting to remediate this problem in Germany. CyberMentor is an extracurricular program designed to get talented girls excited about STEM and to facilitate their talent development in STEM. Roughly 800 girls in high-achiever-track secondary education participate in CyberMentor every year. Each mentee is matched with a personal female mentor and has the chance to work with her for at least 12 months. All mentors are women who have a degree in STEM and are currently working in a STEM profession. Mentor and mentee communicate about STEM majors and careers and collaborate on exciting and challenging projects in STEM. Program participants also communicate with other program participants beyond their immediate mentoring dyad. Communication and project activities take place on a members-only online platform via email, forums, and online chat.

I will first briefly describe the program and how it has been continually developed over the past decade according to the results of our ongoing accompanying research. In an effort to gauge and improve the program's effectiveness, we carried out longitudinal comparisons among participants and three control groups: (a) a waiting-list control group consisting of girls with the same interests and who had registered for the program, but not yet participated; (b) a control group of girls with average interests; and (c) a control group of boys with average interests. After describing some of my research findings, there will be an opportunity to discuss how these findings can be used in practice.

CyberMentor: spletni mentorski program za nadarjena dekleta na področjih naravoslovja, tehnike in tehnologije, inženirstva in matematike

Učenke se v šolah veliko manj pogosto kot učenci odločajo za predmete s področij STEM (naravoslovje, tehnika in tehnologija, inženirstvo in matematika) in posledično je verjetnost, da bodo po vpisu na fakulteto diplomirale s tega

področja, manjša – ne glede na njihovo nadarjenost ali učni uspeh, tudi kadar je enakovreden uspehu njihovih moških vrstnikov, ali ga celo prekaša. Poleg tega se zgodnje zanimanje za STEM predmete zmanjša, ko dekleta postanejo starejša. Šolskim izobraževalnim ukrepom pri poskusih izboljšanja te situacije pogosto spodleti. V Nemčiji posledično vedno več programov poskuša najti pravo rešitev. CyberMentor je izvenšolski program, ustvarjen z namenom, da nadarjena dekleta navduši za STEM in jim omogoči razvijanje njihove nadarjenosti na teh področjih. Vsako leto v CyberMentor programu sodeluje približno 800 deklet iz visokokakovostnih srednjih šol. Vsaki udeleženki je dodeljena osebna mentorica, s katero ima možnost sodelovati vsaj 12 mesecev. Vse mentorice so ženske, ki imajo diplomu s področja STEM in trenutno delajo v eni od STEM strok. Mentorice in dijakinje komunicirajo o študiju in karieri na STEM področjih in sodelujejo na zanimivih STEM projektih. Sodelujoče v programu prav tako lahko komunicirajo med seboj. Komunikacija in projektne aktivnosti potekajo na spletni platformi preko elektronske pošte, foruma in spletne klepetalnice, ki so na voljo zgolj članom.

V predavanju bom najprej na kratko predstavila program in njegov postopni razvoj v preteklem desetletju z vidika spremljajočih empiričnih raziskav. V prizadevanjih za ocenjevanje in izboljšanje učinkovitosti programa smo izvedli vzdolžne primerjave med udeleženkami CyberMentor programa in tremi kontrolnimi skupinami: a) kontrolno skupino deklet s čakalnega seznama, ki so se prijavile na program, a v njem še niso sodelovale; b) kontrolno skupino deklet s povprečnimi STEM interesi; in c) kontrolno skupino fantov s povprečnimi STEM interesi. Predstavitvi raziskovalnih rezultatov bo sledila diskusija o uporabi predstavljenih spoznanj v praksi.

Friday, September 22, 9:00 – 9:45; room 212

Margaret Sutherland, Ph.D.
University of Glasgow



Starting Strong: what does this mean for young gifted learners?

The newly developed International Early Learning Study (IELS) will test four domains and is inextricably linked to the “readiness for school” discourse. It could be argued that this will be beneficial for gifted young learners – they are often able to do things in advance of their age peers. However, this presentation will argue that focussing on an abstract set of standards will in fact diminish the learning experiences and opportunities for curiosity. This presentation will consider how we can best support young gifted learners. Drawing on principles from early education it will argue that if we are to support young gifted learners appropriately then we must consider feelings and dispositions as well as knowledge and skills and the cognitive domain. Early education offers great opportunities for gifted young learners but not if it pursues standardisation and the narrowing of early education in the pursuit of improved performance in IELS and PISA tests.

Dober začetek: kaj to pomeni za mlajše nadarjene učence

Nova mednarodna študija o zgodnjem učenju (v angleščini poimenovana International Early Learning Study – IELS) se usmerja na štiri področja in je tesno povezana z diskurzom o pripravljenosti na šolo. Moč je trditi, da bo ta študija koristila nadarjenim učencem, saj so pogosto zmožni veliko stvari početi pred svojimi vrstniki. V predavanju bo zagovarjano stališče, da osredotočanje zgolj na sklop abstraktnih standardov pravzaprav zmanjšuje kakovost učne izkušnje in omejuje učenčeve priložnosti za razvoj radovednosti. V predavanju bodo predstavljeni tudi različni načini, s katerimi lahko najbolje učno podpremo mlajše nadarjene učence. Na podlagi načel zgodnjega izobraževanja bo

pojasnjeno, zakaj je treba pri učni podpori mlajših nadarjenih učencev poleg njihovega znanja in veščin upoštevati tudi njihove občutke in naravnosti. Zgodnje izobraževanje nadarjenim mlajšim učencem namreč lahko ponudi odlične učne priložnosti, vendar to ni mogoče, če med izobraževanjem stremimo k standardizaciji in zoževanju programa zgodnjega izobraževanja z namenom, da bi učenci na preverjanjih znanja, kot sta Mednarodna študija o zgodnjem učenju (ang: IELS) ter Program mednarodne primerjave dosežkov učencev (ang: PISA), dosegli dobre rezultate.

Friday, September 22, 10:00 - 10:45; room 212

Colm O'Reilly, Ph.D.
Centre for Talented Youth Dublin
Talent Centre



Case Study of a University Based Programme for Gifted Students: CTY Ireland

CTY Ireland is the largest university based programme for gifted students in Europe. Located at Dublin City University CTY Ireland caters for over 5,000 students per annum and runs fast paced courses for high ability students aged 6 to 16. Students get the chance to come to a university and study college like subjects at weekends or during the summer. Ireland does not have any specific legislation for serving gifted students and this can lead to many being neglected in the school system. this talk will provide an example of how using a university is an effective strategy for challenging these students academically, and socially giving them opportunities to meet students of similar ability. As well as providing stimulating classes for gifted students CTY Ireland is also involved in a number of other initiatives. These include a programme for disadvantaged students and an Early University Entrance programme. CTY Ireland has also been involved in many research studies and has published reports and books in this area. Recently CTY Ireland led a successful Erasmus Plus bid to design an online programme for teachers of gifted students in regular classrooms. All of these projects will be discussed and potential for any future cooperation will be explored during this talk.

Študija primera univerzitetnega programa za nadarjene učence: CTY Irska

CTY Ireland (v prevodu: Center za nadarjene mladostnike Irske) je največji univerzitetni program za nadarjene učence v Evropi. Nahaja se na Dublinški Univerzi in skrbi za več kot 5.000 učencev na leto tako, da organizira oz. vodi intenzivne izobraževalne programe za izjemno učno sposobne učence stare od 6 do 16 let. Učenci imajo priložnost obiskati univerzo in se med vikendi ali poletnimi počitnicami udeležiti seminarjev po vzoru univerzitetnih predmetov. Irska nima zakonodaje, ki bi služila nadarjenim učencem, kar lahko privede do tega, da so mnogi izmed njih znotraj šolskega sistema spregledani. To predavanje bo na podlagi primerov pokazalo, kako je uporaba univerzitetnih prostorov in sredstev učinkovita strategija, s katero so lahko nadarjenim učencem predstavi nove učne izzive ter ponudi nove priložnosti za srečanja tudi z drugimi učenci, ki imajo podobne zmožnosti. Poleg organiziranja zanimivih dejavnosti za nadarjene učence, CTY Ireland sodeluje tudi pri številnih drugih pobudah. Te vključujejo: program za prikrajšane študente ter program zgodnjega vpisa na univerzo. CTY Ireland je sodeloval v številnih raziskovalnih študijah in je na tem področju objavil različna poročila in knjige. Nedavno je CTY Ireland pridobil uspešen Erasmus Plus projekt za oblikovanje spletnega programa za učitelje nadarjenih učencev, ki poučujejo nadarjene učence v šoli. V tem predavanju bomo govorili o vsem naštetem ter preučili možnosti za kakršnakoli nadaljna sodelovanja.

Friday, September 22, 14:00 - 14:45; room 212

Željko Rački, Ph.D.
Sveučilište Josipa Jurja Strossmayera u Osijeku
Talent Point



Gifted Education and the Structure of Creative Behavior

The aim of this plenary lecture is to explore the relationships between gifted education and the structure of creative behavior by presenting results from the two lines of author's scientific psychological inquiry. In the context of education the first line of study findings on creativity addresses educators and the second the students. Creativity studied as observable, manifest, socially acceptable behavior consensually described as creative in a given social context, the result of the interaction of abilities, knowledge, traits, task commitment, and social influences, and the process at the end of which a student can potentially produce an observable original product, proves to have complex relationships with education in general, and a highly important one with the field of gifted education. Creativity is explicitly considered an educational objective. Beyond general education, creativity is central to giftedness theories as an underlying construct, and to the gifted education as a highly valued predictor and outcome. The plenary lecture aims to unify these two lines of scientific inquiry by discussing these three questions: a) is there a structure to creativity, b) is creativity accessible to education, and how, and c) if so, how creativity relates to gifted education. The discussion is embedded within the psychology of creativity with a special emphasis placed on the role that supportive educational context, in full acknowledgment of the structure of creative behaviors, plays in nurturing the creativity in students.

Izobraževanje nadarjenih in struktura ustvarjalnega vedenja

Namen tega plenarnega predavanja je raziskati povezave med izobraževanjem nadarjenih in strukturo ustvarjalnega vedenja, in sicer na osnovi predstavitve empiričnih rezultatov iz dveh raziskav, ki jih je izvedel predavatelj. V kontekstu izobraževanja se prvi sklop ugotovitev o ustvarjalnosti osredotoča na učitelje, drugi pa na učence. Ustvarjalnost je v stroki opredeljena kot opazno, očitno, družbeno sprejemljivo vedenje, ki se v določenem družbenem kontekstu soglasno opisuje kot ustvarjalno, nadalje kot rezultat interakcije med sposobnosti, znanjem, lastnostmi, predanostjo nalogam in družbenimi vplivi, ter nenazadnje kot proces, na koncu katerega ima učenec priložnost ustvariti opazen izvorni izdelek. Ustvarjalnost je eksplicitno opredeljena kot cilj izobraževanja. Poleg pomembne vloge v izobraževanju na splošno je ustvarjalnost osrednjega pomena tudi v teorijah nadarjenosti, saj služi kot njihov osnovni konstrukt, ter pri izobraževanju nadarjenih, kjer je visoko cenjena kot napovednik in rezultat. Cilj plenarnega predavanja je združiti obe področji znanstvenega raziskovanja ter odgovoriti na naslednja tri vprašanja: a) ali je ustvarjalnost strukturirana, b) je ustvarjalnost dostopna izobraževanju, in če da, c) kako se ustvarjalnost nanaša na izobraževanje nadarjenih? Razprava bo temeljila na spoznanjih iz psihologije ustvarjalnosti, s posebnim poudarkom na vlogi, ki jo ima izobraževalno okolje z upoštevanjem strukture ustvarjalnega vedenja pri kultiviranju učenčeve ustvarjalnosti.