

**THE INFLUENCE OF ACADEMIC SELF-  
CONFIDENCE ON  
MATHEMATICS ACHIEVEMENT**

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## **Abstract**

It seems as if there is a continued problem with mathematical performances nationally. The rate, at which FET (Further Education and Training) phase learners discontinue Mathematics as a result of poor mathematical performances, is of great concern. This research study determined how academic self-confidence could have an influence on learners' abilities to perform in Mathematics. The literature review confirmed that there could be a link between academic self-confidence and mathematical performance. Consequently, the researcher wanted to establish if the same could be found at a school where the emphasis is very much on mathematical achievement. The school is based in Northern Johannesburg (D10) in Gauteng, South Africa. By applying an explanatory mixed method approach (quantitative, followed by qualitative methods), the researcher identified a clear link between this school's learners' abilities to perform in Mathematics and their academic self-confidence. Amongst others, positive links were also identified between the learners' comprehension of Mathematics, their problem-solving skills as well as educator assistance, which in turn influence their academic self-confidence and consequently also their performances. A cycle of mathematical influences was identified that demonstrated that the influence is not only working one way, but that a cycle forms; academic self-confidence influences the learner's ability to perform in mathematics and mathematical performances also influence academic self-confidence, causing a continuous cycle of influence.

### **Keywords:**

academic self-confidence, mathematical performance, mathematical achievement, mathematical cycle of influence, Maths drop-out rate, Mathematics drop-out rate, mathematical comprehension, problem solving, and educator assistance.

## **Opsomming**

Dit wil voorkom of daar in voortgesette probleem met die swak nasionale wiskunde-uitslae in die VOO (Verdere Onderwys en Opleiding) fase bestaan. Die tempo waarteen leerders Wiskunde staak as gevolg van die swak uitslae, is rede tot groot kommer. Hierdie navorsingstudie het bepaal wat die moontlike invloed van akademiese selfvertroue is op 'n leerder se vermoë om in wiskunde te presteer. Die literatuuroorsig dui daarop dat daar wel 'n verband tussen akademiese selfvertroue en wiskunde prestasies kan wees. Gevolglik, wou die navorser bepaal of dieselfde verband gevind kan word in 'n skool waar klem gelê word op wiskunde vaardighede en prestasie. Die skool is geleë in Johannesburg-Noord (D10) in Gauteng, Suid-Afrika. Deur die toepassing van 'n verklarende gemengde benadering (kwantitatiewe, gevolg deur kwalitatiewe metodes) kon die navorser 'n duidelike positiewe verband identifiseer tussen akademiese selfvertroue en hierdie skool se leerders se vermoë om in wiskunde te presteer. Ondermeer is daar ook verbande geïdentifiseer tussen leerders se begrip van wiskunde, hul vermoë om probleme op te los asook onderwyser-ondersteuning, wat op hul beurt hul akademiese selfvertroue beïnvloed en gevolglik ook hul prestasies. 'n Siklus van invloede op wiskunde is geïdentifiseer wat bewys dat die invloed nie in een rigting alleen werk nie, maar dat dit 'n siklus vorm; akademiese selfvertroue beïnvloed die leerder se vermoë om in wiskunde te presteer, en wiskundige prestasie beïnvloed weer die leerder se akademiese selfvertroue wat 'n voortgesette siklus van invloede veroorsaak.

### **Sleuteltermes:**

akademiese selfvertroue, wiskundige prestasies, wiskundige vermoëns, siklus van invloede op wiskunde, wiskundige begrip, probleemoplossing, en onderwyser-ondersteuning.

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