

5HDGHU)HHGEDFN

0LQRU FRQFHUQ PRVWO\ EDVHG RQKHVDDFNHRUHDVIRQDELOZVFOHBUWXGHQW FHTQMH3/2G FRXUOGHEWLOG
 ZLWK WKH SURJUDP , ZDV PLOGO\FRQFSLVHVHDQGE\HMDKHIZRQHDVXGLQJWRXWRPHV BXWQFRLXQGVNHOOV QHF
 UHVHDFK LQ RYKH3/2QJ LI WKDW XLQGHUHWDFWGHG(YDGHQFHODEFEUXDVGQJ+RZ GRG/HWKIGUHQVH %•€ 0`LQHU
 DOO WKH YDULRXV FRXUVH RXWOLQHRZDUGV KLJKHU RUGHUWKLQMLKQLVNLHDDUQLQJ SURJUHVV DV
 PD\ QRW EH DUWLFXODWIKIS\ ZKUNLWKURXPK WKH FRXUVHV"
 EXLOW LQ LW PLJKW EHRZGRV&ZKL OHIVRFW SURJUHVVLYH
 PDNH WKLW H[SOLFLW QRYHQDPSIOOHDUQLQJ" +RZ FDQ WKHVH
 ³XVLQJ WKH DSSURSULBWM EBQXHDGHRIBSURJUDP
 DQ\ JLYHQ VLWXDWLRQLPFSURVHDQHWURP
 EX\LQJ D WUDLQ WLFNHW WR GLVFXVVLQJ
 SROLWLFV ³MQRZODHGOJH RI
 +LVSDQLF FRXOLVXUH DQG
 SROLWLFV´ FDQ EHJLQ DW D VLPSOLVWLF
 OHYHO DQG SURJUHVV WR LQFUHDVLQJ
 OHYHOV RI GHSWK DQG VRSKLVWLFDWLRQ
 7KHVH 3/2V VHHP WR DOLJQ ZLWK WKH
 LQVWLWXWLRQDO OHDUQLQJ RXWFRPHV RI
 &RPPXQLFDWLRQ DQG
 &RPPXQLW\ *OREDO &RQVFLRXVQHVV
 5HVSQRVLELQW\

+RZ PDQ\ FULWHULD DUH7RHHWQDQ WDKWHLG B W L Q FOXGHV DOO
WUHQG QDUUDWLYH H[SODQDQWDRUG IRU
SURGXFWLYLW\

R K M Q H D F U D W H Y H D L Q R G H F W N V O D O D V R L Y M K I H Q F O X G H V Q D O O D W L I Y W K H Q F O X
FULWHULD 0HHWV WKH6WDQDUG DUGOHHWV WKH6WBQGDUGHHWV WKH

+RZ PDQ\ FULWHULD DUH7RHHWQDQ WDKWLYH LQFOXGHV DOO
SURSRVHG DFWLRQ QDUU6DWDIQGH URU
SURGXFWLYLW\

R K M Q H D F U D W H Y H D L Q R G H F W N V O D O D V R L Y M K I H Q F O X G H V Q D H Z H D W W K H Q Q F O X
FULWHULD 0HHWV WKH6WDQDUG DUGOHHWV WKH6WBQGDUGHHWV WKH
,PSURYHPHQW WR 0HHW RWKHH6WDQDUGDUG

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\$OWKRXJK IDFH WR IDFH HQBRO QPHZDWW QDHPDDLW LORZZDV QPFR QVMIGDWHHL Q QHXQ G H B D W D H Q S U G G R F W L Y L V
HQKDQFHG WHFKQRORJLFDO DQG SSGRGR F MFDYQ VFD & DFLWQWKRNDXWGH Q,RW,KV RI WRHHSURQODD QDQSWLRQ 1
=RRP FRXUVH IRUPDWV PD\ RSHQ QDSZSDYHF Q WPHGRWKKHHS D D D W W R Z R U N L Q J W R L Q F U H D V G H E X W L W V D S S
LQFUHDVLRQ IDFH WR IDFHHLKVERU GFLDQDORH DORH R O V Q Q V I R M Z L W R K L X F S E W L W Q V D U H X Q S D F N W K H S U R G X F W L
IRUHLJQ ODQJXDJH GHSDUWPHQWV GHS D B R W K Q O V D D F R S W B R X Q W O U D E O H V H H P E S R A Z V L H E O R Q O R L O H U W D Q L
EHHQ JUDQWHG XVH RI GHVLRQDWHGHG P B Q V W U R D F R M W B R Q G H W R K H B R S I O E R R H E X W F R X O R P E H Q W V I R F X M R B O V S D
DV WKH 6SDQLVK 5RRP WKH)UHQF D U S R R D Y X M F D E O H , P H D E R X V W H R G N Q R Z L Q F L Q G H H G D W H D S D Q G X F W L Y L
HQKDQFLQJ YLVXDO HTXLW\ DQG FUKHDMWQY HDQPRVHRZHPORSPDQJQJKRZGWKH\ DUH)PMBFWLBERQH:LOO WK
IDFH WR IDFH FODVVURL R V K F O Y L W R U R R H Q W H D F K L Q W K H S D V W , D O V R Z R Q G H U L I Z L O O R W K H U D F W L R Q V
DYDLODELWLW\ LQFUHDVLRQ FDPSPXW ZLGH L W K H Q F S O W B J B Y D L O D E O H W R K H O S : K D W D U H W K H V K R U W V
ZLVK WR UHFRQVLGHU WKLW SROLFRX FKRRVH WKH PRVW DWUDFWLYH WHUP DFWLRQV SUDFW
WLPHV WR VFKHGXOH)) FRXUVHV DVSLUDWLRQDO "

((QUROOPHQW E\ 6WXGHQW
'HPRJUDSKLFV

'RHV \RXU SURUULDP V K K K H I G I H Q F H E H W Z H H Q W K H J H Q G H T K V H G I I M Q I E H H E W W Z W H I Q T Q K H G I H Q F H E H W Z H H Q
SHUFHQWDJH RI PDOHV WR IHPDCHVVDLORWKPSURYHPHQW W R H Q G H W W K H L G W J D Q H D W H H Q G H D Q V H [L V E M R V Z H H Q Q G H U V H [L V J U H D W H
PRVW UHFHQRVSHDDUHG WR WKH 1HHGV 0DMRU ,PSURYHPHQW RWKHH6WDQDUGHHGV 0DMRU ,PSURYHF
&ROOHJH" &ROOHJH
)HPDOH 0DOH

W R H Q G H W W K H L G W J D Q H D W H H Q G H D Q V H [L V E M R V Z H H Q Q G H U V H [L V J U H D W H
1HHGV 0DMRU ,PSURYHPHQW RWKHH6WDQDUGHHGV 0DMRU ,PSURYHF
WKH 6WDQDUG WKH 6WDQDUG

+RZ PDQ\ FULWHULD DUH PHW LQ WKH GDWD
WUHQG QDUUDWLYH H[SODQDWRQ IRU
HQUROOPHQW E\ JHQGHU"

7KH QDUUDWLYH LQFOXGHVQDRUUDWBYH LQFOXGHVQDODWLIYWKLQFOX
FULWHULD 1HHGV 6RPHULRSLRLDHPHBMWV WKH6WBQGDUGHHGV 6RP
WR 0HHW WKH 6WDQDUG WR 0HHW WKH 6WDQDUG

+RZ PDQ\ FULWHULD DUH PHW LQ WKH
SURSRVHG DFWLRQ QDUUDWLYH IRU
HQUROOPHQW E\ JHQGHU"

7KH QDUUDWLYH LQFOXGHVQDODVRLYMKIHQFOXGHVQDHZHDWVKHQQQFOX
FULWHULD 0HHWV WKH 6WDQDUGDUGWKH FULWHULD 1HHGVKHOBMIRWHULD 1HF
,PSURYHPHQW WR 0HHWV S U K R Y B W B Q V D W R G 0 H H W

'DWDEOH IRU (QUROOPHQW E\ *HQGHU RI
'HFODUHG 0DMRUV
KWWSV IRRWKLOO HGX SURJUDPUHYLHZ SUJ
UHY GRFV IK
SURJUDPUHYLHZ B HQUROO E\
JHQGHU DQG GHFSDUHG PDMRU
KWWSV IRRWKLOO HGX SURJUDPUHYLHZ SUJ
UHY GRFV IK
SURJUDPUHYLHZ B HQUROO E\
JHQGHU DQG GHFSDUHG PDMRU

:KDW GRHV WKH GDWD WKUH*HQ GGLFDSWE\ GHFODUHG PDMRU L*VHQGHWDWDS WKGGFBUHQPHUMRDS E\ GHFODUHQGHUMRDS E\ GHF
DERXW HQUROOPHQW KHDGHRXQWDMRU ,PSURYHPHQW WR LHHEVHWZHHQWDQGG LV EHHGZHHQ DQG LV JHHGWHU WKDQ
JHQGHU RI GHFODUHG PDMRUV LQ WKH 6RPH ,PSURYHPHQW WR RPHHPVWURYHPHQW WRPSWRWHVPHQW WR 0HHW
SURJUDP" 6WDQGDUG 6WDQGDUG

5HDGHU)HHGEDFN 0LUURULQJ VWDWLWVLFV LQ KXPDLWRXKSYRJRDFWDEWZDVOZLSRDLVK IFRBQHDUUDWLYH DUWLF
WKH JHQGHU JDS LQ 6SDQLVK HQQRVORFQWVVLDPDRWKKHUGDPPXQLW\ ORRN LQWR WKH FDXVH
E\ D QHDOU\ HTXDO JHQGRU JDSFBVOHJ\$QJDLW ZRXOG EH LQWHUHVWLQJ WR DQG EULGJH LW &RQVL
HQKDDFH RXWUHDFK WR PDOH VWXGHHQVWWRKQVLSHRUWQFVHDMHQD VLPLODU ZKDW \RX PLJKW ORRN
HPSKDVLV RQ XVLQVSDQLF\$OLOQ PDDVSDUDVEH WKH\ ZRXOG KDYH)RU H[DPSON ZRXOG LG
GRPLQDWHG FDUHHU ILHOGV VXFK VXFJFRQWWRQVWRBQLWV FDXVHV DQG KRZ GHPRJUDSKLFV LQ WKH
ODQGVFDSLQJ ODZ HQIRUFHPHQW WRQBUILQDHEW DUWLFXODWH LQ \RXU S
VWDWHPHQW HGXFDWL
SXEOLF VHUFLFH:KDM UI
DFWLRQV ZLOO WKH SU
LQFUHDVH PDOH HQURO
LQ WKH WKH KLJKHU OH
WKH FHUWLILFDWHV \R
WKLW GRFXPHQW KHOS"

'RHV \RXU SURUUDQ GLI
HQUROOPHQW GLVWULEXWLRQ DPRQJ HWKQLF
JURXS LQ WKLW PRVW UHFHQW \HDU
FRPSDUHG WR WKH &ROOHJH HQUROOPHQW E\
HWKQLF JURXS"

&ROOHJH HQUROOPHQW 7KH HQUROOPHQW PLURUHQWROOPHQW GRHAKORHQURORHQWKBRH
GLVWULEXWLRQ E\ HWKQLFLW\ \$IULFDQ FROOHUHWKQLF GLVWULEXWLRQORRQKCHFWGLVWULFRXVLRQHWKQHFGMLVWULE
\$PHULFDQ \$VLDQ)LOLSLQ[WKH 6WDQGDUG 6RPH ,PSURYHPHQW WR RPHHPVWURYHPHQW WR
/DWLQ[1DWLYH \$PHULFDQ 6WDQGDUG 6WDQGDUG
3DFLILF ,VODQGLWU
'HFOLQH WR 6WDWH 6WDQGDUG

+RZ PDQ\ FULWHULD DUH PHW LQ WKH GDWD 7KH QDUUDWLYH LQFOXGHVQDDODVRIYMKHQFOXGHVQDUDWLYH LQFOX
WUHQG QDUUDWLYH H[SODQDWLRQ IRU FULWHULD 0HHWV WKH 6WDQGDUG1HHGV 6RPH ,PSURYHPHQW WR RPHHPVWURYHPHQW WR
HQUROOPHQW E\ HWKQLFLW\" WR 0HHW WKH 6WDQGDUG

+RZ PDQ\ FULWHULD DUH PHW LQ WKH 7KH QDUUDWLYH LQFOXGHVQDDODVRIYMKHQFOXGHVQDUDWLYH LQFOX
SURSRVHG DFWLRQ QDUUDWLYH IRU FULWHULD 0HHWV WKH 6WDQGDUG1HHGV 6RPH ,PSURYHPHQW WR RPHHPVWURYHPHQW WR
HQUROOPHQW E\ HWKQLFLW\" ,PSURYHPHQW WR 0HHW WKH 6WDQGDUG

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3HUKDSV UHTXHVW WKDW ,QVWLWX(QURROOP 5 6 WHDUFW WSOIRFLHGHZG D VV LYH GHPRQVW HDWRQ ODPHQW LV Q
VKRZLQJ ,QWHUQDWLRQDO YV 8 6 UHLOWLWHLQHCHVLG B B OH RYSHRWK K W LQ B G WK QIGYHU ZVW B GLIQH FRW OMKJH \R
HQUROOPHQWV VLQFH WKH QHHGWH DU VR X,UOLLQW HWKHQ DW G R O O O O N S U \$ P R W Q Q W X G H R Q W K H G L V S D U L W \ E H V
VWXGHQWV PDIHEUHTXLWUHRB LORFDO6 \$ D Q G H Q D W \$ V L D Q F O X I E S U H V H Q W D W L R Q D Q G \$ W R \$ R H Q H R O I Q B H H G W R D
\$VLDQ HW, R Q L F Q W H U V D W L R Q L Q D V O I O . L) F E H U O \ 9 D F W L R Q S O D Q E X W L W F R F S C H R O L Q J Z D \ W R L Q
3URIHVVRU RI 6SDQLVK DW 'H \$QJD VKH PHQWLRQHG WKD P W D V X U D E O H , W F R X O H G Q D G O R P S W R Y I H R U \$ V L
KHU \$VLDQ DQG \$VLDQ \$PHULFDQ VWXGHQWV RIWHQ GURSLQH U D E R U D W L Q J K R Z S R F S X O F F W E B Q M V K W Z R X C
FRXUVH DW KLJKHU UDWHV EHFDXVH 6SDQLVK LQVWUXFWWRQ V D F W L R Q S O D Q L Q V R K U H U O H F O G I O B W J K H U F
PDWHULDOV DUH DOPRVW HQWLUHO\ (QJOLVK IRFXVHG DWHUP SURJUDP PLVVLRQ VWD'
GLVDGYDQWDJH IRU VWXGHQWV IRU ZKRP (QJOLVK LV D VHFRQG :KDW ZRXOG PDNH W
RU HYHQ WKLUG I R R U S M K U I O D S Q J X S D R Y L G L Q J D S S H D O L Q J W R \$ V I K H Q V
VXSSOHPHQWDU\ PDWHULDOV ZKLFK UHIHUHQFH \$VLDQ F K D Q J H V R Y H U I L Y H \ H C
ODQJXDJH JUDPPDWLFDO DQG OLQJXLVWLF SDWWHUQV PLJKW EH H W K Q L F J U R X S D U H Q R \
KHOSIXO V L J Q L I L F D Q W

) 6WXGHQW &RXUVH 6XFFHV

:KDW GRHV WKH GDWD WUHQG LQGLFDWH &RXUVH VXFFHV KDV &RXUVH WUHQG KDV C
DERXW RYHUDOO FRXUVH VXFFHV" RYHU WKH WLPH VSDQ E Y I P R U H K W K D L Q P H V S D Q F E Y H P R W H K W W K D L Q H V S D Q E
SHUFHQWDJH SRLQWV S H U I F I G Q W O D M H R S R L Q W V S H U I F I G Q W O D M H R S R L Q W V
,PSURYHPHQW WR 0HHWV S U K R Y H P D I Q G D W B 0 H H W P S U K R Y B I W B Q G V D W B 0 H H W

+RZ PDQ\ FULWHULD DUH PHW LQ WKH GDWD 7KH QDUUDWLYH LQFOXGHV QDUUDWLYH WVKHQ FOXGHV QDUUDWLYH WVKHQ FOX
WUHQG QDUUDWLYH H[SODQDWLRQ IRU VWXGHQW FULWHULD 0HHWV WKRUU L W D H Q G D U G 0 H H W V W K F U 6 W B Q G D U G 0 H H W V W K F
FRXUVH VXFFHV"

+RZ PDQ\ FULWHULD DUH PHW LQ WKH GDWD R K W K H F U D W H Y H D L Q G B G W I N V O D O O D V R I W M K I H Q F O X G H V Q D B U D W K I H Y H L Q F O X
SURSRVHG DFWLRQ QDUUDWLYH QDUUDWLYH V W X G H Q W F U L W H U L D 0 H H W V W K R U U L W D H Q G D U G I H H G V 6 R F H L W S I W R D P H I H G V 6 R P
FRXUVH VXFFHV" W R 0 H H W W K H 6 W D Q G D W B 0 H H W W K H 6 W D Q G D U

5HDGHU)HHGEDFN \$V PHQWLRQHG DERYH LQFUHDVHG K W H F R D Q R R W R V D Q F K L W H D U E R R I N Y M H H P H W V 7 K H W H O D D W D R Q G V K L S E H
PRGDOLWLHV PDI KHOS DFKLHYH W G H N Y H D D L S O D X O D E G B H Q F O X O D W L R Q G B W D D V V D S S R W K H F D X V H L V Q R V
SHGDJRJLFDO JRDOV PHQWLRQHG L G H F U K H D Q G B G U D W F E Y H V \$ U H W K H U H D U H F R X O G E H) R U H [D P S O F
RWKHU SRVVLEOH FDXVHV" 7KH U H D V R Q V I R U W K H G U R S
VXJJHVWHG DFWLRQV DUH JRRG LGHDV W K H W U D Q V L W L R Q I U R P
IRU LPSURYLQJ VXFFHV DOWKRXJK WKH\ D Q G V W X G H Q W V G R Q W
GRQW VHHP WR DGGUHV V W X G H Q W V H % R R N V W R F O D V V Q R U
LVVXH ZLWK XVLQJ WKH H WH[WERRN 'R K R P H K R Z Z R X O G W L J K
VWXGHQWV KDYH WKH WHFKQRORJ\ WKH\ G H D G O L Q H V D G G D M V V V
QHHG DQG GR WKH\ NQRZ KRZ WR XVH V S H F L I L F P H W K R G V Z L O
LW" 0D\EH D WXWRULDO LQ KRZ WR :KDW VSHFLILF DGMXVW
KLJKOLJKW WH[W DQG WDNH QRWHV LQ WKH P D G H L Q 6 3 R Q O L Q H W R
HERRN ZRXOG EH KHOSIXO" \$OWKRXJK W U D Q V L W L S R I Q I U R P H 6 W K
VWXGHQWV PDI VLPSO\ EHFRPH PRUH F X U U L F X O D U R U S H G D J I
DFFXVWRPHG WR XVLQJ GLJLWDO
UHVRXUFHV DV D UHVXOW RI WKH FROOHJH
JRLQJ YLUWXDO GXULQJ WKH SDQGHPLF
&RQVLGHU WILQJ WLJKWHU GHGOLQHV WR
LQFUHDVH R G V E Q J R I
DVVLJQPHQWV

,V WKHUH D FRXUVH VXFHHVDSJESWZHHQ WKH WZR JURXS7KKDJDSDQEFHWDMHQ WYKHUWRHDS EXISWZHHQ WKH WZR JURXS
EHWZHHQ \$IULFDQ \$PHULFDQ VSDQ[1HHGV ODMRU ,PSURYKIDVQVWRDHHGVWYKHU WKH WLPH VSDQ
)LOLSLQ[VWXGHQW JURX6SWDQGDUGSLDQ 1HHGV ODMRU ,PSURYHPPHQW WR OHHW
1DWLYH \$PHULFDQ 3DFLILF ,VODQGHU WKH 6WDQGDUG
:KLWH 'HFOLQH WR 6WDWH VWXGHQW
JURXS"

+RZ PDQ\ FULWHULD DUH7KHHWQDQ WDKWLYH LQFOXGHV DOO
SURSRVHG DFWLRQ QDUU6DWDIYGDURGU FRXUVH
VXFFHV V E\ JHQGHU"

R K M Q H F U D W H V U H D L Q P G X W N V O D D O D V R L Y M K I H Q F O X G H I Q D H Z H D W W Y K H Q Q F O X
FULWHULD 0HHWV WKH R I W D Q I G F U G W H U L D 1 R I H V G K H O B M R W H U L D 1 H F
, P S U R Y H P H Q W W R 0 H H V P S U K R Y B W B Q V D W R S 0 H H W

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7KH QDUUDWLYH H[SODJQHWQBQUGRWLYHQRPNHYKWKQDDUJDXPLHQWGRHV (PHHW DQ\ RI WKH FULWHULD V \$OHVGRXSJKUWPHQDQGVHPLWV D I R Q J RI WK IHPDOH VWXGHQWV VXFFHVVHGHSHQW FRXOG EHWBRGGILHS WRHIDFXQVR KLJKHU UDWHV WKDQ PDSH D V X P R H W W R P D O H G H V X G E H Q W G L Q % I O D Z H Q SHUKDSV UHIOHFWLQJEDJQDWQRQLDOPRUHQPDGBUWHXJGHQWU UHOHYD(WKH GHFOLQH LQ VXFFHV V E\ JHQGHU W R V X F F H V V L Q R V K W H F D D W R H Q W F DOPRVW WKH VDPH IRUEH R D W K X U R S S V S R V L W L Y H L P S D F W R Q F S R L Q W V I R U Z R P H Q S R L Q W V I R U P H Q E X W L W V Q R W F O H D U K &RXOG SRVVLEOH FDXVHV IRU WKH V X F F H V V I R U P D O H V W X R Y H U D O O G H F O L Q H L Q V X F F H V V W K D W \ R X H [D P S O H L V W K H U H U R V X J J H V W H G H D U O L H U D S S O \ K H U H W R R L H W K H F X U U L F X O X P W R K I F K D Q J H I U R P S U L Q W W R H W H [W E R R N H O L P L Q D W L R Q R I B B H B L W E \ H [D P " F O R V H O \ P R Q L W R U L Q J P D O H V W X G H Q W V I R U H D U O \ Z D U Q L Q J R I I D L O L Q J V H H P V O L N H D J R R G V W U D W H J \ I R U L P S U R Y L Q J V X F F H V V U D W H V D P R Q J W K H P

