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Učenje usmjerenim opažanjem

Directed observation learning

Sažetak

Ponekad je dovoljno samo malo volje i mašte da razbijemo svakodnevnu monotoniju poučavanja i rješavanja matematičkih zadataka. Umjesto učenja i razvijanja proceduralnih znanja rješavanjem dugih algoritamskih postupaka te suhoparnim ponavljanjem i uvježbavanjem sličnih zadataka, bit nastave matematike treba biti u razvoju matematičkih procesa, mišljenja i zaključivanja te usvajanju konceptualnih znanja temeljenih na razumijevanju sadržaja.

Budući da ne postoji savršen pristup niti savršena strategija koji garantiraju savršeno učenje, korisno je poznavati različite pristupe, njihove prednosti i nedostatke te ih kombinirati kako bi proces poučavanja optimizirali, a ishode učenja pospješili.

Cilj ovoga rada je ukazati kako se strategijom učenja usmjerenim opažanjem mogu uvoditi apstraktni matematički pojmovi, postavljati opća pravila, zadaci rješavati s razumijevanjem te poticati interes i pozitivan stav učenika prema matematici.

Odabirom različitih primjera, koji su okosnica rasprave, želi se dati poneka ideja kako se učenici mogu usmjeravati na argumentiranu raspravu i samostalno postavljanje matematičkih zakonitosti: od uočavanja bitnih elemenata, preko postavljanja i formuliranja problema, istraživanja i uočavanja pravilnosti do povezivanja sadržaja u jednu funkcionalnu cjelinu.

U tu svrhu, korisno je na primjer običnu fotografiju obući u ruho dosjetljivih interpretacija kako bi učenike motivirali i potakli na aktivno sudjelovanje i samostalno otkrivanje matematičkih zakonitosti.

Abstract

Sometimes all it requires in order to break up the monotony of everyday teaching and solving mathematical problems is a little effort and imagination. Instead of learning and developing of procedural knowledge by solving lengthy algorithmic procedures and dull repetition and practice of related tasks, the essence of teaching mathematics should be in the development of mathematical processes, thinking and reasoning, as well as adopting conceptual knowledge based on the understanding of the content.

Since there is no flawless approach or ideal strategy that would guarantee perfect teaching, it is useful to be acquainted with different approaches, their advantages and disadvantages, and combine them in order to optimize the teaching process and enhance learning outcomes.

The aim of this paper is to show how directed observation as a learning strategy can be used to introduce abstract mathematical concepts, define general rules, solve tasks with a higher level of understanding and encourage interest and positive attitude of students towards mathematics.

The intent behind selecting different examples, which form the backbone of the discussion, was to present some ideas on how the students can be guided to participate in argumentative debate and define the laws of mathematics independently: starting with identifying essential elements, through defining and formulating the problem, researching

and recognizing relevant regularities, and finally uniting the content into a single functional unit.

With this purpose, it is useful to use an everyday object, for example an ordinary photo and disguise it with witty interpretations, in order to motivate and encourage the students to actively participate and discover the laws of mathematics by themselves.