The Random Assignment of Students Into Elementary Classrooms: Implications for Value-Added Analyses and Interpretations

Noelle A. Paufler and Audrey Amrein-Beardsley

Am Educ Res J published online 22 October 2013
DOI: 10.3102/0002831213508299

The Rad Assg e f S de s I E e a Class s: I ca s f Va e-Added A a ses a d I e e a s

N elle A. Pa fle

(W & Ta F ce S a ca I fe e ce, 1999; ee a C & Ca be , 1979). T e e f a d a g e a e e ba- b f e cc e ce f a b e ab e d ffe e ce a g ea e g (e.g., ea e ea e) e a a e e f a e e- e d .

I ca e, a d a g e d e g bab c e d a g de d ffe e ea e g (e.g., c a c). T d e e e a e de c a ac e c a g b a ea e effec (e.g., d ffe e eac e - c - e e effec) a e e a bab e ac c a g (e.g., de c a - d ffe e eac e de d ffe e c). T d e a e ca a a e e ab ea e effec (e.g., eac e c effec), g d ca (e.g., g de ac e e- e) e a d e e ab e g a da d a ca ea g a ac e . T e

N a d g, g e e fac a a e-added e a e a e f e ca c a ed e a d a g e b e, de a - e e e a c d (C & Ca be , 1979), f e ece a a e a e e f a d a g e ac ce a e ed, a g e ac ce a e “effec e , f f a , a d ” (Rea d & Ra de b , 2009, . 497). I be a ed a a c a e a a e c , a d a eac e a e a a e eac e ,

ab e e g de g ec a a d e e c a e-added a c a d be a c ce ed (. 15 16). He ce, c g f acade ca ba ed de ace e ac ce "e c c f [e a added] e a ce f b a" (. 30; ee a Ha , 2009).

E e e e, a a c a e VAM a a e a d e , e e g e d ece a be e e a ac a de a e a - d a g ed c a . I ead, e c a a de a g e eed be ade a d f e ca ed de a e ed e a e a e-added, c a acc f de ' ac e e- e ( ) a d e e e a ab e , a eeded a d e a a ab e. P d ffe e , e f a c a gge a f de ace e a e a d , c e a c (e.g., de , c a , a d c f ed effec ; e g a eg e a acc f e e ed c e c de c e ; de - e e c a a e a d e ca ed c ;

Ad a ced S‘a‘ s‘ cal S‘ a‘eg es a d C ‘ ls

T ed ce e e f e ca ed b b a , a c a a a c f a ea e a d efe ab e ea f de ’ e e c e (e.g., g e g c a a e e f a d ed e e a c d-) e ad f e a g ab e f e de a d ed c a a d c . M , f a , ag ee a e c- ca a d a VAM-ba ed ad e de ’ ac e e- e (G a e a e a ., 2011; Ha , 2009). A c , c g f ac e e e e e “ e e e a g f e d,” ea , a e a e a e e b a g ac a e a e a ab e a e ac e e e e e; a g , e e a e ce f c e (Ba , 2012; R e , 2009; Sa de e a ., 2009).

Sa de e a . (2009), f e a e, a g e a c g f c e a- e a ab e ece a beca e c d g de ’ e c e effec e c f e e a e a ab e e a e c ded. T a de e e a e c (Ba e a ., 2004; C d , McFa a d, M e, & P e , 2010; G d abe & T e ba d, 2012; Sa de , 1998). Add a , Sa de e a . (2009) e a e e- de ce a a g , e e a e ed g de ’ e c e, g c e a ed de ’ bac g d a ab e (a ace a d e) g e EVAAS de . H e e, e d de a ca e de ce f a e (e.g., c e a a g e e f g a d ace/ e). I ead, e e, “c e a a e de a a d e e a e a be ” (. 6; ee a Sa de , 1998), ea g “ de c e a ” e e e a . C e e , a d ega d e , e ec e d ad e f a ab e e a de ’ e c e be ade.

Re ea c e c d c g ec da a a e f EVAAS da a, e e, a e ed a b a e e de , e ec a e g ge e f de (c d g a ge f ac a de) a e a d a g ed c a (K e , 2003; ee a G d abe e a ., 2012; G a , Ma f e d, Rec a e, T , & W d dge, 2012; Ne e a ., 2010). A g de e e a e c , e d, c f b a a g ab d e de a . I d e , e e, add e e d ffe e a bab e a e de d e e bac g d c a ac e c (e.g., a g age f c e c , fa a , d a a , acce ec g e a d e ce de f c , e c.) g e e a e f a g d- c e a ga f ea ea . T a e ca e d a e b d- g e c ea a d e e e , e ec a c de g a e e e a d e ed ea e a e-added e ca a e e- e . T e e e a ac f c d ec c e f e e effec (Ba e e a ., 2010; C c a , 2010; Gab e & A g , 2011; Ha , 2011).

T a ad, e a ca eg a e add a c acc f
e f e e e, c ab e f e ce. T e d de e a -
a b c g f e add a b e ab e fac e g a
c f e b e ab e fac , a c a e a g be e
d ff c b e ca e. C a ab e f e c a ed
c de b a e ed de - e e a ab e (e.g., ace, e c , e g -
b f f ee ed ced c ce a a c de f c ec c bac -

e “d ff c eac ” de e a d eac e f c a e d - a e f ed g e ac e e .

B e a e ed e ea c a bee c d c ed e e de a e a g ed c a c (B & Ma , 1995; D & M a d, 2010; M , 1987; P a e , 2010; P a e , 2003), a d e f e e d e a e bee c d c ed e c e f a e-added. I c g ca de , M (1987) f d a e e f ca eg e , f e ba ed de de g a c a ab e a d e acade c e f - a ce, a e c e d ed a g de c a - . B a d Ma (1995) c c ded a c a f ad a g e- ac c ad g ea e f e b c ea g e e ge e c a - ba ed de ’e c , ge de , be a , a g age f c e c , a e a e e , a d e e ac eac e e de . I ac c , e e , c a a e ed c e de ge e . P a e (2003) f d a ace e dec , e ec a f de d ab e , e e a ge affec ed b c a ’ a de , a e , a d fe a c e a d a g. D a d M a d (2010) de a ed e e a de a e aced ce a c a e ce a c a e g de ’ de g a c a ab e (e.g., de be a). P a e (2010) f d a , e ec a a a f f e a c e a be ef , c a ad a ce e a g g e ac e g de eac e e fa ed a d aced e ac e g de (e.g., a e , de e g b e f f ee ed ced c e , de d ab e) eac e e fa ed e . T ce a a ca f a e-added, b aga c e , e e ea c e a e

g ge a d e a e g e ac a a e ded e b e a e-added (ee a G d abe e a ., 2012; McCaff e , 2012; McCaff e e a ., 2004; S ac e a ., 2012). G a , Rec a e, e a . (2012) ed a e , g, " c ea a e e e a a a Ac e ee (e a e a ea f e a ea - e)" (. 15; ee a G a , Ma f e d, e a ., 2012).

H e a . (2011) de a ed a - c g f g e ac e g de e c a e f e effec e eac e b a ed e - a e e e e b a g a ab e e e c ded e de . W e a e e de a g e e c VAM ed (ee a Ne e a ., 2010), a cc ed e e ca ed c e e e ed. McCaff e e a . (2004) de a ed a e a e eac e c e de a ed e effec e e e e a g g e ac e g de , fe e ELL , a d fe e de f - c e bac g d . T e c c ded a " de c a ac e c a e e c f d e a ed eac e effec e c e e d c d ffe e a " (. 67; ee a Ba e e a ., 2010; McCaff e e a ., 2004). Ne e a . (2010) f d a e a e e e g f ca a d

def f ff c e a ef e e e a ; e a e-added e - a e d ced a ed e af e e ed E ca Ba e e d (He a e a., 2013; S ac e a., 2012; ee a C e , F ed a , & R c ff, 2011), a d d e a ed a fa a a e f a c- a g a d c a c (G a , Rec a e, e a., 2012; Ha & A de , 2013). M e a , e e e ba ed a e a- d ed e e e eb de e e a d a g ed c a- . I ead, " c a eac f e c e e a ed d a c a e d be e a a a e a g ed eac f e eac e e a [c a d ad]. T e c d c ff ce e a d a g ed e [d ad] c a e [ ] eac e " (Ka e & S a ge , 2008, . 2).

Re a ed, e f a f $45 f B & Me da Ga e F da Mea e f Effec e Teac g (MET) d e (2013), a a f c a d eac e e eged e ag ee e afeg a d a d f g e a d ed de g . T eded e a d f f d g (R e & Ma , 2013), a g a c a ed a e c d c f a a e (B & Me da Ga e F da , 2013).

N e e e , e a f e af e e ed e ea c e a e e de ced a e a e-added e a e f eac e eac a ge ge g f de , de a e f e a d ed c a , a d de e e ca f e a ca c ed e a e ba , a e b a ed. A a d e c e e de ce a a d g ac ce c ca e e a e , a e- added e ea c e c e ac edge a a e a d a e de e e e e e e a e .

P ‗ se f ‗ e S ‗ d

I d , e ea c e e ga ed e e d a e e e a c c a A a ca e a g de eac e ' c a . Aga , e g a e ega d g de a e aced ge e a , b c e a e ca e a d de a d beca e f e e acc ab a e a d a e-added e be g ad ed ac e a . T e f d de e de ce ab e e e c e ef (a d) a d a- d a g e f de c a cc e c e f e a e-added.

T e e f d a add c ec e g a ea, aga g e e a ca f a g a d be e de a d g a e-added fe e ce a d e e de ce f a d . T e ee a e ea c e e ea c e add e ed e e e f g:

/ W a a e e e d e e e a c c a ca
e a g de eac e ' c a ?
/ . W a a e e e c e a e e e a c c a ca
e ace de f a d ac ce a e e ed, a d d e e e c -
e a c e a e e a e (.e., a e c a e e acade c d ca-
e a c de be a a ec d a e ace e dec)?
/ T a e e d de , eac e , a d a e a a e
e de a g e ce f a d ac ce a e e ed?

F d g d e e ed d a ca ega d g
c ac ce ac a e-added fe e ce . W e a e
f d de c c e e e de ce a de a e a d
a g ed eac e , aga , e e f e e ce a ace e ac-
ce ea b a ed a e-added e a e de a g c d a
d ec e a ed e ed. W e ce a ea ab e a
a e e b a cc g e a g de ace e ac ce , e
a e f A a, de ' g c e a e ed eac e '
ec d e eac e - e e a e-added a a e f c a e.
If d e, d e a e d c e e . T a a d, a b e

T d a e ea ab e ec a a g e g de

Re ea c e e e e e f e 3 ee e
g f 2012. U g a c f de ce e a ca c a a 95% c f de ce
e e (

Da‘a A a[‡ ‡

F a a c a e e (= 378/1,265, 30.0%), e ea c e ca c - a ed de c e a c (ea a d a da d de a) g e d- e ’ e ca e e e a d e e f L e - e e c ded e e e . Re ea c e e a - de ed a c a e e de a e f e e c a d f de c e e ega d g c , de , a d c a bac g d a ab e . Re ea c e a ca c - a ed Pea b a a e c e a a g e e c e a a c a e ed g a e ace e dec , g a ca g f ca

differences among responding and nonresponding principals (e.g., using chi-square analyses).

Instead, researchers examined sample representativeness using logical and comparative yet nonstatistical approaches (Wilkinson & Task Force on Statistical Inference, 1999; see also Thompson, 2000). Researchers used the most current state-, county-, and school-level data available via the National Center for Education Statistics (NCES), the U.S. Census Bureau, and other local sources to examine sample-to-population characteristics, to help reduce or eliminate some of these potentially biasing elements. In one case, researchers were able to examine principalsÕ years of experience as compared to the state population of principals, but otherwise, state-level information that matched the self-report data collected was not available for comparative purposes. These data are presented alongside sample demographics next.

School Size and Location.Principals who responded reported representing public and charter elementary schools of various sizes across Arizona that enrolled students in Grades 3 through 6. In terms of size, 78.9% (*n* = 291/369) enrolled more than 400 students. NCES data indicate that the average elementary school in Arizona enrolls 511 students (U.S.

Ed ca , NCES, CCD, 1999 2000 a d 2009 2010). W e a af f

a f ad a ced a g (e.g., ce f ca e a d/ a e' d c a deg ee) a e a e e e e e ce a ad a . W e a ed de c be e ad a ced a g, a a c a (= 333/350, 95.1%) e ed a g ea ed a g ad a e deg ee. Of e e, 58 e de (= 58/333, 17.4%) e ed a a g ea ed a d c a deg ee.

I e f c a ' ea f e e e ce, e e ed a e d g c a (= 313/366, 85.5%) ad e a 3 ea f ad a e e e e ce. N ab , 26.0% (= 95/366) e ed a g a ea 13 ea f ad a e e e e ce. NCES da a ed f d g a e . A a f (= 168/367, 45.8%) f e de e ed d g e c e f 3 ea e , a d a e e NCES da a 57.8% f a e c a e ed e a e. I add , 13.1% (= 48/367) f e de e ed e g a e c f a ea 10 ea , a d a e e NCES da a, 12.2% f c a a e de e ed e a e (U.S. De a e f Ed ca , NCES, Sc a d S aff g S e , 2007 2008).

T e e da a d e e f a e de a e e e a e f e a e de e e e a c c a a . H e e, e a e ed; e ef e, b e a e e a a a c ge e a a (S a e & T b , 1982).

Res l's

I f ed Pl ace e ' P ac' ces

De e e af e e ed e e f ad a ced a g a d ad a e e e ce, c a e de ed a e a g - e f de a d c ed d g e fe a ad a- e c e (= 284/363, 78.2%) d g a e fe a de e e e ad ece ed ce (= 239/361, 66.2%). T e eca ed d c g e c d g c e (= 71/363, 19.6%) de c bed e a e a d e e c e c f e a g e f de a add e ed. M e de ed a a a e a ed a e eed c de de bac g d c a ac e c d g e a g e ce , f e e c g e a ce f a g ace- e dec g de ' ec a ed ca eed (= 17/71, 23.9%), acade c ac e e e ab e (= 15/71, 21.1%), ge de (= 9/71, 12.7%), a d g f ed e (= 8/71, 11.3%), a de .

P c a e de a de c bed d c g e a ce f - ef c ea g "ba a ced" a d " e e ge e " c a (= 23/71, 32.4%). T e d c ed e a g e f de a a f e fe a de e e ac e (= 105/361, 29.1%) e ed a c , f e g e a ce f de bac g d c a ac e - c e a g e ce , a e , f c g aga a g age f- c e c (= 17/105, 16.2%), g f ed e (= 15/105, 14.3%), ec a ed ca

eed (= 14/105, 13.3%), a d acade c ac e e e (= 14/105, 13.3%). M c a (= 308/353, 87.3%) ed a e d c c a a d d e c be e a ced e f ac g de c a .

Me‘ d‘ f A‘‘ g e ‘

W e e de de c bed e a e d e ed a g de c a e c , ea a (= 335/342, 98.0%) de c bed ced e e eb ad a a d eac e c de ed a a e f de bac g d c a ac e c a d de e ac a e ace e dec . I fac , 98.0% (= 335/342) f e de ’ c , a d a g e c a e ge e a ac ce. Fe (= 25/342, 7.3%) c a e ed e e e e e ab e a g e ac ce a a .

I add de ’ acade c ac e e e ab (= 188/342, 60.0%), be a (= 162/342, 47.4%), a d ec a ed ca eed (= 147/342, 43.0%), c a f e e c ed, a a c de a , e f g e e -e ded e e : ge de (= 122/342, 35.6%), a ge- ca ed a da d ed e c e (= 98/342, 28.7%), a d g f ed- e (= 95/342, 28%). Ve fe c a (= 34/342, 9.9%) de f ed de ’ ac a e c bac g d a a fac e ace e ce . E e fe e (= 11/342, 3.2%) e ed c de g de ’ c ec - c a e a g ace e dec .

G e e e f L e - e e ed de f e de c a ac e - c c de ed e e a e aced c a e , a c a ’ e -e ded e e a c ed a da ed e a a e f d g . P c a e ed

eced g g ade d g e ace e ce (= .51, ≤ .01) a e . He e, c e a c eff c e e ed a da e e e f c a ega d g e de c a ac e c a e c de ed d g e ace e ce . See Tab e 2 f a c e a c eff c e e e f a ca g f ca ce.

S e c a (= 47/263, 17.9%) a de f ed de ' e ac e de a d eac e a c ca fac a f e ce e ace- e ce . T e e c a d ca ed a e ac a g de , e e e ega e, g f ca ac ed e ea g e - e c a a d a a ed a g f ca e de e g e e de e e aced f e f g c ea . F e a e, e - c a de c bed a c ac ce, e a g a eac e de " f - a be a e a d/ de a d be aced e a a e c a e . A g ef a ca a e be ace e f e de e e g ade" a e ed a be g a . A e - c a added b e e g a a de ' e ac e ee ca d a a ca c a ge e c a d a c, a d " f de d a e e be a e e e a e e ee , e a be a g ed e a a e c a e e e ea ." S e c a (= 50/306, 16.3%) e ed ega e e ac e de a eg a e

Table 2

Pearson Correlation Coefficients Representing the Relationships Between Student Background Characteristics Reportedly Considered by Principals When Assigning Students to Classrooms

128/306, 41.8%). These decisions were most often informed by the comments and recommendations made by teachers, in addition to studentsÕ prior interactions with their teachers, their teachersÕ personalities, and their teachersÕ varying instructional and management styles. Thus, principals reported that they relied on teachers to make recommendations about student placements based on how students responded to them as instructors

de bac g d c a ac e c . Acc d g e de , eac e f e c de ed a ea e f e f g de c a ac e c : e- ac e de (= 29/263, 11.0%), de ' e e f acade c ac e e e (= 27/263, 10.3%), be a (= 27/263, 10.3%), ec a eed (= 27/263, 10.3%), a d/ e ac e eac e (= 18/263, 6.8%) e a g ace e ec e da . W e ac g de e a a ce f eac e , c a f e e e ed e e a e c a ge a eeded. P c a e e e ed a a e e eac e ' e b a e ace e dec .

P c a a f e e e ed a e ded ec f c g de e f eac e , d ec g e c ea e e e ge e c a g f e (.e., e ee e ac) de c a ac e c a e e aca- de ca e a ed (= 27/263, 10.3%). S e c a (= 58/342, 17.0%), e e , a e ed eac e e c e -g g de ace g f ed de , effec e c ea g e ge e c a e. W e c a f e g "ba a ce" c a a c a b e, a eff c ea e e e e ge e , a ea g e - e , e e e e e ce .

S e e a ed a eac e c e g a c a e a ed a a c g e ea g eed f de f e eac e ' c a e , e a e , a d e e g . I de c b g c ca a ec f e ace e ce , e c a e a ed a eac e "c e e a a e eac de . . . [a d] c , f a , a- c a eac e e fee e c d d be cce f a d ." A e e de ed e a ce f eac e d g "ea g da f a ab de a e a g g de a c eac g e g f eac e ."

S e c a (= 21/263, 8.0%) a de c bed ced e e e c e eac e ef a g de ba ed e ea g e , a e , e e be ef f a a c a c a c a- a age e e. F e a e, e c a e a e e a " e eac e a e e g ega d g a g age ca e effec- e e de g a c e e e e [ ] e f e eed." A e e ded, "T e e ea ' eac e ace e de acc d g ec a eed , ELL, be a , a d e e f acade c e e [c a] A Teac e , B Teac e , C Teac e , D Teac e , E Teac e ." W e e e g e e e a a g e aga , e e , e e a c a aga ed e eed f "ba a ced" (= 95/342, 27.8%), "e a " (= 29/342, 8.5%), " e e ge e " (= 25/342, 7.3%), a d "fa " (= 19/342, 5.6%) c a .

O e ed, f e a e, a e e ed e e a " c a- e a e ' ac ed' f a a c a eac e . . . [a d a] a e c d be a g ed a g ." B a g c a ge c a a eeded, e d- e f e e gge ed a a c ed ace e c d be e ed ed

bef e e c ea bega . O e c a e a ed a “ a e e
g e e c a f f a e e [e] c effec e e e ,
c e , [a d] ec a eed e e e a e.” Aga , e eac e a
a a a ge e e ace e ce , a e e e ed a

> needs of the child. IÕd always consider a request for a type of assignment . . . though we do not entertain requests for particular teachers.

Here, principals (n = 58/306, 19.0%) also cited prior negative interactions as a result of placements of siblings or relatives as legitimate reasons to honor specific requests. One principal explained that he or she would move a student to another class if unable to ÔÔremediate [the] problem between [the] parent and teacher even after [a] discussion [as a result of] a previous problem with the teacher with an older sibling.ÕÕ While a few principals (n = 13/306, 4.2%) expressed a willingness to make a placement change under such circumstances, they also expressed their desire to attempt to resolve any issues prior to moving the student. For example, a principal explained his or her response to such requests:

> Once teacher assignments are made, I typically have 8-10 change requests from parents. I meet with the parent and listen to their concern. Typically, I require the parent to try the assigned teacher. If after a two-week trial period, the concern remains, we meet with the teacher and try to resolve the issue within the classroom. If the issue then remains unresolved, I make a classroom change.

Another principal explained that,

> Current-year teachers supply the information used to balance out the classes. Teachers of the incoming classes only have input regarding students of families with whom they have had prior negative experiences. Avoiding situations that are predestined for problems is much easier before the classroom assignment has been made.

Another principal stated that he or she would change a studentÕs placement ÔÔwhen all parties agree and itÕs truly in the best interest of the child.ÕÕ

Some principals (n = 50/306, 16.3%) also referred to conflicts between students as a legitimate reason to honor parental requests for placement in separate classrooms or even change a placement during the school year. One principal described a rare instance where he or she might consider a new placement necessary, namely, ÔÔif there is a bullying issue in the classroom or conflict with another student that [could not] be resolved with regular inventions.ÕÕ

Discussion

In terms of random assignment, when examined in this context, researchers found that many principals (n = 218/321, 67.9%) strongly opposed random placement. While a quarter (n = 81/321, 25.2%) of respondents acknowledged that random methods may have some benefits, they also noted that random placement practices contradict their own educational philosophies.

e eed e a f a a e a dec de ffe
e be ed ca b e f eac de .

A e e e ed e d a a, a g, "I efe ca ef , g-
f , a d e a ace e [f de] a d . I' e e e c de ed
g a d ace e . T e e a e c d e , a be g." A e
e de e a ed a "a g d e a d ge a d e .
If a g e f de d e a eg ca a g a d (de
cce) e e e a g e e d f ee g a g a ."

W a a f e de (= 218/321, 67.9%) e ec g e ac-
ce f a d ace e , e de a e e f c a a e fa e ,
e , a d ce, c f a f e ce a d , a d a g-
e bab e e be e fe a ' ac ce f c ce (ee a
B & Ma , 1995). T e ab a ca , a c a
f e ea c e a g e (a a c ec) a a e-added a a-
e bab e e be d e e a d a g e ac ce
ace (C c a , 2010; G a e a & P a e , 2011; Rea d &
Ra de b , 2009; R e , 2009, 2010).

I e f b a , e f da e a e e e a e e e -
a d de a g e ac ce d c e ed d g g ca
ead b a ed VAM e a e , f e a d de g ac ce
e be d a c ca c ed f VAM de
(e.g., acade c ac e e e a d de a ed ab e , ec a ed ca-
a , ELL a , ge de , g f ed e). He e, e ea c e f d a
e a c ca c ed f VAM de ca
a ed e e e c a a d eac e a g de c a ,
g e e a ab e de c a d e g d-
c a c a d e a a . I a c a , f e a e, e
de ' acade c ac e e e ec d a d e a ca
de c a . Ra e , c a e ed c de g a de a-
e f de fac a d a ab e , c d g b ed e a ab e
f c VAM e ea c e ca c , e g a g de
eac e a e b ec e a d g d d a ed de ace e
dec .

Ve fe c a , f e a e, de f ed de ' ac a , e c, a d

Related, some principals reported using studentsÕ prior grades to make placement decisions. But whether studentsÕ grades can be effectively captured using studentsÕ prior test scores, mainly given the lower than expected correlations between grades and test scores often caused by grading variation across classrooms, schools, and districts (Ricketts, 2010; Willingham,

I a g ed e e a e ef (a d) a g e f
de c a b a e a e-added e a e a d e a d e-

f e ace e dec . T e g e ca ef c de, a e,
e a d f e fe e ce e a e g c e a b a ed e -
a e, ce de a g e ac ce e c e d e

C c a , S. P. (2010). / / /

Ha , D. N. (2009). W d acc ab ba ed eac e a e added be a
c ? A e a a f e a ca e e a d c a e a e .
/ / , , 319 350. d :10.1162/edf .2009.4.4.319
Ha , D. N. (2011).

a d c e . / , (23). Re e ed f
://e aa.a .ed / /a c e/ e /810
Off ce f e A d Ge e a , S a e f A a. (2007). . / .
/ . Re e ed f :// .a d
ge . a e.a . /Re /Sc _D c /S a e de/2008_A /ELL_Ba e e
_Re . df

Sc e e , J. (2011). Mea g eac g g a e-added de g: T e e fec a acea. . / , (2), 122 140. d :10.1177/0192636511410052
S ac , B., G a , C., Rec a e, M., & W d dge, J. (2012). / / Ea La g, MI: Ed ca P c Ce e . Re e ed f ://a a .c fe .c /a a /2012/ eb g a /Pa e 3327.
S a e, R. E., & T b , D. (1982). Na a c ge e a a . , / , , 1 12.
S a e f A a De a e f Ed ca . (2010 2011). . Re e ed f :// .a ed.g / e ea c -e a a /f e /2012/04/2011 a e e ca d. df
S a , A. L., & C b , J. (1995). . / . / / . Ne b Pa , CA: Sage.
Tedd e, C., & Ta a , A. (2006). A ge e a g f e ea c de g fea g ed e d . , (1), 12 28.
T , B. (2000). , / / . / / . Pa e e e ed a e a a ee g f e A e ca Ed ca a Re ea c A c a (AERA), Ne O ea , LA.
U.S. Ce B ea . (2011). / / . Re e ed f :// c fac .ce .g / fd/ a e /04000.
U.S. De a e f Ed ca , Na a Ce e f Ed ca S a c (NCES), C C e f Da a (CCD). (1999 2000 a d 2009 2010). / / / / , . Re e ed f :// ce .ed.g / g a /d ge /d11/ ab e /d 11_044.a
U.S. De a e f Ed ca , Na a Ce e f Ed ca S a c (NCES), C C e f Da a (CCD). (2009 2010a). / / / , . Re e ed f :// ce .ed.g / g a /d ge /d11/ ab e /d 11_045.a
U.S. De a e f Ed ca , Na a Ce e f Ed ca S a c (NCES), C C e f Da a (CCD). (2009 2010b). / / / , . Re e ed f :// ce .ed.g / g a /d ge /d11/ ab e /d 11_048.a
U.S. De a e f Ed ca , Na a Ce e f Ed ca S a c (NCES), C C e f Da a (CCD). (2009 2010c). / / / , . Re e ed f :// ce .ed.g / g a /d ge /d11/ ab e /d 11_104.a
U.S. De a e f Ed ca , Na a Ce e f Ed ca S a c (NCES), C C e f Da a (CCD). (2010 2011). / / / , . Re e ed f :// ce .ed.g / b 2012/ e c 10/ ab e / ab e_02.a
U.S. De a e f Ed ca , Na a Ce e f Ed ca S a c (NCES), Sc a d S aff g S e . (2007 2008). / . / / / , . Re e ed f :// ce .ed.g / b 2009/ 2009323/ ab e / a 0708_2009323_ 12 _07.a
U.S. De a e f Ed ca , Off ce f C R g .533.4( )-227(Off ca _ 1249.3BT8.9663008.

W g a , W. W., P ac , J. M., & Le , C. (2000). .
/ . P ce , NJ: Ed ca Te g Se ce (ETS). Re e ed f :// .e . g/Med a/Re ea c / df/RR-00-15-W g a . df