6FKRRO 3XEOLF 6SHFLDO $FDGHPLF

/,%5$5<,16758&7,21 5281' 7$%/(1(:6

᪽

/,57

7KH SXUSRVH RI857 LV WR DGYRFDWH OLEUDU\ LQVWUXFWLRQ DV D PHDQVIRU GHYHORSLQJ FRPSHWHQW
OLEUDU\ DQG LQIRUPDWLRQ XVH DV D SDUW RIOLIHORQJ OHDUQLQJ

'HFHPEHU   YROXPH  QR 

B 

LVVQ  

>URP WKH

SUHVLGHQW %\ /VMQQ 2662OL,O6NL,<,OO,2#,,6,,6&6O,HGX

3RHWU\ LQ 0RWLRQ

+RZ PDQ\ RXW WKHUH ORYH WR JR WR SRHWU\ UHDGLQJV",V LW
WUXH WKDW SRHWU\ UHDGLQJV DUH VZHHSLQJ DFURVV WKH QDWLRQ"
:HOO \HV DFFRUGLQJ WR WKH 3RHW /DXUHDWH RIWKH 8QLWHG
6WDWHV 5REHUW 3LQVN\, KDG WKH SOHDVXUH RI VHHLQJ DQG
KHDULQJ 3LQVN\ LQ SHUVRQ LQ 5HQR 1HYDGD,Q 1HYDGD ZH XVXDOO\ KHDU FRZER\ SRHWU\ WKDW EULQJV D WHDU WR WKH H\H RU LQ VSHFLDO UHDGLQJV VSRQVRUHG E\ WKH VWDWH OLEUDU\ ORFDO SRHWV UHDGLQJ DERXW WKH JUHDW

VFUHHQ

+H LV WKH SRHWU\ HGLWRU RIWKH ZHHNO\ RQOLQH PDJD]LQH 6ODWH 85/ KWWS ZZZVODWHFRP!7KLV FRPELQDWLRQ RISRHWU\ DQG HOHFWURQLFV LV D JRRG ZD\ WR KHOS VWXGHQWV UHDFK RXW WR SRHWU\

,V WKHUH D FRQQHFWLRQ EHWZHHQ WKH SRSXODULW\ RI FRPSXWo

MRLQ XV

EULHI

WKLV

WDEOH

WHFKQRORJ\

HUV

TXLFN

PDNLQJ

/,57

1RPLQDWLRQV

WKDW

DQG

RQ

RQH

DQG

WUDQVLWLRQ

LV

LQIRUPDWLRQ

\RXQJ

WR

SRHWU\"

LQVWUXFWLRQDO

DOZD\V
RI

SRZHUIXO

\RX

RXU

SHRSOH

DV

FRPPLWWHHV
WKDW

IXOO

<HV

D

5HTXHVWHG

VWXGHQWV
WRRO

LPDJHV

RI

LV

SUHVHQWDWLRQV

VDLG

VWLOO

WDNLQJ

JRRG

WKDW

FRQQHFW WR

RXU

ILQG

OLNH

PD\EH

DQG

VXJJHVWLRQV

SODFH

/,57 VRQJ

RQ

IRU

EH
LQ

WKH

SDUW

6HH

\RX

SRHWU\

/O57

O\ULFV

HGXFDWLRQ

FRPSXWHU

SDJH

RI

2KLR

FDQ

*HW
WKH

2IILFHUV

ULYDO

XVH



3RHWU\ V

IRU

LQYROYHG
XQIRUJHWo

*DLO

DQG

LQ

WKH
,

GHWDLOV

SDVV

WROG

  

/\QQ
,QFOLQH

EURZVHU

PXVLQJV
'''

,QIRUPDWLRQ

<RX
5REHUW

3HPDVS!

,I

2UOHDQV

DWWHQG

6FKHGXOHG

6WHSDQRYLFK

&RPLQJ

&ROXPQV

\RX

%LEOLRWRRQV

,16,'(

$/$

7(&+

&KHFN

/,57
/O57

0HPEHU
1HZV%LWHV

%,7(V ZLWK

(\H

FDQ

DVS"ILOH 3LQVN\ L0VJ

2VVROLQVNL

DWWHQG

D

)URVW V

19

SRHWU\

WR

RQ

KHDU

9ROXQWHHU

EH

DW

0HHWLQJV
'LVFXVVLRQ

IRU

7$/.

85/

7KHVH

85/

VXUH

,QVWUXFWLRQ

LV

XS

/LWHUDF\

$/,57

WKH

WKH

5REHUW

3UHVLGHQW

6XQGD\

7R

UHDGLQJ

RU



WR

/,57

PLGZLQWHU

OLEUDULDQ

IRUXP V

0LGZLQWHU

EURZVH

KWWS ZZZVODWHFRP,3RHPO 

KWWS ZZZVODWHFRPO&RGH,'''

2XW

(DUWKZDUG

DWWHQG

'D\

3LQVN\

,QVWLWXWH

)RUXP

PRUQLQJ

LQ

RI

WRSLF

RXU

SHUVRQ

3LQVN\ V

DW
/,57

FRQIHUHQFH

UHDGLQJ

,QFOLQH

'LVFXVVLRQ

LQ

!

ZLOO

E\

$QG

DQG

1HZ

RU

SRLQWLQJ

ವ

EH

RZQ

OHG

RQ

LQ

DORXG

+LJK

WKH
WKH
WKH

2UOHDQV

LQ

E\

SRHWLF

)RUXP

1HZ

1DWLRQDO

6FKRRO

PHDQ

0LWFK

IURP

,QWHUQHW

\RXU

WLPH

S
S

S

S

S

S

S

S

S

S


















)520 7+((',725 1HZ /DPSV IRU 2OG"

ವ

, UHDOL]HG UHFHQWO\ WKDW, DP SUHRFFXSLHG ZLWK LQIRUPDo
WLRQ LQ

/,57 0HHWLQJV 0LGZLQWHU  
1HZ 2UOHDQV I$

6DWXUGD\ -DQXDU\ WK
  DP 

 DP

 DP    SP
  SP



  SP



  SP

  SP



  SP

6XQGD\ -DQXDU\ WK
 DP    SP
  SP



  SP



  SP
  SP

   SP
  SP

   SP



DP

 

SP S

/LWHUDF\,QVWLWXWH

3OHDVH FKHFN WKH 0LGZLQWHU SURJUDP IRU WKH IRUXP ORFDWLRQ)RU PRUH LQIRUPDWLRQ VHH WKH DUWLFOH EHORZ

1DWLRQDO

1,/)RUXPV WR 'LVFXVV

1HZ,QLWLDWLYH

IRU,QVWUXFWLRQ /LEUDULDQV

7KH 1DWLRQDO,QIRUPDWLRQ /LWHUDF\,QVWLWXWH 1,/, ZLOO EH GHGLFDWHG WR WKH WUDLQLQJ RI LQVWUXFWLRQ OLEUDULDQV SURJUDPPLQJ IRU OLEUDU\ DGPLQLVWUDWRUV RQ LVVXHV RI LQIRUPDWLRQ OLWHUDF\ DQG LQ EULQJLQJ WRJHWKHU YDULRXV KLJKHU HGXFDWLRQ LQLWLDWLYHV 7KLV HIIRUW LV EHLQJ OHG E\ &HULVH 2EHUPDQ 'LUHFWRU RIWKH)HLQEHUJ /LEUDU\ 6WDWH 8QLYHUVLW\ RI1HZ <RUN 3ODWWVEXUJK ZLWK SODQQLQJ IXQGLQJ E\ $&5/ $Q $GYLVRU\ &RPPLWWHH

(\H 2Q,QVWUXFWLRQ

*UHHWLQJ 3DUWLFLSDQWV DQG (VWDEOLVKLQJ 5DSSRUW
%\.DUL /XFDV NOXFDV#XFVGHGX

, UHPHPEHU P\ ILUVW HYHU VROR WHDFKLQJ H[SHULHQFH,
ZDV UHVSRQVLEOH IRU SXWWLQJ WRJHWKHU D WZRKRXU ZRUNo
VKRS IRU JUDGXDWH VWXGHQWV LQ SV\FKRORJ\ 7KH ZRUNo
VKRS ZDV VFKHGXOHG WR UXQ IURP  DP WR   DP
LQ WKH OLEUDU\ FODVVURRP 7KH VWXGHQWV KDG EHHQ LQIRUPHG E\ WKHLU SURIHVVRU WKDW WKH FODVVURRP ZRXOG EH RSHQ DW   DP, XQORFNHG WKH GRRU DQG ZDLWHG DURXQG D IHZ PLQXWHV %\   D IHZ SHRSOH KDG VKRZQ XS, ZDV QHUYRXV MXVW ZDLWLQJ DURXQG, OHIW WKH FODVVURRP WR JR WR P\ RIILFH IRU D ODVW PLQXWH UHYLHZ RI P\ QRWHV:KHQ, ORRNHG DW P\ ZDWFK LW ZDV  , ILJXUHG, KDG WHQ PLQXWHV EHIRUH, KDG WR VWDUW WKH FODVV VR, ZHQW WR WKH UHIHUHQFH FROOHFWLRQ WR VHOHFW D FRXSOH PRUH ERRNV WR VKRZ, HQWHUHG WKH FODVVURRP DW  VDLG KHOOR DQG ODXQFKHG

]

1RPLQDWLRQV 5HTXHVWHG
)RU /,57 V   2IILFHUV

/,57 LV DVNLQJ IRU \RXU QRPLQDWLRQV IRU WKUHH RIILFHV 7KH E\ODZV VWLSXODWH WKDW QRPLQHHV IRU RIILFH PXVW EH VHOHFWHG IURP GLIIHUHQW W\SHV RI OLEUDULHV RQ D

URWDWLQJ EDVLV 7KH URWDWLRQV IRU WKH   HOHFWLRQ
DUH DV IROORZV

R 9LFH3UHVLGHQW3UHVLGHQW(OHFW 

6FKRRO RU 3XEOLF /LEUDULDQ
R 9LFH7UHDVXUHU7UHDVXUHU(OHFW 
$FDGHPLF RU 6SHFLDO /LEUDULDQ
R 6HFUHWDU\ 

$Q\ 7\SH

2IILFHUV PXVW EH DEOH WR DWWHQG DOO $/$ 0LGZLQWHU DQG $QQXDO &RQIHUHQFHV IRU WKH GXUDWLRQ RI WKHLU FRPPLWPHQWV 7KH WHUPV RIWKHVH RIILFHV DUH

9LFH3UHVLGHQW3UHVLGHQW(OHFW VHUYHV D RQH \HDU WHUP DV SDUW RI D WKUHH \HDU FRPPLWPHQW WR WKH ([HFXo WLYH %RDUG DV 9LFH3UHVLGHQWO3UHVLGHQW(OHFW 3UHVLGHQW DQG 3DVW 3UHVLGHQW

1DPH RI1RPLQHH IRU 9LFH3UHVLGHQW3UHVLGHQW (OHFW

                  

1RPLQHH V,QVWLWXWLRQ

 

&RPPHQWV

 

9LFH7UHDVXUHU7UHDVXUHU(OHFW VHUYHV D RQH \HDU WHUP DV SDUW RI D WZR \HDU FRPPLWPHQW WR WKH ([HFXo
WLYH %RDUG DV 9LFH7UHDVXUHU7UHDVXUHU(OHFW DQG 7UHDVXUHU

1DPH RI1RPLQHH IRU 9LFH7UHDVXUHU7UHDVXUHU(OHFW

                  

1RPLQHH V,QVWLWXWLRQ

 

&RPPHQWV

 

6HFUHWDU\ VHUYHV D RQH \HDU WHUP

1DPH RI1RPLQHH IRU 6HFUHWDU\ B

1RPLQHH V,QVWLWXWLRQ

 

&RPPHQWV

BB

3OHDVH UHWXUQ WKLV IRUP WR &DUROH +LQVKDZ &KDLU (OHFWLRQV &RPPLWWHH
5HIHUHQFH 'HSDUWPHQW
8QLYHUVLW\ RI &HQWUDO)ORULGD /LEUDULHV
32 %R[

2UODQGR)ORULGD 
(PDLO FKLQVKDZ#SHJDVXVFFXFIHGX
)$- 

/,57 1HZVO'HFHPEHU  

E\ /LQGD - *RII OMJRII#FVXVHGX

HPEHU $/,57

3L[H\ $QQH 0RVOH\

3L[H\ $QQH 0RVOH\ LV WKH &RRUGLQDWRU RI,QVWUXFWLRQDO 6HUYLFHV DW 6WHUOLQJ & (YDQV /LEUDU\ 7H[DV $ 0 8QLYHUVLW\

3L[H\ $QQH 0RVOH\ KDV SDFNHG D ORW RI H[SHULHQFH LQWR
KHU EULHI FDUHHU DV DQ LQVWUXFWLRQ OLEUDULDQ 6KH FDPH WR

%, IURP D URXQGDERXW URXWH KDYLQJ VWDUWHG KHU SURIHVo VLRQDOOLIH DV DQ DHURVSDFH HQJLQHHU ZRUNLQJ ERWK DW %RHLQJ DQG $OOLHG 6LJQDO 7KH GULYH WKDW PDGH KHU WKH UHFLSLHQW RI WZR QDWLRQDO HQJLQHHULQJ VFKRODUVKLSV KDV TXLFNO\ PDGH KHU D OHDGHU LQ OLEUDULDQVKLS DV ZHOO 6KH KDV EHHQ RQ D IDVW WUDFN DIWHU RQO\ WZR GD\V RQ WKH MRE
DV $VVLVWDQW IRU,QVWUXFWLRQDO 5HVRXUFHV DW 7H[DV $ 0

8QLYHUVLW\ VKH IRXQG WKDW KHU VXSHUYLVRU ZDV UHVLJQLQJ DQG VKH ZDV LPPHGLDWHO\ SUHVHQWHG ZLWK XQH[SHFWHG RSSRUWXQLWLHV DQG FKDOOHQJHV 7KH (YDQV /LEUDU\ PD\ KDYH KDG VRPH LGHD RI ZKDW D G\QDPR WKH\ ZHUH JHWWLQJ DV VKH KDG ZRUNHG WKHUH DV D VWXGHQW HPSOR\HH

3L[H\ MRLQHG /,57 ULJKW DIWHU DWWHQGLQJ D %LWHV ZLWK /,57 OXQFKHRQ LQ 6DQ $QWRQLR KRVWHG E\.DUL /XFDV
ZKR KDQGHG KHU D YROXQWHHU IRUP 6KH ORYHG KRZ

VLPSOH LW ZDV WR MXPS ULJKW LQ DQG PDNHQG

-RLQ XV IRU %,7(6 ZLWK /,57

1HZ 2UOHDQV /RXLVLDQD -DQXDU\     

7KLV LV \RXU RSSRUWXQLW\ WR PHHW DQG HDW ZLWK RWKHU OLEUDULDQV LQWHUHVWHG
LQ OLEUDU\ LQVWUXFWLRQ 2QFH DJDLQ /O57 LV RUJDQL]LQJ JURXSV IRU OXQFK

µ GࡏĘ WKH DW PRGHVWO\ SULFHG UHVWDXUDQWV GXULQJ PLGZLQWHU PHHWLQJ LQ 1HZ 2UOHDQV /O57

TࡏW

WHVWWR ї͹ W ࠅࠖ

&+(&. 7+(6(287
0DU\ 3DJOLHUR 3RSS,QGLDQD 8QLYHUVLW\ /LEUDULHV

7KLV VXPPHU DQGV

�3V�XÄp

%LOOLH 3HWHUVRQ %D\RU 8QLYHUVLW\

'HDU 7HFK 7DON

, UHFHQWO\ KHDUG VRPHRQH PDNH D UHIHUHQFH WR &DVFDGLQJ 6W\OH 6KHHWV , KDYH YLVLRQV RI D ZDWHUIDOO RI SDSHU EXW, WKLQN WKLV DFWXDOO\ KDV VRPHWKLQJ WR GR ZLWK IRUPDWWLQJ ZHE SDJHV &DQ \RX FODULI\"

&DVFDGLQJ &RQXQGUXP

'HDU&&

7KH RULJLQDO LQWHQW RI +70/ FRGH ZDV WR SURYLGH DFFHVV WR LQIRUPDWLRQ XVLQJ K\SHUWH[W OLQNV DFURVV GLIIHUHQW FRPo SXWHU SODWIRUPV XVLQJ D

UHODWLYHO\
VLPSOH PHFKDQLVP +RZ WKH LQIRUPDo WLRQ GLVSOD\HG RQ WKH FRPSXWHU VFUHHQ
ZDV QRW RI JUHDW LPSRUWDQFH +RZHYHU
WKH ZLGHVSUHDG XVH RI WKH ZHE E\ D
YDULHW\ RI RUJDQL]DWLRQV IRU D YDULHW\ RI SXUSRVHV KDV UHVXOWHG LQ +70/ FRGH
EHLQJ PLVXVHG LQ DWWHPSWV WR FRQWURO
KRZ ZHE SDJHV ORRN $GGLP伀圀䠀䜶℔䌐U

� L�R�Dp�Â ð@`'
� �

  FRQWLQXHGIURP SDJH  

&66 FDQ EH XVHG LQ DQ +70/ GRFXPHQW LQ 

ZD\V

 /LQN WR DQ H[WHUQDO VW\OH VKHHW



8VH WKH 6W\OH! WK㉘✠հԠ

*XLGH WR &DVFDGLQJ 6W\OH 6KHHWV
85/ KWWS ZZZKWPOKHOSFRPUHIHUHQFHFVV! 3URYLGHV DQ XQGHUVWDQGDEOH RYHUYLHZ RI VW\OH VKHHWV VWUXFWXUHV SURSHUWLHV UXOHV D WXWRULDO
DQG D &66 OLQW FKHFNHU ZKLFK ZLOO FKHFN WKH

V\QWD[DQG VW\OH RI \RXU &66

/LH +DNRQ:LXP &DVFDGLQJ 6W\OH 6KHHWV 'HVLJQLQJ IRU WKH:HE 5HDGLQJ 0$ $GGLVRQ :HVOH\ /RQJPDQ  
$W WKLV WLPH WKHUH DUHQ W PDQ\ ERRNV DYDLODEOH RQ WKLV WRSLF KRZHYHU /LH LV RQH RI WKH SHRSOH ZKR GHP萀䬀䠀

ࠠ

/,%5$5<,16758&7,21 5281' 7$%/(

67$1',1* &200,77((6 ವ
&20387(5 $33/,&$7,216 ([DPLQHV KRZ

FRPSXWHUV DUH XVHG LQ OLEUDU\ LQVWUXFWLRQ 3URo
PRWHV WKH XVH RI FRPSXWHUV E\ SXEOLVKLQJ D
ELEOLRJUDSK\ RQ FRPSXWHU DSSOLFDWLRQV IRU %, DQG
PDLQWDLQLQJ D FOHDULQJKRXVH IRU LQIRUPDWLRQ RQ
FRPSXWHU VRIWZDUH

&21)(5(1&(352*5$0 3ODQV WKH /O57

SURJUDP IRU WKH $/$$QQXDO &RQIHUHQFH 0DNHV DUUDQJHPHQWV IRU VSHDNHUV URRP KDQGRXWV DQG DFWLYLWLHV GXULQJ WKH SURJUDP

&217,18,1* ('8&$7,21 &RQGXFWV UHVHDUFK

DQG GHYHORSV SODQV DFWXDO PDWHULDOV DQG GLUHFWRo ULHV WR IXUWKHU WKH HGXFDWLRQ DQG KHOS PHHW WKH LQIRUPDWLRQ QHHGV RI OLEUDULDQV HQJDJHG LQ XVHU
HGXFDWLRQ

(/(&7,216120,1$7,1* 3UHSDUHV D VODWH RI
FDQGLGDWHV IRU /O57 RIILFHV DQG PDLQWDLQV UHFRUGV

RQ SURFHGXUHV FDQGLGDWHV DQG HOHFWLRQ UHVXOWV
6ROLFLWV YROXQWHHUV IRU /O57 FRPPLWWHHV DQG

PDLQWDLQV ILOHV RI SURVSHFWLYH FRPPLWWHH DSSRLQo
WHHV

/,$,621 $WWHQGV DQG UHSRUWV WR /O57 6WHHULQJ
&RPPLWWHH DQG PHPEHUV DERXW FRPPLWWHHV ZLWKLQ

$/$ LQYROYHG LQ OLEUDU\ LQVWUXFWLRQ DFWLYLWLHV 'LVo WULEXWHV WR FRQIHUHQFH DWWHQGHHV D OLVWLQJ RI LQo VWUXFWLRQUHODWHG SURJUDPV DQG PHHWLQJV DW $/$
&RQIHUHQFHV

/21* 5$1*(3/$11,1* 'HYHORSV VKRUW DQG ORQJ UDQJH S嘀

1,/,

/,57 0LGZLQWHU 'LVFXVVLRQ)RUXP

6XQGD\ -DQXDU\  
  

  DP

F\,QVWLWXWH

/LEUDU\,QVWUXFWLRQ 5RXQG 7DEOH 1HZV
FOR /LDLVRQ 2IILFHU

$PHULFDQ /LEUDU\ $VVRFLDWLRQ
/,57  ( +XURQ 6WUHHW
          B &KLFDJR,/ 