

IIMVAVANYO ZIKAZWELONKE ZOKUTHELEKISA:  
UKULUNGISELELA ABAFUNDI BAKHO  
UVAVANYO LOBUCHULE BOKUFUNDA  
NOKUBHALA BEMFUNDO EPHAKAMILEYO  
YABO BONKE (AQL)

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**ULWAZI LWEETITSHALA NGOVAVANYO LUKAZWELONKE LOKUTHELEKISA UBUCHULE  
BOKUFUNDA NOKUBHALA BEMFUNDO EPHAKAMILEYO NOLWABO BONKE**

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**1. INJONGO YOXWEBHU**

Le ncwadana iya kukunceda ukuqonda ukuba luyintoni uVavanyo lukaZwelonke lokuThelekisa (NBT) uBuchule bokufunda nokubhala bemfundo ephakamileyo nolwabo bonke (AQL) lumalunga nantoni yaye ikubonelela ngezikhokelo ngendlela onganceda ngayo ukuxhobisa abafundi bakho malunga nezi mvavanyo.

**2. IMVELAPHI**

limvavanyo zikaZwelonke zokuThelekisa (NBTs) ziziphumo zeProjekthi yoVavanyo kaZwelonke yokuThelekisa (NBTP) eyalathelwe yi-Universities South Africa (eyayifudula isaziwa njengeMfundo ePhakamileyo yaseMzantsi Afrika (Higher Education South Africa) ngowama-2005. Ziyilwe ukulinganisa imigangatho yobuchule bomfundi kuBuchule bokuFunda nokuBhala beMfundo ePhakamileyo (AL), kuBuchule bokuFunda nokuBhala babo Bonke (QL) nobeMathematika (MAT) ngokunxulumene neemfuno zokufunda zomgangatho wesithathu.

Kananjalo ii-NBT zibonelela ngolwazi lokunceda ekukhetheni nasekubekeni endaweni abafundi kwiindlela ezifanelekileyo zekharithulam (umz. iinkqubo zesiqhelo, ezoluliweyo, ezivala isikhewu okanye ezesiseko) kunye nophuhliso lweekharithulam zeenkqubo zeMfundo ePhakamileyo. Ngaphezu koko, zanceda iMfundo ePhakamileyo ukutolika iziphumo zokushiya isikolo, ezifana nezo zeSiqinisekiso esiPhakamileyo sikaZwelonke (NSC).

limvavanyo ze-AL ne-QL zijolise ekusebenziseni ulwazi olufundiweyo kwisigaba esiphezulu sesikolo sasasekondari. Izipho nezakhono zokuqonda ezisekelwe kwikharithulam yesikolo ziyafuneka ukuze zidluliselwe komnye umxholo, umxholo wemfundo ephakamileyo, yaye oku ngokuyimfuneko yinto leyo iimvavanyo ze-AL ne-QL ziyixabisayo.

Ngokusekelwe kwisenzo sabo kwenye nenye yeemvavanyo, abavavanywa babekwa kwiindidi ezintathu: Isiseko, Phakathi, okanye Ubuchule. Ezi ndidi okanye amaqela, amiselwa ngokungqongqo ngenkqubo eSeka imiGangatho eqhutywa njalo kwiminyaka emithathu ukuqinisekisa ukuba izithelekisi zihambelana nexesha langoku yaye zisemxholweni.

Itheyibhile 1: Amaqela othelekiso lwe-NBT

<b>Isiseko</b>	<b>Phakathi</b>	<b>Ubuchule</b>
Intsebenzo kumgangatho <i>weSiseko</i> icebisa ukuba abavavanywa baya kuba nobunzima ekwaneliseni iinkqubo zesiqhelo zemfundo ephakamileyo.	Intsebenzo kumgangatho <i>oPhakathi</i> icebisa ukuba abavavanywa banokuba namava anzima kwiindawo zommandla yaye bangafuna uncedo olufanelekileyo.	Intsebenzo kumgangatho <i>woBuchule</i> icebisa ukuba abavavanywa baya kuba nakho ukumelana neenkqubo zesiqhelo zokufunda.

### **3. IIMVAVANYO ZOBUCHULE BOKUFUNDA NOKUBHALA ZEMFUNDO EPHAKAMILEYO NEZABO BONKE (AQL)**

Iimvavanyo zobuchule bokufunda nokubhala zemfundo ephakamileyo nolwabo bonke ziimvavanyo ezibhekise kwinqobo. Oku kuthetha ukuba amanqaku afunyenweyo kwiimvavanyo anikela ngolwazi malunga noBuchule bokuFunda nokuBhala bemfundo ephakamileyo noBuchule bokuFunda nokuBhala kwabo bonke bokulungela imfundo yomgangatho wesithathu. Bayafumaneka kuzo zombini iilwimi zokufundisa kwiMfundo ePhakamileyo, oko kukuthi, isiNgesi nesiBhulu.

Injongo yeemvavanyo kukumisela nokuba abavavanywa bazuzile yaye bangasebenzisa ubuchule babo bokufunda nokubhala bemfundo ephakamileyo nobabo bonke bohlobo oluthile kwimixholo efana naleyo banokudibana nayo eyunivesithi.

Kumacandelo amabini alandelayo, imimandla nemimandla enganeno ye-NBT AL neye-NBT QL iyachazwa, imizekelo yemibuzo yovavanyo inikelwe, yaye neminye imicamango yendlela abafundi bangazilungisa ngayo iyaxoxwa.

#### **4. YINTONI ENDINGAYILINDELA KUVAVANYO LWE-NBT LWEMFUNDO EPHAKAMILEYO?**

linjongo zovavanyo lwe-NBT AL kukuxabisa isiphiwo somvavanywa sokwenza okulandelayo:

- ukuxoxa ngentsingiselo kumphakamo wegama, wesivakalisi, womhlathi nowesicatshulwa sisonke;
- ukuqonda isakhiwo sentetho nempikiswano “neempawu” zesicatshulwa ezikumbindi wesi sakhiwo;
- ukufakela nangakumbi nokufikelela iintelekelelo ezingaphaya kwezixeliweyo kwisicatshulwa;
- ukwahlukanisa ulwazi olufunekayo kolungafunekiyo kunye nolungaphezulu kolunye kolungaphantsi kolunye;
- ukuqonda nokutolika ulwazi olufakwe ikhowudi, olufana neegrafu, needayagramu nemizobo yonxibelelwano;
- ukuqonda nokubamba ngobuchule ulwazi lwamanani;
- ukuqonda ukubaluleka negunya lelizwi lakho;
- ukuqonda nokufaka ikhowudi kwiziseko zolwimi lwesikweko, olwamagama namaqhalo; kunye
- nokuxoxa kwanokuhlalela umxholo wombhalo.

##### **4.1. Imimandla enganeno ye-NBT yoBuchule bokufunda nokubhala beMfundo ePhakamileyo (AL)**

Uvavanyo ngalunye lwe-NBT AL luquka ngokusondeleyo kwimibuzo yokhetho oluphindaphindayo engama-75. Yonke le mibuzo iphuhliswe ngokusekelwe kwiingcaciso ezivela kwiziphiwo ze-NBT AL ezinikelweyo ngentla. Ezi ngcaciso zishwankathelwe kwitheyibhile yommandla onganeno ngezantsi:

Itheyibhile 2: Ingcaciso yemimandla enganeno ye-AL

Ummandla onganeno	Inkcazo
Umsebenzi wokunxibelelana	Iziphiwo zabafundi ‘zokubona’ indlela inxenye yezivakalisi / iingxoxo zichaza amanye amalungu; okanye yimizekelo yezimvo okanye iinkxaso zeempikiswano; okanye iinzame zokucenga.
Intelekelelo	Izakhono zomfundi zokuthatha izigqibo nokusebenzisa iimbono, nokuba ngokusekelwe kwinto exeliweyo kwisicatshulwa okanye okuthethwa zezi zicatshulwa.
Isigama	Iziphiwo zabafundi zokufumana/ ukufumana intsingiselo yegama kumxholo wawo.
Unxibelelwano 1. Unamathelwano 2. Ingxoxo	Izakhono zabafundi ‘zokubona’ isakhiwo nohlelo lwengxoxo nempikiswano, ngokuthathela ingqalelo – ngaphakathi kwemihlathi yezicatshulwa – ukuya kwiinguqu kwimpikisano; izimvo ezingaphezulu kwezinye nezingaphantsi kwezinye; uphuhliso olunengqiqo.
Ezifunekayo /nezingafunekiyo	Iziphiwo zabafundi ‘ukubona’ izimvo ezingundoqo nenkcukacha exhasayo; iingxelo nemizekelo; iinyaniso nezimvo; izindululo neempikiswano zazo; ukuba nakho ukuhlela, kunye ‘neleyibhile’.
Igraman/nolwakhiwo lwamagama	Iziphiwo zabafundi ‘zokubona’ / ukuhlahlela indlela yesakhiwo sesivakalisi/ igama, isaci sichaphazela intsingiselo nogxininiso lolwimi.
Isikweko	Iziphiwo zabafundi zokuqonda nokusebenza ngezafobe kulwimi. Oku kuquka amandla abo okubona intsingiselo yolwimi, ukudlala ngamagama, ukuntsonkotha, amabinzana amaqhalo, njalo njalo
Uhlobo loncwadi	Iziphiwo zomfundi zokubona ‘abaphulaphuli’ kumbhalo kunye nenjongo yokubhala, kuquka isiphiwo sokuqonda ubhaliso lwesicatshulwa (ngokusemthethweni / ngokungekho emthethweni (efundisayo / eyazisayo / ethundezayo / njl njl.).

Imibuzo yokhetho oluphindaphindayo kuvavanyo lwe-AL iyilwe ukulinganisa le mimandla ukuya kumaqondo ahlukeneyo obude nokuntsonkotha. Oku kuthetha ukuthi eminye imimandla enganeno inemibuzo yovavanyo emininzi kunemibuzo yovavanyo.

Kuwo onke amacandelo ovavanyo lwe-AL, kufunwa ukuba abafundi bafunde imihlathi emifutshane efana naleyo baya kudibana nayo eyunivesithi nakwimibuzo ephindaphindayo esekelwe kuloo mihlathi enikelweyo ngezantsi. Kwimeko nganye, igama lommandla onganeno oxatyiswe ngumbuzo liyaboniswa.



**5. YINTONI ONGAYILINDELA KUVAVANYO LWE-NBT LOBUCHULE BOKUFUNDA NOKUBHALA LWEMFUNDO EPHAKAMILEYO (AL) NOLWABO BONKE (QL) ?**

Uvavanyo lwe-NBT QL luxabisa isiphiwo somvavanywa ukwenza okulandelayo:

- Ukuqonda isiseko sengqikelelo yamanani nolwazi olusetyenziwe kwitekisi.
- Ukukhetha nokusebenzisa uluhlu lwamagama namabinzana awabo bonke;
- Sebenzisa iinkqubo zabo bonke kwiimeko ezahlukahlukeneyo;
- Yila uze usebenzise iifomula ezilula;
- Tolika iithebhile, iigrafu, imizobo netekisi uze udibanise ulwazi oluvela kwiimvelaphi ezahlukileyo;
- Yenza izibalo ezibandakanya amanyathelo ophindaphindo ngokuchanekileyo;
- Chonga iinkqubo nepatroni kwiimeko ezahlukileyo;
- Sebenzisa iimo zeemilo ezilula zejiyometri ukumisela imilinganiso;
- Cinga ngokufanelekileyo; uze
- Tolika ulwazi lobuninzi olunikelwe ngomlomo, ngezimo, nangegrafu

**5.1 Imimandla enganeno yovavanyo lwe-NBT lobuchule bokufunda nokubhala lwabo Bonke (QL)**

Kukho imibuzo yokhetho lophindaphindo engama-50 kuvavanyo lwe-QL. Le mibuzo yakhiwe ukuxabisa ubuchule bokufunda nokubhala kwabo bonke abafundi ngokusekelwe kwiinkcazo ezishwankathelwe kwiithebhile 3. Abavavanywa abayidingi ikhaltyhuleyitha ukubhala uvavanyo lwe-QL yaye apho kukho imfuneko iifomula zibonelelewe.

Iithebhile 3: Inkcazo yemimandla enganeno ye-QL

Ummandla onganeno	Inkcazo
Ubungakanani, inani, nemisebenzi.	<ul style="list-style-type: none"> <li>• Iziphiwo zomfundi zokuhlela ubuninzi, ukubala nokuqikelela iimpendulo kwizibalo ezifunekayo kwimeko, esebenzisa amanani (amanani apheleleyo, amaqhezu, iidesimali, iipesenti, izalamani, ubhalo lwamanani lwenzululwazi) nemisebenzi elula (+, -, ×, ÷, inani lokuziphindaphinda) kuwo.</li> </ul>

	<ul style="list-style-type: none"> <li>• Isiphiwo sokuxela inani ledesimali elifanayo ngezinye iindlela (ezifana nokuguqula iqhezu libeyipesenti, iqhezu lesiqhelo libe liqhezu ledesimali njalo njalo)</li> <li>• Isiphiwo sokutolika amagama namabinzana asetyenziswa ukuchaza izalamani (iimahluko ezizalanayo) phakathi kwamanani, ukuguqula amabinzana anjalo ukuba yiminikelo yamanani nokutolika isiphumo isiphetho somxholo wentsusa. Isiphiwo sokusebenza ngokufanayo ngezalamani phakathi kobuninzi obunikelwa kwiitheyibhile nemizobo, nakwizikali zedayagramu.</li> </ul>
Imilo, umlinganiso nesithuba.	<ul style="list-style-type: none"> <li>• Isiphiwo sokuqonda iindlela zokusebenza malunga nomlinganiso nenkcazo (unikelo) lwezinto zemilinganiso yesi-2 neyesi-3, amadolo namacala.</li> <li>• Isiphiwo sokwenza izibalo ezilula ezibandakanya ii-eriya, imijikelezo nemithamo yezimo ezilula ezifana namaxande neetyhubhu.</li> </ul>
Amanxulumano, iphatheni, ubalo	<ul style="list-style-type: none"> <li>• Isiphiwo sokuqaphela, ukutolika nokumela izalamani neephatheni ngeendlela ezahlukeneyo (iigrafu, iitheyibhile, amagama neempawu)</li> <li>• Isiphiwo sokubamba ngobuchule iimbonakalo ezilula ze-aljibra kusetyenziswa iindlela ezilula zezibalo.</li> </ul>
Utshintsho nezantya	<ul style="list-style-type: none"> <li>• Isiphiwo sokuphawula phakathi kweenguqu (okanye iimahluko kubukhulu) ezixelwa ngezimo ezithe ngqo nezo ezixelwa ngeendlela zolwalamano (ukwenza umzekelo njengotshintsho lwepesenti)</li> <li>• Isiphiwo sokwandisa nesizathu malunga neenguqu okanye iimahluko.</li> <li>• Isiphiwo sokubala izantya zomyinge wenguqu nokuqaphe ukuba ukutyula kwegrafu kumele isantya senguqu sotshintsho oluguqukayo ngokuphathelele kutshintsho oluzimeleyo.</li> <li>• Isiphiwo sokutolika igophe legrafu ngokwezantya zokutshintsha.</li> </ul>
Unikelo lwedatha nohlahlelo	<ul style="list-style-type: none"> <li>• Isiphiwo sokufumana nokusebenzisa ulwazi oluvela kubameli bedatha ebhaliweyo kwiitheyibhile (imigca neentsika eziliqela kunye nedatha yeentlobo ezahlukeyo ezidityanisiweyo),</li> </ul>

	<p>imizobo (iphayi, iqonga, iqonga elidibeneyo, iqonga elipakishiweyo, umgca “ophukileyo”, iiploti ezisasazekileyo) iigrafu needayagramu (ezifana needayagramu zomthi) nokutolika intsingiselo yolu lwazi.</p> <ul style="list-style-type: none"> <li>• Isiphiwo sokumela idatha kwiitheyibhile netshati , ezifana netshati yebha okanye eyomgca.</li> </ul>
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## **5.2 Unganceda njani ukulungiselela abafundi bakho iimvavanyo zoBuchule bokuFunda nokuBhala beMfundo ePhakamileyo (AL) nokwabo Bonke (QL)?**

Ukulungiselela abafundi uvavanyo lwe-AL, ootitshala besikolo esiphakamileyo kufuneka okokuqala baziqhelise ukuba uvavanyo luzimisele ukulinganisa ntoni. Uluhlu lweziphiiwo ezidala isakhiwo soBuchule bokuFunda nokuBhala nezilinganswa kwi-NBT lunikiwe kwicandelo elithi “YINTONI ONGAYILINDELA KUVAVANYO LOBUCHULE BOKUFUNDA NOKUBHALA (AL)” olungentla. Ezi zizipho ngokubanzi ezo abavavanywa abazimisele ukwenza izicelo zokufunda eyunivesithi kuzo zonke iinkqubo kufuneka babenazo ukuze babe nethuba elingenamkhethe lokuphumelela. Xeshikweni izifundo ze-NSC zesiNgesi nesiBhulu zaziswa yi-Curriculum and Assessment Policy Statement (CAPS) enenjongo yokufundisa ezi zakhono, kunzima ukumisela umda lowo abafundi kufuneka bawufikelele ukufumana ezi ziphiwo. Ngokufanayo, kunzima ukubonisa nokuba ezi zakhono zixatyiswa njani kwiimviwo ze-NSC zesiNgesi nesiBhulu. Ukuba ootitshala bezifundo zezikolo eziphakamileyo bangenza iinzame zokudibanisa ezi zakhono zoBuchule bokuFunda nokuBhala kwizifundo zonke abazifundisayo kwisikolo esiphakamileyo, abafundi bangazilungiselela ngcono kuBuchule bokuFunda nokuBhala. Kananjalo kungaba luluvo oluhle ukuba ezi titshala zisebenze kunye neetitshala zeelwimi zesiNgesi nesiBhulu ukwenza ngcono uluvo lokuba ezi zakhono zingadityaniswa njani kuyo yonke into equlathwe yikharithulam yesikolo esiphakamileyo.

Ngenjongo yokulungiselela abafundi uvavanyo lwe-QL, ootitshala esikolweni bangasebenzisana nabafundi ngokuqinisekisa ukuba bayaqonda kwanokuthi bangasebenzisa iingqikelelo zesiseko ezisetyenziswa kwiiklasi zemathematika nezobuchule bokufunda nokubhala zemathematika. Kufuneka bakhuthaze ukusetyenziswa kweigrafu, iitshati, iimaphu neetheyibhile kwiimeko ezahlukeneyo zokufunda. Kufuneka ootitshala baqinisekise ukuba abafundi bayayiqonda indlela yokudala iigrafu neetheyibhile kwakunye nendlela yokuzifunda nokutolika ulwazi olu kule minikelo yeigrafu.

Ulwazi nedatha eboniswe kwiigrafu, iimaphu neetshathi kufuneka zisekelwe kwiingqikelelo zokwenyani zobomi, yaye ngaxeshanye, kufuneka idatha inyaniseke yaye ibe yinto ekhoyo. Ootitshala bangasebenzisa ulwazi lwemicimbi yangoku ehambelana nale njongo. Ukwenza umzekelo, u-Eskom kutshanje uthumele isindululo sokunyusa ixabiso leeyunithi zombane onikelwa abahlali besiqhelo baseMzantsi Afrika. Ootitshala bangasebenzisa unyuso lwexabiso lweeyunithi zombane ukubonisa ukuba oku kuya kuluchaphazela njani ulwabiwo lwemali labazali bomfundi kwakunye nosapho lwabo. Ootitshala bangacela abafundi ukusebenzisana nokubacela ukecebisa ngezisombululo zokunqongophala kombane abajongene nakho eMzantsi Afrika. Lo msebenzi ungenza abafundi benze izibalo yaye kungabakhuthaza ukucinga ngoqwalaselo nokuzathuza. Ootitshala bakhuthazwa ukuphuhlisa uluvo lwamanani nokufundisa abafundi ukwenza uhlahlolwabiwo-mali ngaphandle kokusebenzisa iikhaltyhuleitha ukufikelela iimpendulo zabo. Kufuneka ootitshala bakhuthaze abafundi ukugocagoca iimpendulo zabo ngokusebenzisa ubungqina ukuxhasa iimpendulo zabo. Ootitshala kufuneka bathathele ingqalelo xa befundisa iiratio, ulwalamano namaqhezu yaye bakhuthaze abafundi ukuphuhlisa ukucinga malunga neengqikelelo zabo bonke.

Okokugqibela, iimvavanyo ze-AL ne-QL ziquka izinto zokhetho lophindaphindo ezo kufuneka abafundi bazifunde ngocoselelo phambi kokulungisa impendulo echanekileyo. Ukuba abafundi abaqhelanga ukusebenza ngemibuzo yokhetho oluphindaphindayo, ootitshala bangaqalisa ukusebenzisa ezi eklasini.

## **6. UMAHLUKO PHAKATHI KWEEMVAVANYO ZESIZWE ZOKUTHELEKISA NEZESIQINISEKISO ESIPHAKAMILEYO SIKAZWELONKE (NSC)**

### **6.1. Iimviwo ze-NBT zoBuchule bokufunda nokubhala beMfundo ePhakamileyo (AL) nezeseQiniseko esiPhakamileyo sikaZwelonke (NSC) kwisiNgesi nesiBhulu**

Uvavanyo lwe-AL luzimisele ukunikela ngolwazi olongezelelweyo kwelo olunikelwe kwiimviwo ze-NSC zesiNgesi nesiBhulu. Zombini ezi zijolise kuvavanyo lokulinganisa isiphiwo solwimi. Umahluko phakathi kwezimbini ngowokuba, xeshikweni iimviwo ze-NSC zesiNgesi okanye zesiBhulu zijolise ekuxabiseni iintlobo ngeentlobo zezipho zolwimi, uvavanyo lwe-AL lujolise ngokukodwa kuBuchule bokuFunda nokuBhala, isiphiwo sokumelana nemfundo yaseyunivesithi kwisiNgesi okanye isiBhulu. Oku kuthetha ukuba ukujolisa okufunekayo kuvavanyo lwe-AL kukuvelisa ulwazi kwisiphiwo sabavavanywa sokusebenzisa isiNgesi okanye isiBhulu ngokukoko ukuphumela eyunivesithi. Oku akunjalo kwiimviwo ze-NSC zesiNgesi okanye zesiBhulu, apho isisiphiwo kuphela okujoliswe kuso.

### **6.2. Uvavanyo lwe-NBT lobuChule bokuFunda nokuBhala kwabo Bonke (QL) noviwo lweSiqiniseko esiPhakamileyo seSizwe (NSC) soBuchule bokufunda nokubhala beMathematika**

Uvavanyo lwe-QL luyilwe ukuxabisa imiphakamo yabavavanywa yokulungela imfundo yaseyunivesithi kummandla wobuchule bokufunda nokubhala kwabo bonke. Kuxabisa isiphiwo sokulawula iimeko okanye ukusombulula iingxaki kwimeko ehambelana nesifundo seMfundo ePhakamileyo, kusetyenziswa ulwazi lwabo bonke olunokunikelwa ngomlomo, ngegrafu, ngeetheyibhile okanye ngemo yemifanekiso. Ngokuya ngokwe-DoE (2003), isifundo se-NSC soBuchule bokuFunda nokuBhala seMathematika *“sibonelela abafundi ngokuqaphela nokuqonda indima edlalwa yimathematika kwihlabathi lenkqubela. UbuChule bokufunda nokubhala beMathematika sisifundo esiqhutywa yimisebenzi enxulumene nobomi ngemathematika. Senza abafundi babe nakho ukuphuhlisa isiphiwo nokuzithemba ngokucinga ngamanani nokusingqongileyo njenjongo yokutolika nokuhlahlela ngengqiqo izisombululo zemihla ngemihla nokuxazulula iingxaki.”* KuBuchule bokufunda nokubhala kwiMathematika, kukho iimviwo ezimbini, iphepha loku-1 (iphepha lezakhono zesiseko) kunye nephepha lesi-2 elijolise ekusebenziseni ulwazi lwemathematika. Umahluko wesiseko phakathi koviwo loBuchule bokufunda nokubhala beMathematika ye-NSC Mathematical Literacy novavanyo lwe-NBT QL ngowokuba uvavanyo lwe-NBT QL luxabisa nokuba umvavanywa uzilungele iimfuno zemfundo ephakamileyo yemigangatho emithathu, xeshikweni uviwo lwe-NSC loBuchule bokufunda nokubhala beMathematika buxabisa nokuba umfundi oshiya isikolo ezanelisile kusinina izinto ezilindelwe yikharithulam.

### **6.3. Uvavanyo lwe-NBT loBuchule bokuFunda nokuBhala (QL) neMathematika yeSiqinisekiso esiPhakamileyo sikaZwelonke (NSC)**

Uvavanyo lwe-NBT QL luyilwe ukuxabisa imiphakamo yabavavanywa yokulungela izifundo eziphakamileyo kummandla wokuqonda imathematika. ngokweziKhokelo zokuXabisa isiFundo seMathematika (DoE, 2008), kwibanga le-12, uxabiso luquka amalungu amabini: iNkqubo yoXabiso equka uphawu lwama-25% lweSiqinisekiso esiPhakamileyo sikaZwelonke malunga neMathematika kunye noviwo lwangaphandle olwenza intsalela engama-75%. Umahluko omkhulu phakathi kweMathematika yeSiqinisekiso esiPhakamileyo seSizwe (NSC) novavanyo lwe-NBT QL ngowokuba uvavanyo lokuxabisa le-NBT QL nokuba umvavanywa uzilungele iimfuno zemfundo ephakamileyo zemfundo yemigangantho emithathu, xeshikweni iMathematika ye-NSC kangangoko umfundi webanga le-12 ezanelisile izinto ezilindelwe yiNgxelo yeKharithulam njengoko kuxeliwe kwiZikhokelo zokuXabisa iMathematika.

## 7. IMIBUZO EBUZWA KANINZI

***Umbuzo: isiNgesi (okanye isiBhulu) lulwimi lwam lokuqala. Kutheni kufuneka ndibhale uvavanyo lwe-AL?***

Izakhono zolwimi ezibandakanya ukuthetha isiNgesi okanye isiBhulu njengolwimi lokuqala ziluncedo malunga nengxoxo yezentlalo yaye aziquki ukufaneleka kwimfundo ephakamileyo yesiNgesi okanye yesiBhulu efunwayo malunga nempumelelo eyunivesithi. Ngenxa yesi sizathu, abantu abathetha isiNgesi okanye isiBhulu ayikuko ukuba baya kusebenza kakuhle kuvavanyo lolwimi lwaseyunivesithi olufana nolwe-NBT AL. Oku kuthetha ukuthi nangona benomphakamo ophezulu wobuchule besiNgesi sokuthetha, abathethi besiNgesi okanye besiBhulu njengolwimi lwasekhaya akuzenzekeli ukuba balungele ukumelana neemfuno zemfundo phakamileyo nakweyiphi yezi lwimi.

Kungokuluncedo kubathethi bolwimi lokuqala lwesiNgesi okanye lwe-Afrikaans ukuba kananjalo balinganiswe phambi kokungena kwilizwe lemfundo ephakamileyo.

***Umbuzo: Uphawu lwam lwesiNgesi (lwesiBhulu) kuviwo lwe-NSC lwesiNgesi (lwesiBhulu) luphezulu kakhulu. Kutheni kufuneka ndibhale uvavanyo lwe-AL?***

Iimviwo ze-NSC zesiNgesi nesiBhulu zijolise ekuxabiseni iziphondo eziliqela zolwimi eziquka uBuchule bokuFunda nokuBhala. I-NBT AL ixabisa uBuchule bokuFunda nokuBhala kuphela. Iimviwo ze-NSC zesiNgesi okanye ezisiBhulu zixabisa uBuchule bokuFunda nokuBhala ukuya kumphakamo omncinci kakhulu, ukuba zikho kwaphela. I-NBT AL, ngako oko, sisalathi esingcono sokulungela uBuchule bokuFunda nokuBhala kwabo abenza isicelo sokwamkelwa eyunivesithi. Oku yimeko nokuba uphawu lwabo lwesiNgesi okanye lwesiBhulu leBanga le-12 luphezulu.

***Umbuzo: Umntwana wam usebenza kakuhle kakhulu esikolweni kwiMathematika noBuchule bokufunda nokubhala beMathematika. Kutheni uphawu lwakhe lwe-QL luphantsi?***

Abafundi bafikelela amaphepha agqithileyo e-NSC eMathematika noBuchule bokufunda nokubhala beMathematika yaye basebenzisa la maphepha ukuziqhelisa ukuphendula imibuzo. Ngokwenza njalo, abafundi “baziqhelisa uvavanyo” yaye ngako oko kunokwenzeka bafumane amaphawu aphezulu. Abafundi banakho ukuchonga ipatroni yokuphendula imibuzo ukuba baziqhelanisa nawo ngokwaneleyo. Uvavanyo lwe-NBT QL ayikuko kuphela malunga nokwazi indlela yokuphendula imibuzo. Kodwa kananjalo malunga nokusebenzisa ulwazi lwabo, olufunekayo kwiMfundo ePhakamileyo.

## 8. NGUBANI ONEMVUME YOKUNIKELA NGEESHONI EZIKHETHEKILEYO ZOLUNGISELELO LWE-NBT?

Siyazi ukuba imibutho eliqela inikela abafundi abangalumkanga ithuba lokwehlisa izisetyenziswa kwi-Intanethi okanye ukuya eziklasini ezibanga ukuba ezi ziza kubalungiselela ukubhala ii-NBT.

Xeshikweni zinokubakhona iziza ezinikela ngoqeqesho lwe-AL ne-QL kwakunye nabanye abanikela ngolwazi oluhambelana neentlobo zemibuzo ehambelana nemibuzo yokhetho oluphindaphidayo, **awukho nomnye wale mibutho onegunya lokuthetha egameni le-NBTP yaye awukho nawuphi onolwazi olukhethekileyo lweziqulatho zeemvavanyo.**

Kukho kananjalo iititshala ezininzi ezifuna ukunceda abafundi bazo balungiselele i-NBT. Ngako oko baya kujongana namanqaku axeliweyo ngentla nokwenza konke okusemandleni abo ukunikela abafundi babo ngeziseko ezingamandla ze-AL ne-QL. Nangona kunjalo, **ayikho ititshala enegunya lokuthetha egameni le-NBTP**; yaye akukho naziphi iititshala ezinegunya lokusebenzisa imbasa ye-NBTP okanye ye-Universities South Africa kuzo naziphina iimpahla zabo, nto leyo enokudala uluvo lokuvunyelwa yi-NBTP.