



'HJUHH@ 2IHHUG %\$

0RGXOHV 5HY	+RQRXUV 6SHFLDOL]DWLRQ LQ 6RFLRORJ\ +RQRXUV 6SHFLDOL]DWLRQ LQ &ULPLQRORJ\ 0DMRU LQ 6RFLRORJ\ 0DMRU LQ &ULPLQRORJ\
([WHUQDO 5H	'U (ULQ 6WHXWHU 'HSDUWPHQW RI 6RFLROR 0RXQW \$OOLVRQ 8QLYHUVLW\  'U 5DQGOH +DUW 'HSDUWPHQW RI 6RFLROR 6DLQW 0DU\TV 8QLYHUVLW\
,QWHUQDO 5H	'U -RKQ 0LWFKHOO %UHVFLD 8QLYHUVLW\ & PHPEHU RI 6835 8 FRPPLWWHH  =L\DQD .RWDGLD 86& 9LFH 3UHVVLGHQW RI 80 PHPEHU RI 6835E8 FRPPLWWHH
(YDOXDWLRQ	*RRG 4XDOLW\ ZLWK 5HSRUW LQ 7KUH <HDU
\$SSURYDO 'D	6835 8 \$SULO 6&\$3\$ 0D\ 6HQDWH IRU LQIRUPDWLRQ RQO\ 0D\
<HDU RI 1H[W	<HDU RI QH[W F\FOLFDO UHYLHZ

2YHUYLHZ RI :HVWHUQ¶V &\FOLFDO 5HYLHZ \$VVHVVPHQW 5H

,Q DFFRUGDQFH ZLWK :HVWHUQ¶V ,QVWLWXWLRQDO 4XDOLW  
\$VVHVVPHQW 5HSRUW )\$5 SURYLGHV D VXPPDU\ RI WKH F\  
UHVSQRQVHV DQG DVVHVVPHQW DQG HYDOXDWLRQ RI WKH X\  
WKH 6RFLRORJ\ DQG &ULPLQRORJ\ 3URJUDPV DW .LQJ¶V 8QL

7KLV )\$5 FRQVLGHUV WKH IROORZLQJ GRFXPHQWV  
WKH SURJUDP¶V VHOI VWXG\EULHI  
WKH H[WHUQDO UHYLHZHUV¶ UHSRUW  
WKH UHVSQRQVH IURP WKH SURJUDP DQG  
WKH UHVSQRQVH IURP WKH \$FDGHPLF 'HDQ

7KH )\$5 LGHQWLILHV WKH VWUHQJWKV RI WKH SURJUDP RS  
HQKDQFPHQW DQG LPSURYHPHQW DQG GHWDLOV WKH UHF  
UHYLHZHUV ± QRWLQJ WKRVH UHFRPPHQGDWLRQV WR EH SU

7KH ,PSOHPHQWDWLRQ 3ODQ GHWDLOV WKH UHFRPPHQGDW  
IRU LPSOHPHQWDWLRQ LGHQWLILHV ZKR LV UHVSQRQVLEOH  
UHFRPPHQGDWLRQV VSHFLILHV DQ\ DFWLRQ RU IROORZ XS  
WLPHOLQH IRU FRPSOHWLRQ

7KH )\$5 LQFOXGLQJ ,PSOHPHQWDWLRQ 3ODQ LV VHQW IRU  
6&\$3\$ WKHQ IRU LQIRUPDWLRQ WR 6HQDWH DQG WR WKH 2Q  
4XDOLW\ \$VVXUDQFH 6XEVTXHQWO\ LW LV SXEOLF\ DFF  
7KH )\$5 LV WKH RQO\ GRFXPHQW UHVXOWLQJ IURP WKH XQG  
WKDW LV PDGH SXEOLF DOO RWKHU GRFXPHQWV DUH FRQII  
DQG 6835 8

([HFXWLYH 6XPPDU\

7KH 6RFLRORJ\ GHSDUWPHQW RIIHUV WKUHH DQG IRXU \HDU  
&ULPLQRORJ\ DV ZHOO DV D IRXU \HDU +RQRXUV 6SHFLDOL  
&ULPLQRORJ\ 7KHUH DUH DOVR 0LQRUV DYDLODEOH DV ZH  
6RFLRORJ\ RU &ULPLQRORJ\ GHJUHH ZLWK RWKHU UHODWHQ  
+LVWRU\ 6WXGHQWV LQ WKHLU ILUVW \HDU DW .LQJ¶V ZLO  
HLWKHU D 6RFLRORJ\ RU D &ULPLQRORJ\ PRGXOH VWDUWLQ

:KLOH WKH QXPEHU RI VWXGHQWV UHJLVWHUHG LQ WKH &UL  
UHODWLYHO\ EDODQFHG LQ &ULPLQRORJ\ DQG LQ 6RF  
'HSDUWPHQW RI 6RFLRORJ\ LV RQH RI WKH ODUJHVW SURJU  
HQUROPHQWV



+LJKHVW VWXGHQW WR IDFXOW\UDWLRV DW .LQJ¶V E\ F  
UHJLVWUDWLRQV DQG PRGXODU UHJLVWUDWLRQV  
IXOO FRXUVH HTXLYDOHQW VHFWRQV WDXJKW E\ S  
8QVXVWDLQDEOH ZRUNORDG IRU ERWK WKH 'HSDUWPHQ

5HYLHZ 3URFHVV

7KH UHYLHZ FRPPLWWHH FRPSULVHG RI WKH WZR H[WHUQDO  
UHYLHZHUV ZDV SURYLGHG ZLWK 9ROXPHV , DQG , LQ DGY  
SDQGHPLF UHVWULFWLRQV PHW YLUWXDOO\ ZLWK WKH IRO

\$FWLQJ 9LFH 3URYRVW RI \$FDGHPLF 3URJUDPV  
9LFH 3URYRVW \$FDGHPLF 3ODQQQLQJ 3ROLF\ DQG )DFX  
\$VVRFLDWH 9LFH 3URYRVW \$FDGHPLF 3ODQQQLQJ 3ROL  
\$FDGHPLF 'HDQ  
\$VVRFLDWH \$FDGHPLF 'HDQ  
3UHVLGHQW .LQJ¶V 8QLYHUVLW\ &ROOHJH  
&KDLU RI 6RFLRORJ\ 'HSDUWPHQW  
'LUHFWRU RI (QUROPHQW 6HUFLFHV 5HJLVWUDU  
'LUHFWRU RI /LEUDULHV &DUGLQDO &DUWHU /LEUDU\  
+HDG 5HVHDFK DQG ,QIRUPDWLRQ 6HUFLFHV &DUGLQ  
8QLYHUVLW\ &ROOHJH  
0DQDJHU \$FDGHPLF 3ODQQQLQJ DQG \$QDO\VLV  
\$FDGHPLF 3URJUDP \$GYLVRU  
\$FDGHPLF &RXQVHOORU  
\$GPLQLVWUDWLYH \$VVLVWDQW WR \$FDGHPLF 'HSDUWPH  
3URJUDP )DFXOW\  
3URJUDP 6WXGHQWV

)ROORZLQJ WKH IRUPDO UHYLHZ WKH H[WHUQDO UHYLHZHU  
WKHLU ILQGLQJV ZKLFK ZDV VHQW WR WKH 3URJUDP DQG \$I  
UHVSQRVH )RUPDWLYH GRFXPHQWV LQFOXGLQJ 9ROXPHV ,  
([WHUQDO 5HSRUW DQG WKH 3URJUDP DQG 'HFDQDO UHVS  
DVVHVPHQW UHSRUW RI .LQJ¶V 6RFLRORJ\ DQG &ULPLQRO

6XPPDWLYH \$VVHVPHQW ± ([WHUQDO 5HYLHZHUV¶ 5HSRUW

6WUHQJWKV RI WKH 3URJUDP  
6RFLRORJ\ IDFXOW\ PHPEHUV KDYH WDNHQ D OHDGLQJ  
FRPPLWWHH WR KHOS EXLOG DQG JURZ FROODERUDWLY  
FRPPXQLWLHV

7KH 'HSDUWPHQW KDV FUHDWHG DQ (TXLW\ 'LYHUVLW\  
LQ VXSSRUW RI WKH VWUDWHJLF SODQ IDFXOW\ DUH Z  
RXWOLQHG LQ WKH VWDWHPHQW DUH SUDFWLFHG ZLWK  
FRXUVH FRQWHQW DQG VWXGHQW DQG FRPPXQLW\ UHC  
7KH WKHRUHWLFDO DQG PHWKRGRORJLFDO FRXUVH RI  
DQG WKH GHSDUWPHQW\ V FRPPLWPHQW WR SURYLGLQJ  
OHDUQLQJ RI VRFLDO VWDWLWLVLFV DQG UHVHDUFK WR  
WKH VWXGHQWV JUDGXDWLQJ IURP WKLV SURJUDP  
&OHDU FRPPLWPHQW E\ )DFXOW\ PHPEHUV WR DFWLYH  
FRQWHPSRUDU\ DUHDV RI WKH GLVFLSOLQH

\$UHDV RI &RQFHUQ RU 3URVSHFWLYH ,PSURYHPPHQW  
7KH QRQ FULPLQRORJ\ RULHQWHG SDUWV RI WKH VRFL  
XQGHUGHYHORSHG DQG KDYH OHIW WKH SURJUDP XQUH  
ZKROH  
7KHUH LV D QHHG WR UH EDODQFH WKH VRFLRORJ\ FXU

H00V€ 0H`p W 0 0RDQp™•PZHVD@P@pOI™PP äG ð 0F•U 0AP

6XPPDU\ RI WKH 5HYLHZHUV¶ . H\ 5HFRPPHQGDWLRQV DQG 3URJUDP )DFXOW\ 5H



)DFX(&XUUHQWO\ WKHUH DUH WKHPDWLF DUHDV LGHQWLILHG E\ WKH  
WKHLR\WK SURJUDP GHVLJQ FKDQJHV 3URJUDP GHVLJQ WR VFDIROG F  
QRW GHOD\LQJ WDNLQJ PHWKRGV FRXUVHV LQ WKHLU UG RU  
RI FRPSHQVDWLRQ IDOO ZLWKLQ WKH SXUYLHZ RI D UHYLHZ RI SUR  
U ZKDW WKH UHYLHZHU PHDQ E\ DFWLYH VWHSV ,W ZLOO EH GLII  
WKLV PDQGDWH

HSDW

XQFC  
IXOII

7KH  
@  
FG B" A





HOHPHQW ZLWKLQXSIRUWUJG D FUHDWLYH FROODERUDWLRQ ZLWK WKH UHYDPSHG : UL  
 \HDU VRFLRORJ\ FURXUWM\ZLQK DGPLQLVWUDWLYH UHVRXUFHV WKDQ LQ WKH SDVW  
 DSSURSULDWH WXWRULDO DQG  
 W ZW P<sup>23</sup>ZHDFKLQJ DVVLV)BQWXRQW D UREXVW VHW RI ZULWLQJ FRXUVHV 7KH GHSDUWPH  
 ZRXOG KHOS DGGUHVV WKLV  
 SUREOHP

)DFXO3WURJUDP GHVLJQ LV D NH\ VWUDWHJ\ IRU DGGUHVVLQJ FRXUVH VHFV  
6RFLRORJ\ LV HQFRXUDJHG WR ZRUN ZLWK WKH 'HDQ\TV RIILFH \$FDGHP LF  
DOUHDG\ SURSRVHG VFDIROGLQJ FKDQJHV (QUROPHQWV DW DQG  
QHGGV UHVWUXFWXULQJ EHIRUH IDFXOW\ DUH KLUGH )LQDOO\ SHUKDSV  
RI SDUW WLPH WR IXOO WLPH IDFXOW\ ZRXOG EH KHOSIXO

7KH GHSDUWPHU7KH UHYLHZHUV QRWHG WKDW RXU IRXU \HDU +63 QXPEHUV  
SURPRWH LWWHUV 7KH FXUUHQW HQUROOPHQW WUHQGV DFURVV 1RUWK \$PHULFDQ FD  
VFLRORJ\ +63QVLGH +LJKHU (GXFDWLRQ LQ 1RY VKRZ WKDW WKUHH \HDU ODMRUV  
PRGXOH PRUHPDQSHW DQG WHPSRUDO SUHVXUHV 7KHUHIRUH FRPSDUHG WR RXU ODMF  
DFWLYHO\ UHF\XW\ WR PLWLJDWH WKH VLWXDWLRQ ZH DUH SODQQLQJ WR SURPRWH  
SURPLVLQJ VWXGHQWV  
HVSFLDOO\ L7Q HWKIDUU ZLWK VXSSRUW IURP WKH GHSDUWPHQW SURPRWLQJ FRPLWWH  
VHFRQG \HDU &LQFLFDWLRQV ZRXOG RUJDQLJH DQ DQQXDO VHVVLQJ RQ SURPRWLQJ  
SURJUDP VWXGHQWV 7KLV SODQ ZRXOG UHTXLUH VXSSRUW IURP WKH GHSDUWPHQW

)DFXO43V DUH VHHLQJ GHFOLQLQJ HQUROPHQWV DFURVV .LQJ\TV SURJUDF  
FRXUVHV WR UG \HDU VWXGHQWV 7KLV ZRXOG UHGXFH FRXUVH VHFVLRQ  
\HDU

7KH LPSOHPHQDWLRQ RI DGGLWLRQDO  
SUHUTXLVLWHV WR HQVXUH WKDW  
VWXGHQWV SURFHGG WKURXJK WKH  
FXUULFXOXP LQ VRFLRORJ\ DQG WR D

00DSROLRQ  
OUVHFXXWW pdxDeu 'S"0 T@XUJ@P@CF O V @  
H@," " D€

,PSOHPHQWDWLRQ 3ODQ

7KH ,PSOHPHQWDWLRQ 3ODQ SURYLGHV D VXPPDU\ RI WKH UHFRPPHQGGDWLRQV

<p>5HFRPPHQQI (QVXUH DGHTXDWH GHS DGPLQLVWUDWLYH VXS RSHUDWLRQV RI WKH S</p>	<p>&amp; RQVLGHU WKH UHFUXLWPHQW DUJPRLO WDW O DWLYH VXSSRUW S&amp;WLP LQR WRKJ RU LGHQWLI SUBGDLWLRQDO DGPLQLVWUDWLYH XQLWV</p>	<p>IR \$ DUUWPHGLQFD &amp; K V D V HR Q F I R H U D Q SRUWXQLWLHV IRU VKDULQJ RI VXSSRUW DFURVV RWKHU</p>	<p>L U H F H P E H U L R I O R E J H D Q G I R U V K D U L Q J R I R W K H U</p>
<p>5HFRPPHQC\ DQ &amp; RQVLGHUDSSURSULDW VXSSRUW LQVWUXFWRU RI HISHULHQWLD OHDU FRPSRQHQWV WR HQVX SODFHPHQWV LQWR H FRXUVHV DQG WR VXSS VXFFHVV ZKHQ HQJDJH OHDUQLQJ RSSRUWXQL</p>	<p>'HSDUWPHQW ZLOO PHH H S H F I K H Q W L V B G H W W L K F L Q H I Y H U Q X U F F R X O V H U U Q X U E W H S S V I R S H U H Q V W Q W E D W R W H S S R U W V W X G H Q W L Q H S H U L H Q W L D O L Q H S H U L H Q W L D O</p>	<p>&amp; X U U L F X O X P &amp; R I S B G F I R Q P P W F W I L S R Q Q D W E R C H Q R J S D H O L H Q Q M R I O O O P &amp; E R R W U G H Q D W X I S S R U W F R X U V H V</p>	<p>% \ ' H F H P E H W W M H R W W &amp; U D W L H J L H V W R H Q D W U I Q Q Q J &amp; R W R &amp; E R R W U G H Q D W X I S S R U W F R X U V H V</p>

5HFRPPHQQGDV  
(QVXUH VXIILFLHQW IDFXOWTVX D€QE€

