

K \Uh-g' D98G3

7KH ,QWHJUDWHG 3RVVVFHFRQGD
6\ VWHP ,3('6 LV D V\ VWHP RI VXUY
WKDW FROOHFWV GDWD IURP DERXW
SURYLGH SRVWVFHFRQGDU\ HGXFDWL
6WDWHV ,3('6 FROOHFWV LQVWL
VWXGHQW HQUROOPHQW JUDGX
FKDUJHV SURJUDP FRPSOHWLRQV
ILQDQFHV

7KXVH GDWD DUH XVHG DW WKH IHGH
SROLF\ DQDO\VLV DQG GHYHORSPHQ
OHYHO IRU EHQFKPDUNLQJ DQG SH
VWXGHQWV DQG SDUHQWV WKURXJK
KWWS FROOHJH QDYLDJWRU HG JRY
LQ WKH FROOHJH VHDFK SURFHVV
DERXW ,3('6 VHH KWWS QFHV HG J

K \Uh-g'h'Y' Di fdcg' cZH' jg' FYdcff3

7KH 'DWD)HHGEDFN 5HSRUW LV LQ
LQVWLWXWLRQV D FRQWH[W IRU H
VXEPLWWHG

K \Uh-g' b' H' jg' FYdcff3

7KH ILJXUHV LQ WKLV UHSRUW SU
LQGLFDWRUV IRU \RXU LQVWLWXWLRQ
RI VLPLODU LQVWLWXWLRQV 7KH ILJ
FROOHFWHG GXULQJ WKH ,3('6
DQG DUH WKH PRVW UHFHQW GDWD
FRYHU RI WKLV UHSRUW OLVWV WKH
JURXS RI LQVWLWXWLRQV DQG WKH
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UHSRUW GHVFULEH DGGLWLRQDO LQ
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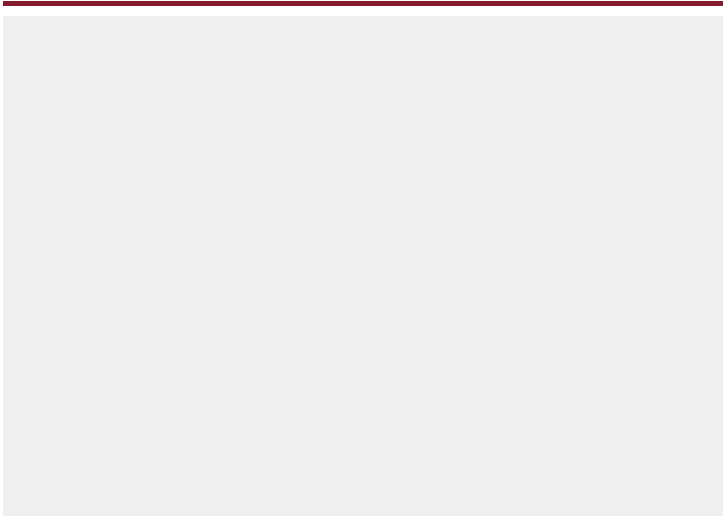
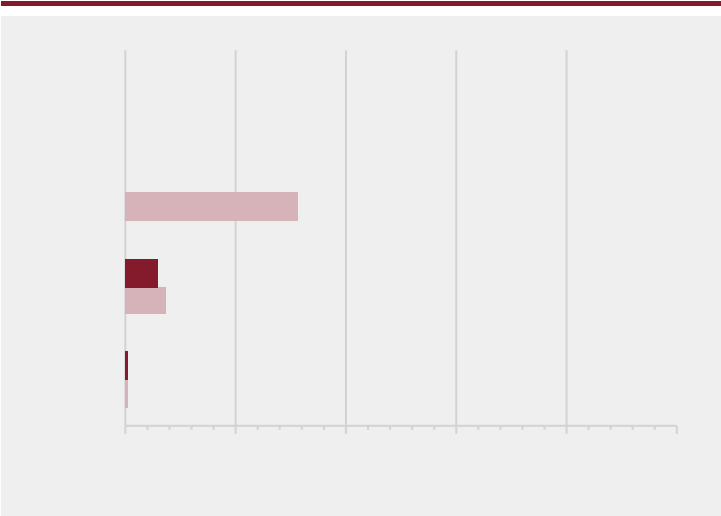
K \Yfy' 7Ub' =8c' A cfy' k jh' D98G'8UHJ3

(DFK LQVWLWXWLRQ FDQ DFFHVV SUH
)HHGEDFN 5HSRUWV IURP DQG
UHSRUW E\ XVLQJ D GLIIHUHQW
DQG ,3('6 YDULDEOHV RI LWV FKRRV
DUFKLYHG UHSRUWV RU FXVWRPL
)HHGEDFN 5HSRUW SOHDVH YLV

7CA D5F-GB; FCID

&RPSDULVRQ JURXS GDWD DUH LQFOXGHG WR SURYLGH D FRQWH[W IRU LQWHUSUHWLQ
FRPSDULVRQ JURXS IRU WKLV UHSRUW E\ -XO\ 1&(6 VHOHFWHG D FRPSDULVRQ J
WKH FRPSDULVRQ JURXS DSSHUV EHZ 7KH &XVWRPL]H 'DWD)HHGEDFN 5HSRUW IX

)LJXUH 1XPEHU RI ILUVW WLPH XQGHUJUDGXDWLH XWFKSHUFWHQZKRI ILUVW WLPH XQGHUJUDGXDWLH
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)DOO VWDWXV)DOO

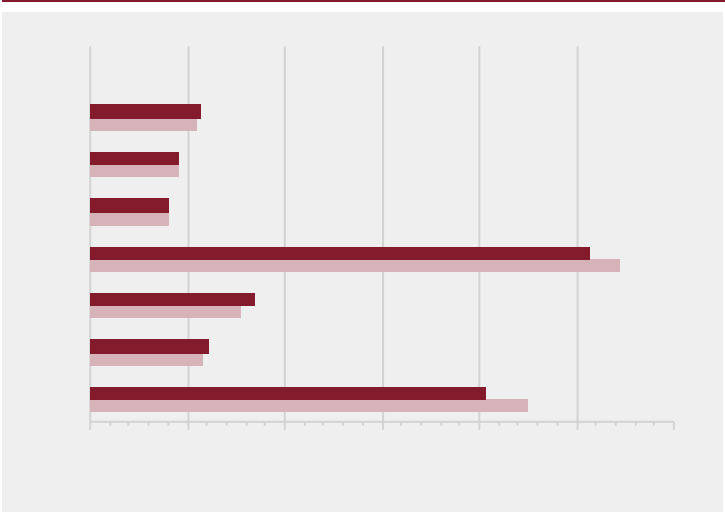
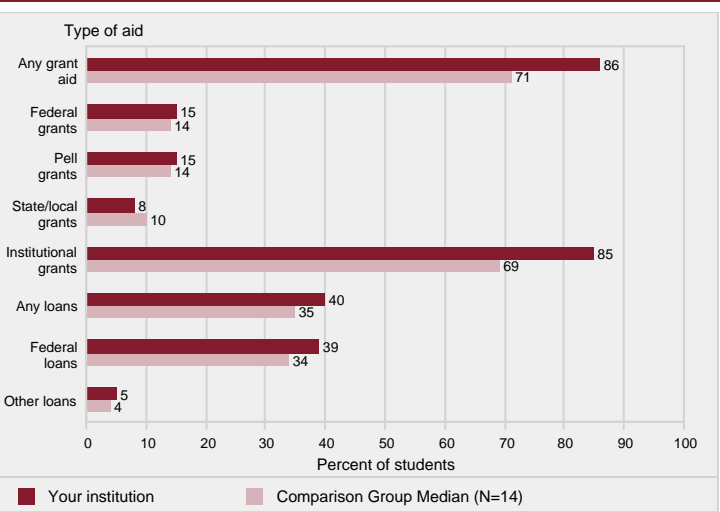


127(\$GPLVLRQV GDWD DUH SUHVHQWHG RQ\ IRU LQVWLWXVLRQV LVRQDWRJHWLQV DW WKH SUHVHQWHG RQ\ IRU LQVWLWXVLRQV
DGPLVLRQ SROLF\ DQG DSSO\ WR ILUVW WLPH GHJUHH DGPHUWLRQV DSRQDWRJHWLQV DSSOLHG DW HWLPH GHJUHH FH
VWXGHQWV RQ\)RU GHWDLOV VHH WKH 0HWKRGRORJ\ DQG HQRWV RQ\ V)HG WDELOV RVHLQ VVXVHWHV RQ\ RQORJLFDQ
WKH FRPSDULVRQ JURXS FRPSDULVRQ JURXS ZLOO QRW DGG WR 6HH 8VH RI 0HG
6285&(8 6 'HSDUWPHQW RI (GXFDWLRQ 1DWLRQDO &HQWURJHQV IRU KRXZDWHU GDWD\XHWLPH GHWHUPLQH 1 LV WK
,QWHJUDWHG 3RVVHFRQGDU\ (GXFDWLRQ 'DWD 6\WHP FRPSDULVRQ JURXS \$GPLVLRQV
FRPSRQHQW 6285&(8 6 'HSDUWPHQW RI (GXFDWLRQ 1DWLRQDO &HQWURJHQV IRU KRXZDWHU GDWD\XHWLPH GHWHUPLQH 1 LV WK
FRPSRQHQW 3RVVHFRQGDU\ (GXFDWLRQ 'DWD 6\WHP ,3(FRPSRQHQW HXUJGDU\ (GXFDWL '0ZAHQW DQG SHUFHQH

QW RI DOO VWXGHQWV DQG RI
WRWDO)7(HQUROOPHQW
IDOO HQUROOPHQW)DOO

127()RU GHWDLOV RQ FDOFXODWLQJ IXOO WLPH HTXLYDOHQW)7(HQUROOPHQW VHH &DOFXODWLQJ
)7(LQ WKH 0HWKRGRORJLFDO 1RWHV 7RWDO KHDGFRXQW)7(DQG IXOO DQG SDUW WLPH IDOO
HQUROOPHQW LQFOXGH ERWK XQGHUJUDGXDWLQJ DQG SRVWEDFFDODXUHDWH VWXGHQWV ZKHQ DSSOLFDEOH
1 LV WKH QXPEHU RI LQVWLWXWLRQV LQ WKH FRPSDULVRQ JURXS
6285&(8 6 'HSDUWPHQW RI (GXFDWLRQ 1DWLRQDO \$6Y@P QVWVDFVO
12<PH DOO
DWHG DWLQJ
HQUROOPWKH @ ROOPDWH £` δ@@δδ
HQUROOPWKH @ ROJU (RQ' %ñ#6Đ•Á `@€0pWKH QXPEHUH0À0pW GHQ FRp7R 0•|iäXL ' ĐD TOO

)LJXUH 3HUFHQW RI IXOO WLPH ILUVW WLPH GHUJXUHH \$FYHUUJDUHL FDPVRX QMVM NRUQDZDUGHG JUDQW RU XQGHUJUDGXDWH VWXGHQWV ZKR ZHUH DZDU GUHRPJW B WHRUGHUO JRYHUQPHQW VWDWH VFKRODUVKLS DLG IURP WKH IGHUDO JRYHUQPHQW WQWWLWVXW DRD D DU ORDQV DZDUGHG JRYHUQPHQW RU WKH LQVWLWXWLRQ RU ORU QVUWH VVHUVWLDFLDWH VHHNLQJ XQGHUJUD WISH RIDLG

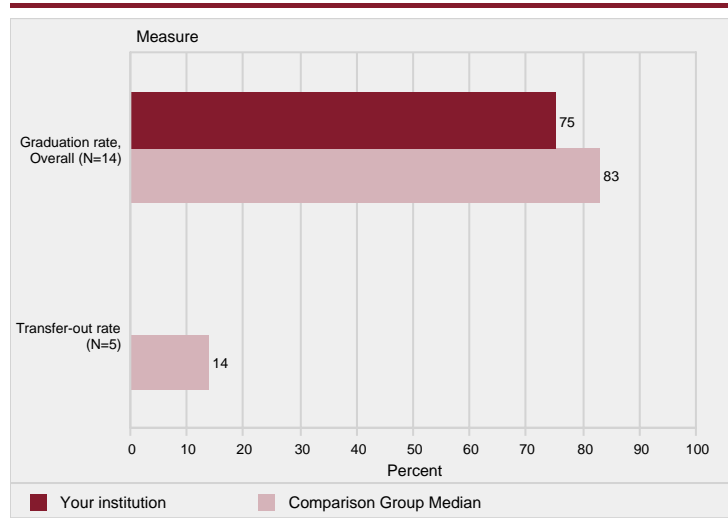
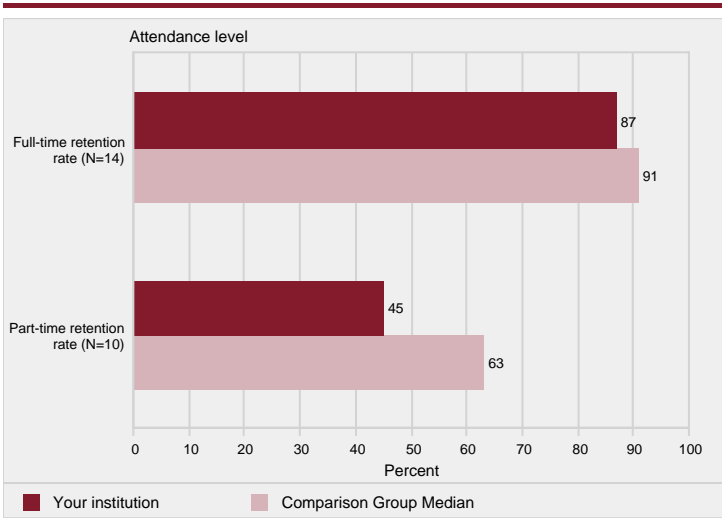


127(\$Q\ JUDQW DLG DERYH LQFOXGHV JUDQW RU VFKRODUVKLS (LQFOXGHV) QMVM NRUQDZDUGHG JUDQW RU XQGHUJUDGXDWH VWXGHQWV ZKR ZHUH DZDU GUHRPJW B WHRUGHUO JRYHUQPHQW VWDWH VFKRODUVKLS DLG IURP WKH IGHUDO JRYHUQPHQW WQWWLWVXW DRD D DU ORDQV DZDUGHG JRYHUQPHQW RU WKH LQVWLWXWLRQ RU ORU QVUWH VVHUVWLDFLDWH VHHNLQJ XQGHUJUD WISH RIDLG

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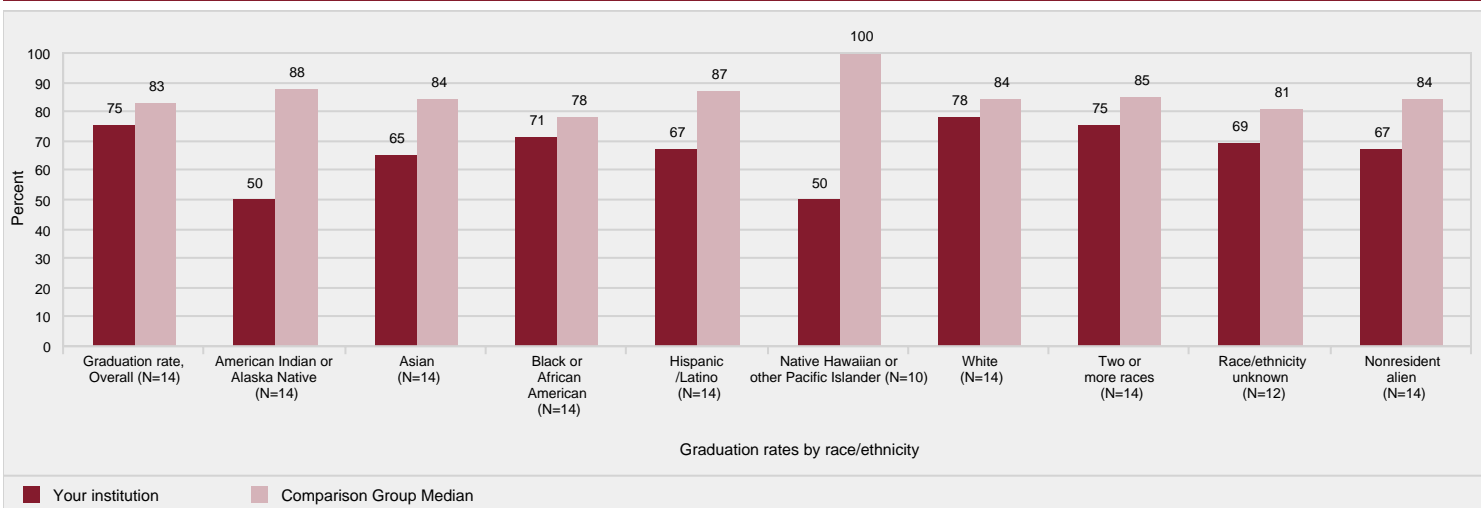
6285&(8 6 'HSDUWPHQW RI (GXFDWLRQ 1DWLRQDO &HQWHU IRU (GXFDWLRQ 6WDWLVWLFDV ,QWHUJUDWHG 3RVWVHFRQGDU\ (GXFDWLRQ 'DWD 6\VVHP ,3('6 :LQWHU 6WVXGHQW)LQDQFLDO \$LG FRPSRQHQW

)LJXUH 5HWHQWLRQ UDWHV RI ILUVW WLPH EDYFKHJRUU UDGXDWLRQ HDQGLQJ UJUDQVIHU RXW UDWHV VWXGHQWV E\ DWWHQGDQFH OHYHO)DOO GHFRKHUWHUWLILFDWH VHHNLQJ XQGHUDRI QRUPDO WLPH WR SURJUDP FRPSOHWLRQ



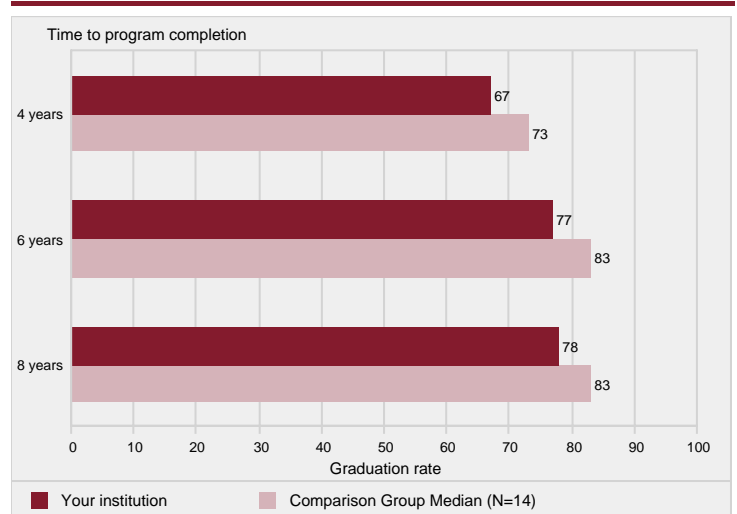
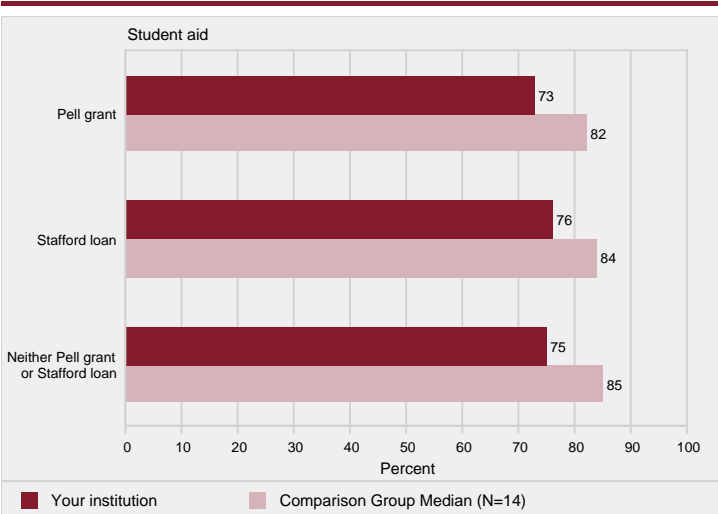
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)LJXUH*UDGXDWLRQ UDWHV RI IXOO WLPH ILUVW WLPH GHJUHH FHUWLILFDWH VHHNLQJ XQGHUDRI QRUPDO WLPH WR SURJUDP FRPSOHWLRQ E\ UDFH HWKQLFLW\ FRKHUWH



127()RU PRUH LQIRUPDWLRQ DERXW GLVDJUHJDWLRQ RI GDWD E\ UDFH DQG HWKQLFLW\ VHH WKH OHWKRGRORJLF YDOXHV IRU WKH FRPSDULVRQ JURXS ZLOO QRW DGG WR 1 LV WKH QXPEHU RI LQVWLWXWLRQV LQ WKH FRPSDULVRQ 6285&(8 6 'HSDUWPHQW RI (GXFDSLWRQ 1DWLRQDO &HQWHU IRU (GXFDSLWRQ 6DWLWVLFV ,QWHJUDWHG 3RVVHFRQGDU\ FRPSRQHQQW

)LJXUH *UDGXDWLRQ UDWHV RI IXOO WLPH ILQVJXWHLRQ FKHJQRUH V FSHUWHHFDFWIGXDWLRQ UDWHV VHHNLQJ XQGHUJUDGXDWHV ZLWKLQ RI QRUBDQ WLPH WRJUHH FHUWLILFDWH VHHNL SURJUDP FRPSOHWLRQ E\ ILQDQFLDO DLG UHHLV\KHLQWVHDUV \HDUV DQG \HDUV FRKRUW



127(*UDGXDWLRQ UDWH FRKRUW LQFOXGHV DOO IXOO WLPH 7 KLUJ VW WLPH GGGHJHJHJH FHDQGLD WLDQRQHUVDWHNL QJH FDOFX XQGHUJUDGXDWH VWXGHQV 'DWD ZHUH FROOHFWHG RZK R FRPIS OHHKSGH QWED FZKHQB W HQW UHTRIL WDKHQW GHJUHH IU FRKRUW ZHUH DZDUGHG D 3HOO *UDQW DQG VWXGHQV WZKIRL ZHWL WZDU B G V HANLEQL G LG B G K HODIWRW RU HTXLYDOHQ ORDQ EXW GLG QRW UHFHLYH D 3HOO *UDQW *UDGXDWLRQ KURSRORJLDFD QV KR VHWX GH QW V K HKQX WRH LQ RZ LQVWLWXWL UDWHV 2QO LQVWLWXWLRQV ZLWK PLVVLQ WR SUHSDDBH WR FKHQSR WRVG UIR QVFR SDUH VHQ XJURKS WZLWKS QHW W WUDQVIHU RXW)RU PRUH GHWDLOV VHH WKH 0HWKRG 6285 & FDO 6 R W BDUW P QWKHQ XRFDWRQ 1DWLRQDO & HQWH LQVWLWXWLRQV LQ WKH FRPSDULVRQ JURXS ,QWHJUDWHG 3RVVHFRQGDU\ (GXFWRQ 'DWD 6\VVHP ',3(6285 & 8 6 'HSDUWPHQW RI (GXFWRQ 1DWLRQDO & HQWHG X DRUL RQX 5DWHR QF B WDRQLHQW FV ,QWHJUDWHG 3RVVHFRQGDU\ (GXFWRQ 'DWD 6\VVHP ',3('6 :LQHU *UDGXDWLRQ 5DWHV FRPSRQHQW



) L J X U H 3 H U F H Qm 4 F 0 4 C V R 2 0 5 1 0 0 F 0 8 3 0 2 / In 0 L 3 P r a 9 6 . 4 F 1 3 4 5 8 (S 3 V T D 8 (6 2 L e g 7 n d Å L a b 3 i n s t i t u Y o u r i n q T D (l e l :) B 1 1 > T j 4 5 0 O p e r 8 (l i n e ,

Æb]j Yfg]hmicZ8Ybj YfÆ

A 9kC 8C @; ⇒ 5@BC HÐG

Cj Yfj]Yk

7KLV UHSRUW LV EDVHG RQ GDWD VXSSOLHG E\ LQVWLWXWLRQV WR ,3('6 GXULQJ
VXUYH\V ,3('6)LUVW /RRN UHSRUWV DW [K W W S](#) [Q F H V](#) SHUR YIRGH SXEFH DLLOFIR UPHDWS
LQVWLWXWLRQDO UHVSQRVHV

I gY`cZA YX]Ub`J U`i YgZcf7ca dUf]gcb`; fci d

7KLV UHSRUW FRPSDUHV \RXU LQVWLWXWLRQ¶V GDWD WR WKH PHGLDQ YDOXH IRU WK



Gi XYbh9bfc`a Ybh

)7((QUROOPHQW

7KH IXOO WLPH HTXLYDOHQW)7(HQUROOPHQW XVHG LQ WKLV UHSRUW LV WKH VXP HQUROOPHQW DV FDOFXODWHG IURP RU UHSRUWHG RQ WKH PRQWK (QUROOPHQW I PRQWK LQVWUXFWLRQDO DFWLYLW\ FUHGLW DQG RU FRQWDFW KRUV 6HH 3&DQ *ORVVDU\ DW KWWSV VXUYH\V QFHV HG JRY LSHGV 9LV*ORVVDU\SOO DVS[

7RWDO (QWHULQJ 8QGHUJUDGXDWH 6WXGHQWV

7RWDO HQWHULQJ VWXGHQWV DUH VWXGHQWV DW WKH XQGHUJUDGXDWH OHYHO ER VXPPHU WHUP ZKR UHWXUQHG LQ WKH IDOO 7KLV LQFOXGHV DOO ILUVW WLPH XQG XQGHUJUDGXDWH OHYHO DQG QRQ GHJUHH FHUWLILFDWH VHHNLQJ XQGHUJUDGXDWH LQVWLWXWLRQV SURYLGH WRWDO HQWHULQJ VWXGHQW GDWD

7\Uf] YgUbX`BYhDf]W

\$YHUDJH ,QVWLWXWLRQDO 1HW 3ULFH

\$YHUDJH QHW SULFH LV FDOFXODWHG IRU IXOO WLPH ILUVW WLPH GHJUHH FHUWLILFDWH IURP WKH IHGHUDO JRYHUQPHQW VWDWH ORFDO JRYHUQPHQW RU WKH LQVWLWXWLRQ RQO\ VWXGHQWV ZKR SDLG WKH LQ VWDWH RU LQ GLVWULFW WXLWLRQ UDW 2WKI VXEWUDFWLQJ WKH DYHUDJH DPRXQW RI IHGHUDO VWDWH ORFDO JRYHUQPHQW DWWHQGDQFH 7RWDO FRVW RI DWWHQGDQFH LV WKH VXP RI SXEOLVKHG WXLWLRQ DQ DQG RWKHU H[SHQVHV

)RU WKH SXUSRVH RI WKH ,3('6 UHSRUWLQJ DLG DZDUGHG UHIHUV WR ILQDQFLDO D PD\ GLIIHU IURP WKH DLG DPRXQW WKDW LV GLVEXUVHG WR D VWXGHQW

FYHb]cbz; fUXi Uh]cb`FUHgz`UbX`Ci hWca Y`A YUg fYg

5HWHQWLRQ 5DWHV

5HWHQWLRQ UDWHV DUH PHDVXUHV DW ZKLFK VWXGHQWV SHUVLVW LQ WKHLU HGXFDO \HDU LQVWLWXWLRQV WKLV LV WKH SHUFHQWDJH RI ILUVW WLPH EDFKHORUV RU HT DJDLQ HQUROOHG LQ WKH FXUUHQW IDOO)RU DOO RWKHU LQVWLWXWLRQV WKLV L SUHYLRXV IDOO ZKR HLWKHU UH HQUROOHG RU VXFFHVVIXOO\ FRPSOHWHG WKHLU SU WKH SHUFHQWDJH RI IXOO WLPH ILUVW WLPH GHJUHH FHUWLILFDWH VHHNLQJ XQGHU SDUW WLPH ILUVW WLPH GHJUHH FHUWLILFDWH VHHNLQJ XQGHUJUDGXDWHV

*UDGXDWLRQ 5DWHV DQG 7UDQVIHU RXW 5DWH

*UDGXDWLRQ UDWHV DUH WKRVH GHYHORSHG WR VDWLVI\ WKH UHTXLUHPHQWV RI WK DQG DUH GHILQH G DV WKH WRWDO QXPEHU RI LQGLYLGXDOV IURP D JLYHQ FRKRUW FRPSOHWHG D GHJUHH RU FHUWLILFDWH ZLWKLQ D JLYHQ SHUFHQW RI QRPDO WLP GLYLGHG E\ WKH WRWDO QXPEHU RI VWXGHQWV LQ WKH FRKRUW RI IXOO WLPH ILUV H[FOXVLRQV ,QVWLWXWLRQV DUH SHUPLWWHG WR H[FOXGH IURP WKH FRKRUW VWXG VFKRRO WR VHUYH LQ WKH DUPHG IRUFHV RU ZHUH FDOOHG XS WR DFWLYH GXW\ JRYHUQPHQW VXFK DV WKH 3HDFH &RUSV DQG WKRVH ZKR OHIW WR VHUYH RQ D

\$ IXUWKHU H[WHQVLRQ RI WKH WUDGLWLRQDO *UDGXDWLRQ 5DWHV *5 FRPSRQH SUHYLRXVO\ UHSRUWHG LQ WKH *5 FRPSRQH LV WKH *UDGXDWLRQ 5DWHV *5 FRPSOHWHUV DQG H[FOXVLRQV IURP WKH FRKRUW EHWZHHQ DQG QRPDO WLPH VWXG\

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2XWFRPH 0HDVXUHV 'DWD

\$OWHUQDWLYH PHDVXUHV RI VWXGHQW VxFFHV DUH UHSRUWHG E\ GHJUHH JUDQWL
VHHNLQJ XQGHUJUDGXDWH VWXGHQW JURXS)XOO WLPH ILUVW WLPH)7)7 3DUW
WLPH QRQ ILUVW WLPH 371)7 \$GGLWLRQDOO\ HDFK RI WKH IRXU FRKRUWV FROOH



6DODULHV DQG :DJHV

6DODULHV DQG ZDJHV IRU SXEOLF LQVWLWXWLRQV XQGHU *\$6% VWDQGDUGV DQG SUL
LQFOXGH DPRXQWV SDLG DV FRPSHQVDWLRQ IRU VHU\LFHV WR DOO HPSOR\HHV UHJD
RI DQ LQGLYLGXDO RYHU DQG DERYH WKDW UHFHLYHG LQ WKH IRUP RI D VDODU\ RU Z

GUZ

)7(6WDII

7KH IXOO WLPH HTXLYDOHQW)7(E\ RFFXSDWLRQDO FDWHJRU\ LV FDOFXODWHG E\ V
WKH WRWDO QXPEHU RI SDUW WLPH VWDII *UDGXDWH DVVLVWDQWV DUH QRW LQFOX

(TXDWHG ,QVWUXFWLRQDO 1RQ 0HGLFDO 6WDII 6DODULHV

,QVWLWXWLRQV UHSRUWHG WKH QXPEHU RI IXOO WLPH QRQPHGLFDO LQVWUXFWLRQDO
RI PRQWKV ZRUNHG DQG PRQWKV 6DODU\ RXWOD\V IRU VWDII ZKR ZRU
ZRUN E\ PXOWLSO\LQJ WKH RXWOD\V UHSRUWHG IRU PRQWKV E\ WKH RXWOD\V
PRQWKV E\ 7KH HTXDWHG DQG RXWOD\V ZHUH WKHQ DGGHG WR WKH RXV
D WRWDO PRQWK HTXDWHG VDODU\ RXWOD\ 7KH WRWDO PRQWK HTXDWHG RXWOD\
GHWHUPLQH DQ HTXDWHG PRQWK DYHUDJH VDODU\ 7KLV FDOFXODWLRQ ZDV GRQH I
WKDW ZRUN OHVV WKDQ PRQWKV DQG ZHUH H[FOXGHG

6WXGHQW WR)DFXOW\ 5DWLR