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The legal issues facing American schools, colleges, and universities, both public and private, are enormous in scope, depth, variety, and import, and continue to evolve and present new challenges. A major concern faced by education professionals is running apace with court cases, as well as regulatory and statutory interpretations and decisions that emerge at an incredible rate. Undergirding professional practice with a framework for legal implications has never been more important, nor has knowing when to seek additional guidance from legal representation.

Legal questions confronting K-12 schools and higher education institutions may resemble each other closely, such as in contractual disputes with vendors. As in the case of free speech concerns, however, issues emanating from the two sectors may be treated differently, because courts have found that schools can regulate student speech more readily because it involves younger students.

As Stuart Biegel (2009) noted:

Unless a controversy is specifically covered by statute, the relevant legal principles are typically the same at both the K-12 and higher education levels. Yet these principles are often applied in very different ways depending on the setting and the age of the students. Often the question arises as to precedential value of a given case decision at a grade level other than one addressed. Sometimes, for example, the courts have recognized the applicability of major K-12 decisions to higher education disputes, and sometimes higher education cases have been deemed directly applicable at the K-12 level. Other times, however, the courts distinguish cases based on which grade level was initially

addressed, on the grounds that the settings are very different. Patterns are often difficult to discern in this regard (p. 2).

Some recent examples illustrate the variety of issues challenging our educational institutions: A very closely-followed California decision held that teacher tenure standards violated state constitutional standards compelling an equitable education for students (Sawchuk, 2014); the University of Connecticut recently settled a lawsuit for \$1.3 million brought by students who alleged that the university mishandled their sexual harassment claims (Vendituoli, 2014); the United States Equal Employment Opportunity Commission has sued an Illinois community college for alleged age discrimination, arguing that it refused to hire an adjunct English professor because of her age (DeSantis, 2014); in Pennsylvania, a federal judge ruled that a high school teacher's degrading comments concerning students on her personal blog did not fall under the umbrella of the First Amendment's free speech protections (Walsh, 2014a); and the list continues ad infinitum...

It is important to note that legal issues extend far beyond faculty, administrators, and students to institutional and district or system liability across a tremendous spectrum of disputes involving, for example, negligence claims, property disputes, intellectual property claims, and breach of contract, to name just a few. Federal and state laws and regulations are also drivers of educational policy, practice, and national debate, as controversies involving undocumented immigrant access to public higher education and guns on campuses grip colleges and universities. Likewise, technology has presented many grey areas, and some states have moved to stem the tide of cyber-bullying and electronic abuse in the K-12 schools through legislation---though not always successfully. For example, in July 2014, the highest court in New York struck down a county law that criminalized cyber-bullying, finding it overbroad in the types of speech it restricted (Walsh, 2014b).

Questions about about legal and policy challenges: For example, when is a student considered "on campus" for speech purposes as a result of the proliferation of mobile technologies? What is the role of charter schools and voucher programs? Is public education equitably financed? When will we see another test of affirmative action in the wake of recent United States Supreme Court decisions in *Schuette v. Coalition to Defend Affirmative Action* (2014), which upheld a statewide referendum banning the use of affirmative action in admissions, and *Fisher v. University of Texas* (2013), a much anticipated decision that supported the importance of diversity, but left much to be desired in terms of guidance for policy and practice? What challenges face No Child Left Behind and the Common Core Curriculum?

The breadth and depth of litigation facing educational institutions is enormous and growing daily. One of our chief responsibilities as education professionals is to maintain a current understanding of the state of legal and regulatory issues facing schools, colleges, and universities, which is a daunting task given the range of issues and the speed of change in the law. Such an understanding is critical to sound decision-making and to seeking further assistance when complex problems arise.

This can be accomplished in many ways: For example, reading reports from reputable publications can provide daily perspectives. Busy professionals may wonder how they might find the time, but the reality that attaches is that they truly do not have time not to, especially to inform important discussions with school district or institutional counsel as they may arise. Also, the role of regular professional development cannot be understated, which need not be costly given the impact of technology through the delivery of webinars and other platforms that make important information available at a more reasonable cost.

The evolution of the legal issues faced by educational institutions is rapid and broad, and has tremendous implications for professional practice in concert with the many additional challenges education professionals face---and this will only continue as the issues become more complex and society more litigious. Developing and maintaining a firm grounding in education law is important, not only to insulate institutions and employees from liability, but also to ensure that decisions are informed and appropriate. Informed decision-making benefits students, administrators, and faculty, as well as our schools, colleges, and universities as we move forward into an increasingly complex, technologically-connected, globalized society.

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Abstract

The importance of classification tables in binary logistic regression analysis has not been fully recognized. This may be due to an over reliance on statistical software or lack of awareness of the value that computation of the proportional by chance accuracy criteria (PCC) and proportional reduction in error (PRE) statistic can add to binary logistic regression models. Case illustrations are used in this paper to demonstrate the usefulness of these computations. An overview of logistic regression is proffered along with a discussion of the function of case classifications and strategies in application of the PCC and PRE. It offers guidance for others interested in understanding how classification tables can be maximized to assess the predictive effectiveness and utility of binary logistic regression models.

Introduction

The use of logistic regression analysis to predict dichotomous outcomes in education is an alternative to linear regression that has gained popularity with the availability of statistical software packages (Baradwaj & Pal, 2011; Teh, Othman & Michael, 2010). Increased use of logistic regression requires that educational researchers become knowledgeable in how to accurately assess and interpret the results (Peng, Lee, & Ingersoll, 2002). While user friendly software may have contributed to the popularity, it does not preclude the use of computational techniques to garner more meaningful information. In addition to understanding the underlying assumptions of logistic regression and principles of statistical interpretation, researchers must also evaluate the accuracy and utility of their models to determine how well they work (Menard, 2002).

Statistical programs like STATA, R, SAS, and SPSS create contingency tables of the observed and predicted values of the dependent variables similar to chi square (Menard, 2002). By comparing the predicted with the observed values (George & Mallery, 2011) the probability of a particular case is classified into one of the outcomes based on the regression equation. Classification tables are created to indicate how well the model predicts the possible values of

the dependent variable by indicating the percent of overall classifications, which is a key ingredient in determining the accuracy of the model (Long, 1997). While this may be sufficient in some situations, other researchers may be more interested in determining the *utility* and *predictive efficiency* of the model rather than the overall fit. This can be accomplished via the *proportional by chance accuracy criteria* (PCC) and *proportional reduction in error* (PRE) statistic.

This paper discusses the efficacy and utility the PCC and PRE bring to binary logistic regression models. Case illustrations are presented to demonstrate their application. An overview of logistic regression is proffered along with a discussion of classifying cases and how the PCC and PRE are used to determine effectiveness and utility. It illuminates how classification tables can be used to evaluate the usefulness and efficiency of binary logistic regression models.

Overview of Logistic Regression

Test of Significance

Binary logistic regression (LR) is a variation of linear regression in which continuous, discrete, dichotomous, or a combination of these variables are used to predict the occurrence or non-occurrence of an

event (Hair, Anderson, Tatham, & Black, 2009; Pezzullo, 2004). It can be expanded to multinomial outcomes to determine the amount of explained variance and the relative importance of each of the predictors (Garson, 2004). It also permits the investigator to assess how well the model fits the data by comparing the predictions with the observed outcomes and the utility of the variables in the prediction (Pampel, 2000).

Logistic regression applies maximum likelihood estimation after transforming the dependent variable into a logit variable. A logit variable is the natural *log of the odds* of the outcome occurring or not. In this way the logistic regression estimates the probability of the occurrence of the event (Garson, 2004).

The hypothesis is that the coefficient for the logistic regression (Bk) is zero. It can be interpreted as the change in the log odds associated with a one-unit change in the independent variable (Stevens, 2007). If the coefficient is positive, its value will be greater than 1, indicating a one-unit increase in the independent variable. This means the odds are increased that the event will occur. If the coefficient is negative, the value of Bk will be less than 1, indicating a decrease in the odds that the event will take place. If the value of Bk is zero, the odds remain unchanged for every one-unit increase in the independent variable.

The omnibus test of statistical significance in LR is the Wald statistic. It is calculated as the squared ratio of the logistic regression to its standard error, or $Wald = (Bk/S.E.)^2$. It should be noted that the Wald statistic presents problems when the absolute value of the logistic regression coefficient is large (Stevens, 2007). The estimated standard error is inflated in large coefficients and results in lowering the Wald statistic (Menard, 2002). This can result in a failure to reject the hypothesis that the coefficient is zero and lead to an erroneous conclusion, or Type II error, that the effect is not significant when it actually is (false negative).

The contribution each independent variable makes to the model can be difficult to determine when they are highly correlated (Stevens, 2007). This is due to the basic assumption that there is no linear relationship among the independent variables (Garson, 2004). For that reason, a correlation matrix of the independent variables should be inspected. If the variables are highly correlated ($> .50$) their impact can be assessed by the Likelihood Ratio Test. This can be done by using the *Backward LR* entry method in SPSS and examining the *Model if Term Removed* pivot table. Each predictor is tested using the hypothesis that the full model is indistinguishable when the variable is removed. The ones with the smallest p values contribute the most.

Goodness of Fit

In addition to testing significance, the logistic regression model assesses the goodness-of-fit of the data. The probability of the results meeting the parameter estimates is examined using the -2 times the log of the likelihood (-2LL) as a measure of how well the model fits the data (Stevens, 2007). A good model will result in a high likelihood of the observed results (small value for -2LL). If the data fits the model perfectly the likelihood will be 1, and the -2LL will be 0.

The null hypothesis for goodness of fit is that the observed likelihood does not differ from 1. To test, the value of -2LL is used with the expectation that it has a chi square distribution with $n - p$ degrees of freedom, where n = number of cases and p = number of parameters estimates - constant (B_0) + Bk for each predictor. The chi square statistic tests the null hypothesis that the logistic regression coefficients for all the terms in the model except the constant (B_0) are 0, or stated otherwise, $H_0: B_1 = B_2 = Bk = 0$. The desired outcome is that the hypothesis is not rejected and the model fits the data (Stevens, 2007).

The *Step chi square* statistic is also used to examine the goodness of fit of the model (Stevens, 2007). It is comparable to the F statistic in multiple regression analysis testing

the null hypothesis that the coefficients for predictor variables added at each step = 0.

Statistics Analogous to R²

The software provides several statistics that attempt to quantify the proportion of variance explained by the LR model (Norusis, 2003) or measure the strength of association (Garson, 2004). In binary cases, SPSS automatically defaults to the Cox and Snell R² and McFadden’s in multinomial LR. The Cox and Snell (1989) statistic presents problems for interpretation because its maximum value is usually less than 1.0. Fortunately, there are other techniques similar to R² available to measure the strength of association, such as Menard and Nagelkerke’s Pseudo R² statistics (Freese & Long, 2006). In the Menard (2000), values vary from 0 (indicating that the independent variables are useless in predicting the dependent variable) to 1.0 (the model accurately predicts the dependent variable). These indices are identical in the Nagelkerke (1991) statistic and Cohen’s (1983) guidelines are used to measure the effect size.

Classification of Cases

To assess how well the model fits the data, the predictions of whether the event is expected to occur or not are compared with the observed outcomes (Stevens, 2007). Statistical software like SPSS and SAS include a classification table and/or histogram of *Observed Groups and Predicted Probabilities* to assess the goodness of fit. Particular attention is paid to the percent of predicted classifications that are correct for the anticipated groups and the overall percent of correct predictions. In a perfect model, 100% of the cases will be situated on the diagonal axis (Garson, 2004).

Classification Tables

In a binary logistic regression, the classification table is a 2 x 2 contingency table of the observed and predicted results. The model is used to classify each record using the computed probabilities ranging between 0 and 1 with .50 as the minimum probability (or cut value). Data records with probabilities greater

than .50 are classified as 1. Those less than .50 are assigned a value of zero (0). Cases where the event is observed to occur should scale toward high probabilities. The cases where the event is not observed should scale toward low probabilities (Stevens, 2007).

To better illustrate an example, two of the four data cells in Table 1 represent correct classifications. The other incorrect cells are referred to as false negatives (observed = 0, predicted = 1) or false positives (observed = 1, predicted = 0). In Table 1 there are 99 false positives and 37 false negatives indicating the model classification was 80.9% (157/194) correct for the predicted = 0 cases and 58.6% (140/239) correct for the 140 predicted = 1 cases. The overall fit of the model yielded 68.6% correct classifications (297/433).

Table 1: Sample classification table (n = 433)

Classification Table^a

Observed	Predicted		
	Persistence		Percent age Correct
	0 = not persisting	1 = persisting	
0 = not persisting	157	37	80.9
1 = persisting	99	140	58.6
Overall Percentage			68.6

a. The cut value is .500

While on the surface 68.6% may seem impressive, the classification table warrants a closer inspection. What is missing is information about the probability of the case classifications. Before the model can be deemed useful, a comparison of the accuracy rates must be undertaken.

Proportional by Chance Accuracy Criteria

The information in the classification table can be used to evaluate the utility of binary LR models by comparing the overall percentage

correct with the proportion by chance accuracy criteria (PCC). This is computed by squaring and summing the proportion of cases for each group (Bayaga, 2010; El-Haib, 2012). To illustrate, consider the information in Tables 2-3. Upon initial inspection of two different student persistence models, White, Altschuld, and Lee (2006) and Mitchell (2011) found overall 74.6% and 73.8% correct classifications respectively. However, when proportion by chance was computed, both models failed to satisfy the criteria -- overall case classifications 25% higher than the proportion by chance rate. Thus the variables in the models examined by White and colleagues ($0.254^2 + 0.746^2 = 0.621 \times 1.25 = 77.6$) and Mitchell ($0.280^2 + 0.720^2 = 0.597 \times 1.25 = 74.6$) were not useful in predicting student persistence. Stated otherwise, the performance of the variables in the model was no better than could be reasonably expected by chance.

Table 2: Model classification table ($n = 311$)*

Classification Table^a

Observed	Predicted		
	Persistence		Percent age Correct
	0 = not persisting	1 = persisting	
Persistence 0 = not persisting	11	68	13.9
Persistence 1 = persisting	11	221	95.3
Overall Percentage			74.6

a. The cut value is .500

* SPSS (Block 1: Method = Enter)

Table 3: Model classification table ($n = 1301$)*

Classification Table^a

Observed	Predicted		
	Persistence		Percent age Correct
	0 = not persisting	1 = persisting	
Persistence 0 = not persisting	65	299	17.9
Persistence 1 = persisting	42	895	95.5
Overall Percentage			73.8

a. The cut value is .500

* SPSS (Block 1: Method = Enter)

What is missing from computation of proportion by chance accuracy is an examination of the case classifications before and after the predictor variables were entered into the regression equation. This calls for a comparison of the a priori and post priori classification tables to determine if the null model (constant) performed better. In the Table 1 example, 68.6% may seem impressive but most investigators are more interested in the accuracy of the predictions rather than goodness-of-fit.

Proportional Reduction in Error

There is no consensus on how to measure the association between the observed and predicted classification of cases in logistic regression. Menard (2002) recommends using the information from the classification tables to calculate the proportional change in error with a variant of the proportional reduction in error (PRE) statistic (Menard, 2004). The general principle is that knowing the value of the observed classification can be used to predict the value of the predicted using the formula $E1 - E2/E1$ where $E1$ = errors before the model and $E2$ = errors after the model. In contrast to the other aspects of logistic regression such as the Wald test of significance, chi square, and statistics analogous to R^2 where sample size is critical (Alam, Rao, & Cheng, 2010), it is not as

important when analyzing classification tables. That is because the n value is not an element of the PRE formula.

In binary LR, all cases are predicted to belong to one of two possible outcomes: the event “occurring” or “not occurring”. When applied to the information in the classification tables, the PRE indicates the percent of fewer classification errors that will occur by using the variables in the logistic regression equation. In other words, this is a measure of the predictive accuracy of the model (Menard, 2004). Using information from the null and model classification tables, the proportional reduction in error is calculated as: E without the model – E with the model/ E errors without the model. The PRE will vary between 0 and 1, indicating the efficiency of the model in predicting the occurrence or non-occurrence of the event. When the number of errors without the model equals the number with the model, the value will be 0. As an example, consider the *without the model* information in the classification table presented in Table 2 compared to the *with the model* data in Table 4. In examining student persistence White, Altschuld, and Lee (2006) found the same number of before ($E1 = 79$) and after errors ($E2 = 79$) even though they had an overall correct classification of 74.6%. In other words, the variables in the regression equation offered no additional predictive capability. In contrast, after reviewing the *without the model* classification data in Table 5, Mitchell (2011) found that his model of student persistence had more before ($E1 = 364$) than after errors ($E2 = 341$). This translated into a predictive efficiency of approximately 6.3%. However if the 73.8% overall correct classifications in Tables 3 are not scrutinized more closely, a different impression emerges of the model’s predictive ability.

Table 4: Null without the model classification table ($n = 311$)*

Classification Table^a

Observed	Predicted		
	Persistence		Percentage Correct
	0 = not persisting	1 = persisting	
Persistence 0 = not persisting	0	79	0.0
Persistence 1 = persisting	0	232	100.0
Overall Percentage			74.6

a. The cut value is .500

* SPSS (Block 0: Beginning Block)

Table 5: Null without the model classification table ($n = 1301$)*

Classification Table^a

Observed	Predicted		
	Persistence		Percentage Correct
	0 = not persisting	1 = persisting	
Persistence 0 = not persisting	0	364	0.0
Persistence 1 = persisting	0	937	100.0
Overall Percentage			72.0

a. The cut value is .500

* SPSS (Block 0: Beginning Block)

Closing Thoughts

Both the PCC and PRE techniques highlight the importance of going beyond the percentage of correct classifications to include a more thorough analysis. This paper demonstrates how the proportional by chance accuracy rate and proportional reduction in error statistic can be used to evaluate the effectiveness

of binary logistic regression models (Long, 1997).

Finally, it illustrates the need for educational researchers not to become overly reliant on software. An explanation for this tendency may be the emphasis on methods that many cursory statistics courses have adopted in graduate education programs (Curran-Everett, Taylor, & Kafadar, 1998). None-the-less, what is critical is that educational researchers recognize that a fundamental knowledge of statistical concepts and principles, such as the ones discussed in this paper, is the cornerstone of scientific inquiry.

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Abstract

This mixed methods study explored how the inclusion of literature on Autism Spectrum (AS) in a teacher education diversity class impacted students' knowledge and perceptions of AS. Data from the intervention group found a positive shift in student perceptions of AS through the reading process. Includes a discussion of suggestions implicit in the findings and of potential future research.

There is a substantial need for teacher educators (TE) to better prepare pre-service teachers (PST) with an understanding of Autism Spectrum (AS) since increasing numbers of children are being identified as on the AS (CDC, n.d.). Legal obligations require schools to educate students with disabilities in the least restrictive environment and to the greatest extent with peers with and without disabilities, thus those students identified as on the AS often receive educational services in regular education classrooms within inclusive settings (Autism Society, n.d.). Many general education teachers are not prepared to effectively instruct students with disabilities in inclusive settings (Blecker & Boakes, 2010; McCarty, 2006), or may be anxious about students with disabilities (Rizzo & Kirkendall, 1995; Theodorakis, Bagiatis, & Goudas, 1995; Zanadrea & Rizzo, 1998). Effective instruction for individuals identified as on the AS in inclusive settings requires qualified teachers equipped with the skills and attitudes necessary for efficient instructional strategies in order to educate students identified as on the AS in their classrooms. The purpose of this study was to explore approaches with which TE may use to increasing (PST) understanding of AS.

Perspective

The study was grounded in the socio-cultural theory of Vygotsky (1978), who suggested that learning is inherently social because learning and meaning-making occurs

through interactions with others. The social and authentic tasks of reading fictional literature and participating in verbal discussion enable PST to engage in the construction of meaning around teaching as they develop new perceptions of students on the AS.

Significance

The findings from this study are of significant interest to TE as they share how literature can be employed in teacher education programs to enhance PST understanding of AS. This paper shares research that expands knowledge of pre-service teachers, particularly in how learning about AS through engagement with literacy practices changes PST perceptions of AS. It deepens knowledge of the power and promise of literature to increase PST- understanding of students on the AS.

The Research Questions of the Study

This study extends the research to an undergraduate teacher education diversity course with the aim to answer the following research questions:

1. *Were there differences in changes in perceptions of AS between a class section that did not read adolescent literature with a protagonist who was on the AS and a class section that read adolescent literature with a protagonist who was on the AS?*

2. If there were differences found in student perceptions between those students who read adolescent literature with a protagonist who was on the AS and those students who did not read adolescent literature with a protagonist who was on the AS, what were those different perceptions?

Setting & Participants

This study was conducted at a mid-sized Master's level state university in the rural Southeast US that is very diverse in terms of race/ethnicity (with no majority ethnic population on campus), religion, and age, as exemplified by a mix of traditional college age and non-traditional college age students. Classes in Teacher Education followed the demographic profile of the university as a whole, with no ethnic group predominating as a majority group in the classes included in this study.

The course where the study was conducted followed the larger pattern of diversity seen in Teacher Education at the university. The course population was very diverse in race/ethnicity, religion, and age (traditional/non-traditional students). The gender ratio of each class was similar, with roughly a three female to one male ratio. The majors included Special Education, Elementary Education, Secondary Education, Physical Education, and Music education, with the majors distribution similar in both classes. The comparison group was slightly older, with seven non-traditional students, while the intervention group was slightly younger, with three non-traditional students. There were twenty-seven (27) in the comparison group and there were twenty-three (23) students in the intervention group. One student in the comparison group was working on a post-baccalaureate certification leading to initial teacher licensure; the other twenty-six (26) students in the comparison group were working on attaining a bachelor's level degree and initial licensure. All of the students in the intervention group were working on a bachelor's level degree and initial licensure. The course was a required three (3) semester hour credit sophomore level course in diversity in the university's Teacher Education program,

which leads to teacher licensure. The study included two class sections of the same course. One section met during the day, meeting twice a week. The other one met at night, meeting once a week.

Intervention Procedure

The intervention group and the comparison group received instruction using the same course text and class activities, taught by the same instructor, during the same semester. Students participated in the same in class activities, which included individual, pair, small group, and whole class groupings in both groups. The intervention group also had "book clubs" centered on discussions on one of the two books each student chose to read.

The participants in the intervention group chose to read one of two selections: *Wild Orchid* (Brenna, 2005) or *The Curious Incident of the Dog in the Night-Time* (Haddon, 2004). Both books have protagonists who are arguably on the AS. Seven (7) participants choose to read *Wild Orchid* while thirteen (13) participants choose to read *The Curious Incident of the Dog in the Night-Time*. Participants began reading books after the first administration of a survey and concurrently with the beginning of the class unit on AS.

Data Collection Procedures

The survey used with both the comparison and intervention groups came from the earlier work by Stone and Rosenbaum (1988). The instrument (Appendix) explores participant views of AS and was used with permission of Wendy Stone, Ph.D. The survey had twenty-two (22) items using a Likert-type six point scale.

Administration of the survey occurred in the two groups both before the teaching of the unit that included coverage of AS and after the unit that included the AS was taught. Both groups were administered the survey during the same weeks both before and after the AS unit. Administration was also after the intervention

group finished reading and discussing the two books.

In addition to the quantitative data collected from the before and after administrations of the survey, participants also responded to two “Ticket out the door” (TOTD) class activities during the unit. The same TOTD prompt was used with both groups: “What was the most important thing you learned in class today?” This prompt was administered twice for both the comparison group and the intervention group at the same places in the unit for both groups.

Data Analysis

The investigator analyzed the quantitative data collected using the survey using SPSS to compare changes in attitudes between before and after administrations of the survey, and between comparison and intervention groups. Only data from student participants who completed both the before and after survey administrations were included in quantitative data analysis. Survey response data from twenty-two of twenty-seven (22/27) participants were included in Comparison group quantitative data. Survey response data from twenty of twenty-three (20/23) student participants were included in Intervention group quantitative data. Students in both the Comparison and Intervention groups wrote in “Don’t know” or similar or left blank in numerous cases on both the pre and post administrations.

The investigator analyzed the qualitative data from the TOTD to explore the perceptions of the student PST participants of AS using Grounded Theory (Glaser & Strauss, 1967). These themes were coded into categories. Another qualified peer also separately coded these TOTD themes. Results were compared to identify common theme categories. For a student’s responses to be included in the qualitative data analysis, a student had to respond to both administrations of the TOTD.

Findings

Research Question One: *Were there differences in changes in perceptions of AS between a class section that did not read adolescent literature with a protagonist who was on the AS and a class section that read adolescent literature with a protagonist who was on the AS?*

There was a difference in the change in PST participant knowledge between the comparison and intervention groups as seen in the quantitative data collected by the survey. This was reflected in increased number of items answered on the survey by the intervention group compared to the comparison group in the after administration of the survey.

In the before administration of the survey, 92 of 484 participant item responses of comparison group were “Don’t know” or similar or left blank compared with 60 of 440 participant item responses of intervention group which were “Don’t know” or similar or left blank.

In the after administration of the survey, 88 of 484 participant item responses of the comparison group were “Don’t know” or similar or left blank, whereas 40 of 440 participant item responses of intervention group which were “Don’t know” or similar or left blank. This is reflected in tabular for in the following Table “A”.

Table A

Group	Items with “Don’t Know” or left blank		% Change
	Before	After	
Comparison	92/484	88/484	-4%
Intervention	60/440	40/440	-33%

Research Question Two: *If there were differences found in student perceptions between those students who read adolescent literature*

with a protagonist who was on the AS and those students who did not read adolescent literature with a protagonist who was on the AS, what were those different perceptions?

The qualitative data collected through the TODD noted differences in the changes in participant perceptions between the comparison and intervention groups that the quantitative data collected by the survey did not. There was a change in the *perceptions* by the comparison group which centered more on an increased **awareness** of Autism and how it might impact the teaching done by these pre-service teachers. Likewise, there was a change in the *perceptions* by the intervention group which was **affective** and centered on increased **understanding** of what it was like for a person to experience AS as part of her life.

Of the comparison group, 18%, or five (5), of the participants mentioned that they gained different perceptions about Autism when responding to the TODD prompt of *“What was the most important thing you learned in class today?”* The comments clustered around the theme of not realizing the prevalence of AS. One participant noted that “I learned that there are more autistic kids all the time.” Another indicated that as a teacher there was a likelihood of having a student with AS in their classes: “I may have autism in my class.” A comment made by a number of the participants was similar to this one, which indicates a growing awareness of the participants about the nature of the causes of AS: “No one knows where autism comes from.” The other 82 %, or twenty-two (22) of the comparison group responses to the TODD did not reference AS.

Of the intervention group, 75%, or seventeen (17), of the participants mentioned gaining different affective perceptions about AS when responding to TODD prompt of *“What was the most important thing you learned in class today?”* Comments clustered around the theme of not realizing what it was like to live with AS as part of one’s life. Only 25%, or six (6), of intervention group participants did not mention AS in the TODD.

Comments indicating this shift in perception included this powerful insight into what living with AS might be like: “I did not know how it was with all the stimulation and how that would make everything so hard.” Increased empathy was reflected in comments such as “No one seemed to understand his needs very well most times.” One of the most insightful and empathetic comments was this one “I felt like she did when she was first at the lake. Does this mean I am autistic?” this referenced when the protagonist in *Wild Orchid* (Brenna, 2005) had been relocated to a different locale against her choice by the protagonist’s mother, and how this dislocation affected the protagonist.

The comments noted above are indicative of a shift in the intervention group participants’ affective understanding of AS.

Discussion

The findings of this study suggest several implications to improve teacher education so that PST are better prepared to meet the needs of increasing numbers of students on the AS.

First, it suggests that classes that make use of books and book clubs may increase student perceptions of AS issues when used with textbook and class activities compared to classes that use textbook and class activities alone. This is seen in the thirty-three percent (33%) decrease in “Don’t know” or similar responses in the intervention group between before and after administrations of the survey compared to the four percent (4%) decrease seen in the comparison group of such responses.

Second, the study suggests that reading books and the concomitant use of book clubs in classes may more positively change student perceptions of AS in terms of participant PST affect when used with textbook and class activities compared to classes which utilize textbook and class activities alone. While it is important that we as TE must strive to help students in their gaining understanding on an intellectual level, this study suggests that attending to the affective side of learning is

crucial in helping PST make the shift in perspective, both intellectually and emotionally, needed to work with students on the AS, and likely other disabilities as well.

Future steps needed in this line of research are: 1) Further investigation is needed to explore methods of influencing the affective changes needed to help fully educate pre-service teachers for today's diverse classrooms, 2) Refine survey to accommodate "don't know" replies more effectively, 3) Refine questions to capture participant knowledge concerning Autism better, 4) Expand sample sizes in order to make findings more generalizable.

The need for TE to prepare PST to effectively teach in classrooms with diverse student populations has never been clearer. Recent work exploring PST dispositions (Shippen, Crites, Houchins, Ramsey & Simon, 2005) suggests affective changes are as important as intellectual ones. The incorporation of literature by TE to positively make these affective shifts with PST may be one route to preparing more effective teachers capable of creating inclusive classrooms.

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Appendix

For each of the following statements, choose the number that best reflects how much you AGREE with the statement. Write the appropriate number on the line following each statement. Use the following scale:

**1 for Fully Agree, 2 for Mostly Agree
3 for Somewhat Agree, 4 for Somewhat Disagree, 5 for Mostly Disagree, 6 for Fully Disagree**

1. Autism is an emotional disorder. _____
2. Autism exists only in childhood.

3. Even with the early intervention, the prognosis for independent community functioning of autistic individuals is poor.

4. Autistic children are “untestable”.

5. Autism can occur in mild as well as extreme forms. _____
6. Autistic children are more intelligent than scores from appropriate tests indicate.

7. It is difficult to distinguish between autism and childhood schizophrenia. _____
8. Autism is a communication disorder.

9. Autistic children do not show social attachments, even to parents. _____
10. Autistic children usually grow up to be schizophrenic adults. _____
11. Most autistic children are also mentally retarded. _____
12. Most autistic children do not talk.

13. Autistic children are deliberately negativistic and noncompliant. _____

14. It is important that autistic children receive Special Education services at school. _____
15. Autism occurs more commonly among higher socioeconomic and educational levels. _____
16. Autism is a developmental disorder.

17. Autistic children’s withdrawal is mostly due to cold, rejecting parents. _____
18. Most autistic children have special talents or abilities. _____
19. Emotional factors play a major role in the etiology of autism. _____
20. With proper treatment, most autistic children eventually “outgrow” autism. _____
21. I feel comfortable identifying a child as autistic. _____
22. Autistic children do not show affectionate behavior. _____

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Abstract

This article outlines a metacognitive strategy that can be employed as either a Tier I or Tier II instructional practice. The strategy is designed to enhance learning skills in public school students who are included in the general education classroom. The strategy is reflective of the ongoing research agenda related to improving the academic performance of both at risk and inclusion students who make up a major portion of today's academically diverse classrooms. A research foundation for the strategy, an outline of the strategy's components, and suggestions for implementation are provided.

Listening plays a significant role in successful classroom performance. Research (Sanders, 1965; Rabbitt, 1966; Katz & Illmer, 1972; Kerr, 1973; Gilbert, 1984) indicates that up to 90% of the activities in today's public school classrooms involve the ability to listen effectively and respond appropriately to what is heard. By the time students graduate from high school, they will have been engage in activities that primarily involve listening skills at a rate 3 times greater than activities that involve reading skills (Bolton, 1986). An examination of the classroom environment and its constituents indicates that listening is an "assumed skill," that teachers assume all persons inherently know how to listen effectively. This assumption is constantly demonstrated to be erroneous in actual practice.

Unfortunately, many students do not arrive at school understanding the listening requirements embedded in the instructional setting. Such students often view their listening skills as adequate, while their teachers report that these skills are generally inadequate for instructional task demands (Thomas and Hoffman, 1987). The authors further report that teachers feel that students are generally not capable of identifying main ideas or important

details included in class discussions. Listening is a skill that generates a great deal of discussion, but is seldom addressed in classroom settings and receives much less emphasis than any of the other communication skills (Bolton, 1986). In essence, effective listening and its components is seldom understood by either students or their teachers.

In the current classroom environment, the academically diverse nature of the student population has resulted in significant challenges for teachers. Instructional time has remained constant, yet the volume of increasingly complex content and the demand for improved student performance on state mandated tests have become critical issues in public education (Sacks, 1999). Teachers are often faced with simply "covering the content" and "practicing for the tests" rather than actually "teaching all students" (Urduan & Paris, 1994).

Students identified as "at risk for academic failure" or possessing a "learning disability" tend to be similar in terms of their academically related skills and abilities. These skills and abilities (including the skills and abilities associated with listening) tend to be either attenuated in nature or completely absent from the student's behavioral repertoire

(Deshler, Ellis, & Lenz, 1996; Carlson & Alley, 1981; Deshler, Shumaker, Warner, Alley, & Clark, 1980).

Given these factors, the need for targeted training of specific strategies to enhance listening skills is apparent. Brown (1975), Flavell (1973), Ellis & Lenz (1987), Kavale & Forness (1987), Blackburn & Fillingim (2005), and The National Council on Behavioral and Social Sciences and Education (2000) all provide support for the contention that strategies to enhance learning can be taught to both individuals and groups of students. Indeed, the Strategic Instruction Model (Deshler, Ellis, & Lenz, 1996) has over 30 years of research support as a set of evidence based, metacognitive techniques (Hock & Mellard, 2011; Shumaker & Deshler, 2006; Harris, Shumaker, & Deshler, 2011). This approach focuses on employing the academic content presented in a classroom as the vehicle for the training specific strategies to aid in the processing, storing, and retrieving that content. Essentially, teachers must approach the training of listening skills in a manner with the intensity identical to the training of other academic skills. According to Deshler & Shumaker (1988), this requires a reorientation to the entire instructional philosophy and practice of instruction. They state:

“This new vision incorporates the adoption of a strategic teaching process in which the classroom teacher takes the central role as both the planner and the mediator of learning. Within this new vision, the teacher teaches not only the content, but the strategies required to make learning the content meaningful, integrated, and transferable” (p. 101).

This article propose one approach within a range of possible alternative approaches within the scope of this vision. The proposed approach is

designed to help students enhance their ability to identify the salient elements, process, store, and retrieve information contained in oral communication. This strategy is represented by the mnemonic device “**EARS**” and is described below.

Establish Eye Contact

Establishing eye contact with the speaker is the initial phase of the listening process. Listening, while primarily an individual, internal process, also possesses a collaborative interactive element. Eye contact forces the student to focus on and track the teacher as they are speaking, but also signals to the instructor an interest on the part of the student. This nonverbal signal serves as a reinforce to the teacher as it indicates ”attention” to the task of listening. In essence, this first step opens up both the teacher and the student to the act of “listening”.

Activate Your Thinking

Once eye contact has been established and the reciprocal process of listening has begun, the student must bring the aspect of “focus” to bear in the process. However, without a focal point understanding of the verbal instruction will not occur. Therefore, the teacher must provide students with some type of graphic organizer, frame, or concept map as the foundation of the lecture for focus and self-questioning. As gaining information is the primary goal of the listening process in the classroom, such an organizer can aid the student in drawing connections between the elements of a lecture, differentiating between irrelevant and salient elements, or identifying how secondary ideas can be collected within a main topic. This is essentially a means of supporting the student in activating their thinking processes.

Respond

An additional requirement of effective listening is periodic and appropriate response to the speaker, whether by answering questions or via non-verbal cues. As stated above listening, like all other communicative process, is reciprocal. Therefore, timely, appropriate responses serve as reinforcers for the speaker for the speaker validating the connection between them and the student. Student responses also elicit important information from the teacher, including the opportunity for the teacher to expand and refine elements of the content being presented or provide the student with corrective feedback. Further, responding to teacher questions, asking questions of the teacher, or relating to teacher or peer comments allows students to manipulate the content both intellectually and verbally infusing personal contextual information in the process and aiding retention.

Seek more information

An additional critical component of effective listening is the process of student self-questioning. This component allows students to clarify information presented in a lecture, determine what is understood, what is absent or attenuated, and delineate those areas of inadequacy for future study. This component serves as the foundation for additional responses to teacher presentations and can lead to self-initiated, teacher directed, or group mediated activities designed to provide additional information and address content based learner deficiencies.

Simply presenting the steps in this learning strategy is not sufficient to ensure that students will be capable of employing it to enhance their ability to listen in the classroom. Teachers must provide direct instructional

support to students in relation to the specific learning strategy utilizing the course content as the instructional vehicle. This support would initially involve describing and modeling the strategy and providing several examples of its various applications to the students (Alley & Blackbourn, 1980). By thinking aloud while describing and modeling the strategy, teachers provide an example of how the thinking process should work and how to separate salient fact from irrelevant their thinking while listening. In addition, controlled activities in which the students could practice the specific strategy must be provided. Gradually these activities could be structured in more lengthy, complex manners to help students refine the strategy that they have been taught (Alley & Deshler, 1979; Deshler, Ellis, & Lenz, 1996). Such a process allows students to both organize and reflect upon that information presented, its relation to the overall content, and the primary purpose of instruction. Once the strategy is taught to mastery, the teacher must provide opportunities and examples of how the strategy can be used in other classes and with different content. Generalization of the strategy to new environments, with different content, and in novel manners is the key to its successful use (Blackbourn, 1989).

Summary

EARS is a strategy that can be effectively with any content and in any classroom in which “lecture” is the primary instructional method. As this mode of instruction increases in use from the early grades to higher education, the ability to listen effectively becomes more critical. Therefore, listening as a communication skill should receive the same degree of emphasis as any other type of literacy/communication skill such as reading or writing. The teaching of listening skills should be approached with the same level

of intensity and integrity. EARS provides a template and a process to accomplish this task.

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Abstract

There is much discussion in public discourse about the liberal leanings of faculty in higher education. The researchers in this study investigated the validity of this assumption. Using data collected from faculty from colleges of education throughout the country, the belief systems of this group were analyzed. What was discovered was that faculty in colleges of education are not liberal. In fact, the opposite is true. Discussion about the implications of these findings leads to an analysis of current policies and practices.

Introduction

There is a common perception among many Americans that universities are composed of mostly liberal professors who are attempting to indoctrinate the youth of the world into becoming radical agents of change. This perception is found in the popular media, the news and is discussed with regard to education by many different parties. However, is this true? Does it apply to all faculty? The purpose of this paper was to look at the beliefs of a specific population of higher education faculty—faculty in colleges of education. If the characterization of liberal faculty is true, this particular subgroup would have more influence over the views of college students because of their direct influence in the school systems. Therefore, are our future educators being indoctrinated into liberal ideologies.

Background

From the time of Dewey at the University of Chicago to the protests at Berkeley in the 1960's, conservatives have labeled those in higher education as liberal and at times a detriment to the so-called American way of life. Robert Friedrich (2009) reminds us “. . . Nixon told Henry Kissinger, ‘The professors are the enemy. The professors are the enemy. Write that on the blackboard one hundred times and never

forget it’” (from “Nixon's the One,” 2008). This attack by conservative politicians continues to present day. As Rick Santorum stated, “There are good, decent men and women who go out and work hard every day and put their skills to tests that aren't taught by some liberal college professor trying to indoctrinate them. Oh, I understand why he wants you to go to college. He wants to remake you in his image” (Yglesias, 2012, para. 2).

After the media continued to replay this sound bite, Santorum attempted to explain his way out of the situation, but it was evident that Santorum felt higher education is full of professors who are liberal and want to indoctrinate youth. One can even find a web video advertisement on the Fox Nation titled “Wake Up Students! Liberal Professors and Liberal Policies Are Ruining America”. In the description of the web ad it states: “If you're tired of the left-wing media attacking conservatives, being made fun of for supporting American values, and Hollywood celebrating the hippy culture of the 1960s, blame higher education” (Coyle, 2012, para. 3).

It is not just the politicians and mainstream media who feel academia is filled with liberal professors. David Horowitz, one time radical turned conservative, proposed the “Academic Bill of Rights (ABOR).” In

response to ABOR, the American Association of University Professors (AAUP) stated: "...nearly two dozen state legislatures have considered legislative proposals challenged the fundamental concept that higher education in the United States is and should be free of government control or interference. No state has approved the so-called Academic Bill of Rights, which would involve the state and/or federal government in oversight of curricula and teaching, and faculty hiring and promotion in both public and private institutions of higher education" (AAUP, 2010, para. 3). Horowitz also completed a now famous work, *The Professors: The 101 most dangerous academics in America*. According to Saitta (2006), "The book's dust jacket promises to expose not only 'radical academics', but also the 'ex-terrorists, racists, murderers, sexual deviants, anti-Semites, and al-Qaeda supporters who infect the American system of higher education'" (p. 2). This work includes many professors who have a long standing influence on education and educational thought such as: bell hooks; Stanley Aronowitz, Bill Ayers; and Priya Parmar. While this work has been attacked for its scholarship and validity, it is a constant reminder of the extreme right attacks on academia.

However, just as there are some in academia that are on the extreme fringes of the Left there are also people who are on the extreme fringes of the Right. After reviewing a study conducted by Gross and Fosse Kevin MacDonald, a professor in the Department of Psychology at California State University - Long Beach, came to the conclusion:

The result of this revolution is the American university as we see it now. Conservatives need not apply. And heterosexual White males should be prepared to exhibit effusive demonstrations of guilt and sympathy with their oppressed co-workers — and expect to be passed over for high-profile administrative positions in favor of the many aggrieved ethnic and sexual minorities who now

dominate the university, particularly in the liberal arts and humanities. These are the areas that define who we are. Quite simply, the results of the revolution of the multicultural left have been a disaster for the traditional people and culture of Europe and all its offshoots (MacDonald, 2012, p. 31).

Also, there are organizations that have been identified as being tied to the Left or Right in the view of role of professors in academia. The American Association of University Professors (AAUP) is considered by many to be liberal and the National Association of Scholars (NAS) is considered to be conservative. The membership of AAUP is approximately 47,000 while the NAS membership is 5,700.

Many have researched the idea of whether professors are liberal and if they are then why do they hold liberal beliefs as opposed to conservative. According to Gross and Foss (2012): "In particular, we found that professors are more liberal than other Americans because a higher proportion have advanced educational credentials, exhibit a disparity between their levels of education and income, have distinctive religious profiles, and express greater tolerance for controversial ideas" (p. 165).

Of course, in applying labels like liberal and conservative, individuals do develop an alliance with a particular political party. Saitta (2006), citing Rothman, Lichter and Nevitte 2005, Lindholm et al. 2002, noted that in more than one recent study of the political affiliations of the professoriate, faculty member in the humanities and social sciences are overwhelmingly Democrats or self-identified themselves as left. Saitta concluded that conservatives believe that these political beliefs intrude on teaching and scholarship and reduce education to indoctrination.

The major misconception is that professors attempt to indoctrinate their students into following a certain ideological thought. While there have been some overly publicized

events of professors going beyond academic freedom and forcing an ideology on students the truth is that the overwhelming majority of professors do not do this.

In a review of *Closed Minds? Politics and Ideology in American Universities* (Smith, B.L.R., Mayer, J.D., & Fritschler, A.L., 2008) Robin Wilson (2008) stated. “The overwhelming majority of professors do call themselves liberal, the authors say, but that doesn't mean their classrooms are dominated by their political views. The survey found that 95 percent of professors believe they are ‘honest brokers’ among competing views. Sixty-one percent said politics seldom comes up in their classrooms, and only 28 percent said they let students know how they feel about political issues in general” (para. 4).

With this in mind, one of the long-held beliefs about academia is students need to be exposed to ideas, philosophies, and ideologies that are different than their own. While being exposed to different ideas and philosophies might cause students to shift their thinking it also enables them to be able to defend their long-held beliefs.

This intersection of differing beliefs is not only for philosophy, humanities and political science courses. The field of education is often a field where competing philosophies and beliefs become evident. In educational theory, belief systems range from educationally conservative to liberal to radical. In order for students to be well rounded in educational beliefs and policy it is important that students understand the theoretical and philosophical underpinnings of educational movements.

Methodology

As noted previously, the purpose of this study was to investigate the ideological beliefs of faculty in Colleges of Education around the United States. There is a common conception that university faculty are liberal. This study was conceived to test this popular notion. In order to accomplish this, an instrument, based on the work of Gutek’s (2004), *Philosophical and Ideological Voices in Education*, was

constructed to help define belief systems. The instrument, designed by Author and Author (2013), utilized the basic educational philosophies of essentialism, perennialism, progressivism, and postmodernism/social reconstructionism to create a survey that addressed the fundamental tenets of each educational belief system. The specific number of questions can be found in Figure 1.

Figure 1: Breakdown of statements

Educational Philosophy	Number of Statements
Essentialism	5
Perennialism	6
Progressivism	6
Social Reconstructionism	6

The statements were all worded in the affirmative with responses given on a 6-point Likert scale with 1 being “Strongly Disagree” and 6 being “Strongly Agree.” A sample statement reads, “Promoting future economic success is one of the main reasons that we have public schools.” In addition, there were two additional statements not specifically related to ideology:

- The purpose of education is to expose the conditions of domination present in society.
- Standardized testing is a viable means of judging the quality of an education.

Additionally, there were a variety of demographic items including:

- Region (based on U.S. Census data)
- University Size (based on AAUP categories, ie., Doctoral...)

- University Type (Public/Private/Private for Profit)
- Rank
- Subject(s) Taught
- Teaching Responsibility (Doctoral, Master's, Undergrad, etc.)
- Age (By Range)
- Gender
- Race

Validity and Reliability

The instrument was created by two curriculum theorists (Author & Author, In Press) using, as noted above, Gutek (2008) as a model.

While there are many sources of information about education belief systems, this was deemed a good choice because of the stature of Gutek.

In addition, the instrument was vetted by an additional curriculum theorist for the variety of topics and by two outside readers for clarity, singularity and diversity. This evaluation of the instrument allowed for basic content validity and safeguarded the quality of the statements. In order to ensure that the instrument had validity beyond content validity, will also be addressed through convergent validity and discriminant validity. In order to show both of these forms of validity, a series of correlations were conducted to show the relationships between similar subjects. These different relationships are found in Table 1 (see appendix). An argument could be made that a confirmatory factor analysis would be an appropriate analytical procedure to validity. However, because the instrument was not designed to confirm any particular construct, a confirmatory factor analysis would not be suitable.

Based on the correlation matrix, it is easy to see the relationships between the variables. For instance, there is a strong correlation between patriotism and beliefs about the American dream. In addition, the perennialist ideals of cultural replication and traditional content are closely aligned with the other conservative issues. Finally, the more radical items from the instrument (social equality and domination) are also closely related. All of these suggest there is convergent validity to the instrument. Conversely, these

variables have either no relationship, a small relationship, or an inverse relationship with their philosophically opposites. The perennialist, economic, and socially patriotic items are different from the more radical items. This suggests that there is discriminant validity due to the fact that there is little or no relationship.

This was the fifth use of this instrument. This survey had good internal consistency, with a Cronbach alpha coefficient of .855. This is above the preferred .8 as suggested by Pallant (2007).

Respondents

In order to ensure that there was a diverse sample of faculty for this study, respondents were chosen using the U.S. News and World Report list of top colleges and universities. A random sample of 100 of the top 200 National Universities and a random sample of 100 of the top 200 Liberal Arts Colleges were selected. In addition, 43 other institutions (based on convenience and contacts) were also added for a total of 243 universities. A total of 5,008 surveys were sent out over the course of fourteen days (due to mail server limitations). A link was sent to the selected faculty members with instructions explaining the study, reliability statistics, and a statement explaining that by completing the survey, consent for use was being granted.

Email address were manually found for each university and compiled into a master list. One hundred forty-two were returned for one of the following reasons: (1) bad email address, (2) sent to spam, (3) faculty member on sabbatical leave. In addition, seven faculty refused to answer the survey for a variety of reasons like questioning survey research, disagreement with the content of the survey and/or no interest. There were a total of 752 respondents for a 15% response rate. In a meta-analysis of survey response rates Nulty (2008), summarized that under the most stringent conditions (defined as a 3% sampling error and a 95% confidence level—common measurements) the results

should be 25% for a population of 2000. In this case, the total number of respondents was 5008. Therefore, an argument could be made that the 150% in respondents would reduce the response rate to the 15% found in this study. What is more important is if the respondents are representative of the group. As noted previously, this was sent to the top 100 national universities, the top 100 liberal arts colleges and 43 other random universities. There was equal representation for all regions and university types. There were thirty-four respondents that answered “other” or “prefer not to answer”. There were twenty respondents that declined altogether to answer this item.

Finally, a determination was made that one of the initial demographic variables had to be manipulated in order for this analysis to take place. For the purpose of this study, race was defined as either Caucasian or minority. The reason for this distinction was that, in general, faculty in colleges of education are predominantly Caucasian. As Hodgkinson (2002) explains, “... the teaching force is actually becoming increasingly White, due mainly to the striking decline in Black, Hispanic, and Asian enrollments in teacher education programs since 1990, with a proportionate increase in minority business majors” (p.104). Therefore, a determination was made to split race into two categories in order to make statistical analysis possible.

Results

Referencing the data collected, the initial analysis was simply a look at the descriptive statistics to determine the general beliefs of College of Education faculty. As seen in Table 2 (see appendix), the questions that have the highest means have little to do with liberalism (as portrayed by the media). In fact, the only statement related to liberalism deals with social equality, and with NCLB professing to make all students on grade level by 2014, that particular statement is deeply imbedded in current educational thinking and practice (not that everyone agrees). In addition, ideas related to critical theory and radical ideology are found in the bottom half of the list. Statements regarding

cultural domination and being critical of social norms are found below the mean suggesting that the respondents disagreed with the statement.

In order to further support the notion that faculty in Colleges of Education are miscast as liberal and radical, a factor analysis was conducted. The 25 items on the Purpose of Public Education survey were subjected to the principal components analysis (PCA) using SPSS Version 20. Before running the factor analysis, an analysis of the correlation matrix was conducted to determine if the data was suitable this type of data reduction. The examination of the correlation matrix revealed that there were many coefficients of .3 or higher suggesting the data was appropriate for factor analysis. The Kaiser-Meyer-Olkin value was .878, exceeding the recommended value of .6 suggested by (Pallant, 2007) citing Kaiser (1970, 1974). Bartlett’s Test of Sphericity (Pallant citing Bartlett, 2007) reached statistical significance, which supports the factorability of the correlation matrix.

Typically, all factors would be addressed in a factor analysis on an individual basis. However, for the purposes of this study, the factors were addressed for their content related to liberalism. It was found that while there were five distinct factors extracted with eigenvalues exceeding one. However, the two most significant factors, which are later labeled as the American Dream and the Conservative Agenda explained almost 41% of the variance, and the next two explain only 11% of the variance totally almost 52% of the overall variance. It wasn’t until the fifth factor was extracted that a liberal bias was discovered. This first liberal factor only accounts for about 4.6% of the variance. The pattern matrix can be found in Table 3 (see appendix).

A quick look at the pattern matrix reveals that the first two factors are overwhelming conservative. From here forward, the first factor will be referred to as the American Dream (25% of the variance). A brief investigation of the statements that make up this factor suggest that the primary factor is not inherently liberal. In fact, it is quite the

opposite. The components of the factor suggest a focus on what could be construed as the American Dream. The American Dream is a construct that has developed over time that focuses on hard work, creating your own destiny, and personal choice. More specifically, one of the statements specifically asked if promoting the American Dream was a purpose of education. Overall, this first factor is almost the quintessential definition of the traditional view of the American Dream.

There were several statements that stated students were not impacted by their environment and their traditional role in society is not a determining factor in their future success. These all point to the traditional belief in the American Dream. This falls in line with a very conservative view of education in which children are taught that anything is possible and if they focus on school and their education they can achieve success. This view of the purpose of education also suggests that students' home life and socioeconomic status is not a determining factor in the success they can attain.

The factor that loaded as the second most influential is being called the Conservative Agenda (approximately 15% of the variance). The focus of this factor is on issues such as promoting "American" cultural values, developing morality, fostering patriotism, and helping students fit into society. The Conservative Agenda factor suggests that a major purpose of public education is to replicate the status quo represented by white, male, Christians. This is shown through the parts of the factor related to teaching traditional content and replicating cultural values of the majority. Additionally, many people in this country believe that it is the purpose of education to teach children to be proud of their country and this can be seen in a majority of schools that recite the pledge of attendance each day. Especially after 9/11, many in society felt that it was the school's role to promote a favorable view of America. During the late 1990's, Character Education became a focus in many schools and there were programs developed that aided teachers in teaching "character words". Many of these "character words" dealt with

morals and values. It was, and still is, apparent the importance placed on these words by them appearing on the signs in front of schools as "Character Word of the Week".

The third factor, "Future Focus (6% of the variance)," focuses on a only a few, but quite diverse issues. Primarily, though, the emphasis is on economic prosperity and getting ahead for the future. The four components of this factor include education for economic success, going to college or getting a job, the American Dream (again) and standardized testing as a viable means of determining the quality of a student. While the first three are relatively easy to fuse together, the fourth is a bit more troublesome. However, being that the foundation of standardized testing is concentrated on the common core standards that every student is expected to master to be successful post K-12 education. According to corestandards.org (2012), the common core standards, "...reflect[] the knowledge and skills that our young people need for success in college and careers" (para. 2). So, it is obvious that a major belief system of education faculty deals directly with future educational and economic success.

The fourth factor, which accounts for 5% of the variance, is being titled the "Productive Citizen." This factor is composed of issues regarding the ideal citizen. These include issues such as being responsible, using multiple sources of information to make decisions, actively constructing knowledge, having the basic skills necessary for life, being responsible and being a productive citizen. Taken as a whole, these views about the purpose of public education suggest that a productive citizen is active in life and uses information to his/her benefit. The final component of this factor, "*Completing a teacher preparation program is essential to becoming a successful teacher,*" aligns with the rest of the components in the focus on thoughtful preparation. Overall, this factor, while not specifically conservative, doesn't delve into liberal ideology either. An argument could be made that it is a subsidiary component of the "Future Focus" factor in that it is a means of preparing for the future through complete academic preparation.

The final factor, the “Liberal Agenda,” only accounts for about 4.9% of the overall variance. As noted in to the pattern matrix, the liberal statements in the instrument are all found in this factor. It is interesting to note that this is a small part of the overall picture.

Discussion

As we have shown in regards to the philosophical beliefs about the purpose of education professors of education are conservative in their views. This is not in line with the political rhetoric and mainstream media reports about university professors being liberal and attempting to bestow liberal ideas on their students. Professors in Colleges of Education, according to our data, are miscast as liberal and radical and actually hold conservative views about the purpose of education. Perhaps part of this is due to the overwhelming control that No Child Left Behind and the standards movement have over public education. While there are bastions of liberalism discussed in educational circles, and perhaps dominate private conversations, the reality of the current educational system is based on standards, conservative legislation and a belief that America is falling behind.

However, a quick look at this history of curriculum reveals that curriculum is, in fact, cyclical. Glatthorn, Goschee, and Whitehead (2009) successfully summarize the history of curriculum and suggest that education changes regularly, shifting from conservative educational practice to more liberal approaches. Currently, public education is in a conservative cycle which might account for the conservative leanings of college of education faculty.

As mentioned earlier, there are extreme examples of liberal and conservative professors and it appears that those extremes are the publicized examples and not the norm.

Implications

The results of this survey are extremely disconcerting because it suggests that those who are responsible for teaching teachers actually believe that education in the U.S. are reinforcing

the status quo. While it is obvious that this is the focus of education at this point, the overwhelming view that this is the purpose of public education is troubling. These beliefs might cause someone to question “who’s morals” and “who’s culture” are important. It might cause someone to question the value of a liberal arts education versus an educational about economic advancement. It might cause someone to believe that the purpose of education is cultural replication and conformity instead of critical and creative thinking. Since we are a multicultural society and we have a vast number of different cultures that make up the fabric of the U.S. it is hard to promote one culture over another even if this has been done for centuries. It is also difficult to reconcile the results driven views of education with the more aesthetic and critical views of citizenship.

While it many will argued that students should be taught to be proud of their country and to support it both at home and abroad, it is troublesome that some feel this is a goal of education. In promoting patriotism in the classroom there is an assumption that the domestic and foreign policies of the U.S. are correct. There is a difference in patriotism and jingoism but at what point does the former stop and the latter begin? Also, if the goal of education is to promote patriotism then you are also killing critical thinking skills because students are being taught the U.S. is correct and if we question then we are patriotic. This is a slippery slope that those involved in education must be aware of and it would seem that in order not to slide down this path, we should not attempt to be on the slope at all. Another factor that was considered to be conservative is that the goal of education should be to help students “fit into society”. This view, again, reinforces the status quo without bringing into consideration the critique of society with fosters growth and change. This ability to fit into society was identified this as conservative because it implies that students need to be able to adapt to their surroundings and become a part of the larger society.

This is disheartening because if education should be about fitting in then the

Civil Rights Movement would not have occurred, we would not have the technology that we do today, and the Occupy Movement would never have happened. If education should be about helping students fit into society then we should be creating Stepford Wives. This is not to suggest that everyone should live on the fringes like “doomsdayers” or backpack across Europe to find themselves but we should let our students know it is OK to be different.

Finally, while the American Dream is alive and well in the United States, perhaps the antiquated definition of the American Dream is out of place. With the quickly changing makeup of the nuclear family, the expansion of career opportunities, the nebulous definition of wealth, the shift in demographics and the growth of both social media and social capital, perhaps the American Dream as it is traditionally viewed is no more. With technology, science, media, and society creating the need for creative, innovative and critical thinkers, it is conceivable that the view that the “American” culture, the traditional curriculum, and the need to conform to the hypothetical melting pot is outdated and useless. Maybe it is time for that next cycle to begin to reflect the necessities of contemporary society.

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Appendix

Table 1: Convergent and Discriminant Validity Correlation Matrix

		Promoting future economic success is one of the main reasons that we have public education.	Getting a job and/or going to college is one main reason for public education.	One main purpose of public education is to promote the American Dream.	Fostering patriotism is a primary purpose of public education.	Promoting the continuance of the cultural values of the United States is one of the main reasons for having a public education system.	A primary purpose of public education is to teach the content that is traditionally taught in schools.	One main purpose of public education is to promote social equality in society.	A main reason for public education is to expose the conditions of domination present in society.
Economic Success	Pearson Correlation	1	.629**	.455**	.361**	.360**	.289**	.067	-.143**
Getting a job/college	Pearson Correlation	**	1	.356**	.257**	.249**	.348**	.155**	-.092*
American Dream	Pearson Correlation	.455**	.356**	1	.470**	.549**	.288**	.030	-.102**
Patriotism	Pearson Correlation	.361**	.257**	.470**	1	.569**	.381**	-.108**	-.118**
Continuing Cultural Values	Pearson Correlation	.360**	.249**	.549**	.569**	1	.357**	-.027	-.075*
Traditional Content	Pearson Correlation	.289**	.348**	.288**	.381**	.357**	1	-.046	-.084*
Social Equality	Pearson Correlation	.067	.155**	.030	-.108**	-.027	-.046	1	.398**
Expose Domination	Pearson Correlation	-.143**	-.092*	-.102**	-.118**	-.075*	-.084*	.398**	1

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table 2: Descriptive Statistics

	N	Mean	Std. Deviation
One main purpose of public education is to develop well-rounded individuals.	744	5.30	.810
Being able to use multiple sources of information to make decisions is a main goal of public education.	743	5.26	.924
The active construction of knowledge is a primary purpose of public education.	740	5.19	1.041
One primary purpose of public education is to help students develop the basic skills necessary to be successful in life.	739	5.18	.878
One main purpose of public education is to promote social equality in society.	742	5.14	1.029
One main purpose of public education is to promote the well-being of all individuals.	741	5.06	1.040
A main purpose of public education is to create productive citizens.	740	4.89	1.058
One main purpose for public education is to instill in students that their choices are not determined by their environment.	741	4.73	1.135
Cultivating in students an awareness for creating their own destiny is a primary purpose of public education.	740	4.71	1.040
Developing responsibility is a primary reason for public education.	740	4.71	1.060
Being able to work with others is one of the main purposes of public education.	739	4.71	1.007
One primary reason for public education is to foster the uniqueness of each individual student.	743	4.67	1.131
Getting a job and/or going to college is one main reason for public education.	744	4.56	1.197
Completing a teacher preparation program is essential to becoming a successful teacher.	742	4.54	1.428
A primary purpose of public education is to teach that a person's traditional role in society is not a determining factor in future success.	731	4.47	1.197
Promoting future economic success is one of the main reasons that we have public education.	740	4.36	1.205

Being critical of social norms is a primary purpose of public education.	738	3.89	1.339
Developing morality is a prime purpose of public education.	736	3.88	1.283
One main purpose of public education is to promote the American Dream.	737	3.87	1.316
Promoting the continuance of the cultural values of the United States is one of the main reasons for having a public education system.	741	3.86	1.327
A main reason for public education is to expose the conditions of domination present in society.	738	3.70	1.420
A primary purpose of public education is to teach the content that is traditionally taught in schools.	736	3.65	1.395
One of the main reasons for public education is to help teach students to fit into society.	738	3.48	1.290
Fostering patriotism is a primary purpose of public education.	738	3.21	1.352
Standardized testing is a viable means of determining the quality of a student.	739	2.26	1.297
Valid N (listwise)	684		

Table 3: Pattern Matrix

	Component				
	1	2	3	4	5
Promoting future economic success is one of the main reasons that we have public education.			-.738		
One main purpose of public education is to develop well-rounded individuals.					
One main purpose of public education is to promote social equality in society.					.654
Getting a job and/or going to college is one main reason for public education.			-.829		
One main purpose for public education is to instill in students that their choices are not determined by their environment.	.846				

Being able to work with others is one of the main purposes of public education.	.412		
One main purpose of public education is to promote the American Dream.	.529	-.406	
Promoting the continuance of the cultural values of the United States is one of the main reasons for having a public education system.		.630	
Being critical of social norms is a primary purpose of public education.			.853
One of the main reasons for public education is to help teach students to fit into society.		.752	
Cultivating in students an awareness for creating their own destiny is a primary purpose of public education.	.597		
One primary reason for public education is to foster the uniqueness of each individual student.	.469		
The active construction of knowledge is a primary purpose of public education.		-.563	
Being able to use multiple sources of information to make decisions is a main goal of public education.		-.596	
One main purpose of public education is to promote the well-being of all individuals.		-.485	.415
One primary purpose of public education is to help students develop the basic skills necessary to be successful in life.		-.689	
Developing morality is a prime purpose of public education.		.669	
Fostering patriotism is a primary purpose of public education.		.731	
A main purpose of public education is to create productive citizens.		-.501	
A primary purpose of public education is to teach that a person's traditional role in society is not a determining factor in future success.	.649		

Developing responsibility is a primary reason for public education.		-.446
A primary purpose of public education is to teach the content that is traditionally taught in schools.	.488	
A main reason for public education is to expose the conditions of domination present in society.		.869
Standardized testing is a viable means of determining the quality of a student.	-.415	
Completing a teacher preparation program is essential to becoming a successful teacher.		-.448

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 24 iterations.

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Abstract

People with intellectual disabilities (ID) have several rehabilitation needs, which are difficult to address at one institution. Community-based rehabilitation (CBR) is one approach that provides services that meet their varied needs within their own communities. Objective of this research is to study a community-based rehabilitation program that provides comprehensive rehabilitation to people with ID in India. People with ID were identified through a door-to-door survey in 63 villages of the Barwani District. Patients received medical, educational, psychosocial, and vocational intervention by a CBR team. A total of 262 subjects, 140 tribal (53.4%), 122 non-tribal (46.6%) were categorized as borderline (5, 1.9%), mild (79, 30.1%), moderate (100, 38.1%), severe (63, 24.4%), and profound (15, 5.7%). Patients were both male (138, 52.7%) and female (124, 47.3%). Medical intervention was provided to 100% of study subjects, inclusion to 74 (28.2%), parent training to 204 (77.8%), and disability certificate to 225 (85.9%). CBR is a feasible and acceptable approach in poor rural settings that enables ID people, their parents, and respective communities to promote patient rehabilitation and inclusion.

Introduction

Intellectual disability (ID) is a condition characterized by significant limitations in both intellectual functioning and adaptive behavior (AAIDD, 2013). Intellectual disability not only affects an individual's overall life, but also their entire family, especially in poor rural areas in India where the availability of rehabilitation services is very limited. The Indian Ministry of Social Justice and Empowerment has implemented several rehabilitation programs across the country, but outreach of those programs is affected due to several structural and practice-related issues. Developed countries including the United States, the United Kingdom, and several European countries utilize institutional approaches to address needs of ID individuals. Highlighted in these systems is a gradual movement toward ID community living (Thorn, Pittman, Myers and Slaughter, 2009). India's concern surrounding the care of ID people is rising. Therefore, there has been an attempt to develop a more suitable rehabilitation model to serve people with ID (Lakhan, 2013a).

The National Trust Act was established a decade ago with purposes of promoting rehabilitation and facilitating guardianship to ensure legal rights of people with ID. There are numerous and complex issues involved in ID patients' rehabilitation. The prevalence of ID in India is 2.5/1000 (Srinath & Girmaji 1999), which is comparable to the reported worldwide prevalence (Mercadante, Evans-Lacko, and Paula, 2009). The high ID incidences in rural India (Narayanan, 1981) are most concerning. Most rehabilitation institutes are located in urban settings; thus their reach to the rural population is limited by distance from home, poor transportation facilities, poverty, and lack of awareness (D'Costa, 2008; Klasing, 2007; Lakhan, 2013a). Poverty, dearth of resources, low awareness, and lack of political reform stunt development of strong policies that positively intervene on behalf of ID patients' rehabilitation. Therefore, a more suitable and comprehensive approach is needed to address the rehabilitation needs of ID people in India (Ewardraj, Mumtaz, Prasad, Kuruvilla, and Jacob 2010; Malik & Harbour, 2013).

A previous study found that in poor communities, people with disabilities are identified by their disabilities (Burns, 2000). People with ID have varied rehabilitation needs: they require unique medical, educational, vocational, and social support. It is likely that some medical needs can be addressed through the existing infrastructure; however, attitudes of health workers and even professionals retain a barrier in service delivery. Education, employment, and independent living needs are the critical areas of rehabilitation needed to maximize ID patients' integration. One would not argue that ID people need equal socialization, educational development, and community inclusion, which are all severely underdeveloped in poor rural communities (Rashikj and Trajkovski, 2006; Kumar, Roy & Kar, 2012)

Community-based rehabilitation provides rehabilitation to people with disabilities. The World Health Organization (CBR, 2004) proposed this initiative, which has reported success in developing countries. It includes local resources and local participation (Crishna, 1999), and is ultimately a CBR based social model of rehabilitation that recognizes medical intervention importance. CBR is considered accessible and cost-effective (Velema and Fuzikawa, 2008) and enhances utility to implement resources into poor settings. CBR is flexible and sensitive to the cultural needs (Dawad & Jobson, 2011; Crishna, 1999), and the program can be customized to the local needs and available community resources. Grounds of developing CBR are based on participation and ownership of community at every program stage. CBR can be beneficial for rehabilitating people with ID in developing countries (Mirza, Tareen, Davidson, and Rahman, 2009; Lakhan, 2013b). CBR creates awareness, facilitates service availability, and empowers disabled people, parents, and community through capacity building initiatives. Presently, CBR is popular and being followed in 90 developing countries (Gupta and Singhal, 2004; Robertson, Emerson, Hatton, & Yasmy, 2012; Finkenflugel, Wolffers, and Huijsman, 2005). CBR can be a great option to address the

challenges of ID population in resource poor settings (Kumar et al., 2012).

Setting

This program was implemented by a non-government organization (NGO) called Ashagram Trust (AGT) located in the district of Barwani in the state of Madhya Pradesh, India. AGT began in 1983 for the purpose of rehabilitating people with leprosy, and then expanded its services to the entire Barwani district and in the other adjoining districts of Khargoon, Khandawa, Dhar, and Jhabua. Barwani is one of the poorest district in Madhya Pradesh, and the Department of International Development (DFID) lists it among the 100 poorest districts in India (Sarma Committee, 1997). Barwani is considered a tribal district because of its larger tribal population (68% tribal, 32% non-tribal) (Census 2011). More than 50% of the district population lives below the poverty line. Health and education facilities are very poor (Lakhan, 2013a; JSY, 2010). Until 1999, this region of five districts did not have any rehabilitation facility. People with intellectual disabilities are living in very poor, unhygienic, and depressing conditions. Historically, ID has been mythologized in religion and culture and resultantly shaped communications, customs, practices, and behaviors (Smith, 2002). Many themed patients are victim of isolation and stigma due to poor awareness, myths, and misbeliefs in communities (Kishore, Nizamie, Nizamie & Jahan, 2004; Kumar, Das, Bhandary, Soans, Kumar & Kotian, 2008).

Objective: To briefly discuss the process of implementing a CBR program and evaluate its larger impact for ID people in the resource-poor district of Barwani, India.

Method

Demographic and Sampling

This research implies participatory action methods and was a long-term extension of a community-based mental health project of AGT that was previously implemented in a few

villages of the Barwani district. Sixty-three villages of the Barwani block were included in the CBR project. Of those, 23 villages consisted of a 99% tribal population, and the remaining villages had a 10-20% of tribal population. After approval of the project, a meeting was conducted with village leaders (Surpanch) at Ashagram Campus (Rain Basira). Participants were oriented about the project and were asked to participate in the program. Consent for data collection through surveys, focus group interviews, and key informant surveys were obtained. The Surpanches of all villages selected for the project were oriented about the project. Professionals on the CBR team, including a psychiatrist, specialist in intellectual disability, psychologist, and physiotherapist collectively developed a survey form. This form included screening schedules for mental illness as well as intellectual, physical, visual, and hearing assessments of the disabled. Communality-based rehabilitation workers (CBRWs) were given one week of training on the survey form and on characteristics of disabilities. Findings of the door-to-door survey were compiled and tabulated. A total of 64,800 people were covered in this survey. The project was financially supported by Action Aid India for 10 years (1999-2010).

Process of implementation

Preparatory Phase

This process took 6 months. The CBR team conducted numerous team meetings, most starting in the morning around 8 am and ended around 11 pm. Discussion and idea sharing included funding organization members and disability experts.

Team Building: Professionals included a psychiatrist, clinical psychologist, two specialists in intellectual disability, a speech therapist, physiotherapist, two social workers, an accountant, and a computer operator cum clerk. Five CBRWs employed by the CMHP project were also transferred to the program. These CBRWs visited CBR villages with the professionals. There, they conducted meetings with villagers and asked them to recommend people who could work as CBRWs. Criteria

included community acceptance of CBRWs and literacy. Selection criteria were that CBRWs should be able to read and write and have a high school level of education. However, in tribal populations, we could not find people with a high school education, and therefore we compromised with this requirement and recruited a few CBRWs who only had a 5th grade education. Female candidates did not come voluntarily, so we approached their parents / spouse and encouraged them to join the CBR team.

Data Collection: Consent, Focus Group

Discussion & Survey: Disability data for project villages was obtained from the concerned district department. These data were found to be inaccurate when the CBR team visited project villages and tried to interact with those who were listed on the government list as disabled. The team realized the importance of identifying each ID person living in the community. Two approaches were used: a) *focus group discussion (FGD)*, in which a CBRW and a professional in intellectual disability conducted FGDs, and b) *a door-to-door survey*.

In the door-to-door survey we used a Hindi translation of the “National Institute for the Mentally Handicapped Developmental Screening Schedule (NIMH-DDS)” developed by Madhwan, Menon, Kalyan, Narayan and Subbarao (1988) at the National Institute for the Mentally Handicapped (NIMH) India. The “NIMH-DDS” has three screening schedules designed for specific age groups. Schedule 1 covers children below age 3; Schedule 2 is for 3-6-year-olds; and Schedule 3 is for children from age 7 and above. Schedule 1 compares milestones, while Schedules 2 and 3 have questions with yes or no answers. This screening tool can be used by CBRWs and other lower level disability and public health workers in rural populations in India (Robertson, Hatton and Emerson, 2009). This instrument has great sensitivity (0.79), specificity (0.99), and overall screening accuracy (0.98) (Saroj, 1991).

CBR professionals provided a short FGD training and survey to CBRWs. Training comprised of highlighting features and

characteristics of ID, overview of administration tools, and facilitating group discussions. Village leaders (*Sarpunch*) were contacted and oriented with the project. Written consent for surveys was obtained from each village leader and from every household that included a disabled person. These politically elected members, *Sarpunch*, were requested to support the program. During the survey, the CBR team attempted to identify key community persons helpful in initiating the CBR process. Data was tabulated and recorded by computer, and a village-wide list was given to respective CBRWs. All CBR villages were divided into 10 clusters based on respective geography and population, and each cluster was comprised of a 5 village mean (3 minimum to 7 maximum). At least two CBRWs were assigned to each cluster, and each cluster was supervised by a senior CBRW designated as cluster supervisor.

Capacity building of professionals and CBRWs: Each CBR team was qualified to provide rehabilitation intervention in an institutional setting, but lacked understanding of a community-based approach. Thus, they attended other organizations' workshops to gain exposure to the CBR method and were additionally encouraged to develop their CBR understanding by reading related literature. CBRWs also completed a seven-day training module to identify the needs of ID people, conduct meetings, and offer information on disability related schemes and benefits. CBRWs also shadowed CBRs in other organizations. Working as a CBR involves human interaction at various levels; therefore, understanding the types of human relationships is crucial (Perkins & Tice, 1995) for building a positive attitude. A team must believe that the task in which they are engaged is achievable. CBR team attitudes are pivotal developing mentorship relations with clients (Kendall, Buys and Larner, 2000) and ultimately determine program success.

Interventional Phase

CBR intervention was carried out in four broader areas: medical, education, vocation, and social on three different levels. Levels included the: a) ID individual, b) parents and care takers, and c) community and government

officials in terms of advocacy for service delivery.

Figure 1

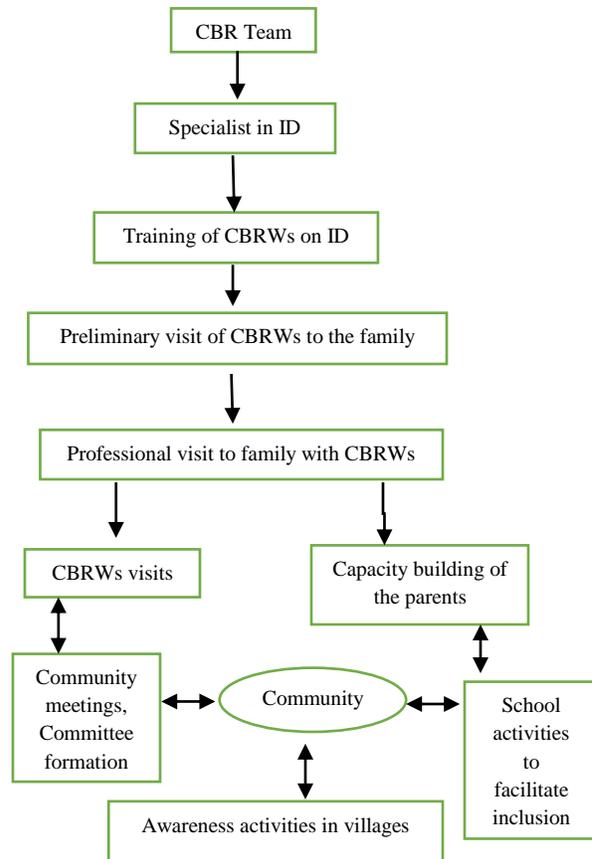


Figure 1: Diagram highlighting different components of CBR implementation for ID

Field Visits: every member of a CBR team conducted field visits on a regular bases for intervention and program monitoring.

a) Professional Visits: Professionals of intellectual disability, also referred to as ID experts, accompanied CBRWs to their field visits. ID experts conducted assessments of ID patients. Each ID person took at least two diagnostic tests: 1) Developmental Screening Test (DST) (Bharatraj, 1998) and 2) Vineland Social Maturity Scale (VSMS) (Malin, 1992). Scores obtained on these two tests were averaged to obtain the IQ of each individual. VSMS provides the social Quotient (SQ), which itself highly correlates (0.80) with IQ on the

Stanford Binet Intelligence Test (BKT) (Kumar, Singh and Akhtar, 2009; Kishore, Nizamie, and Nizamie, 2010; Lakhan, 2014). Experts used DST and VSMS because they can be administered in non-clinical settings. Following the 10th revision of International Classification of Disease (ICD), cases were grouped into five categories of ID: borderline (IQ > 70), mild (IQ 50 – 69), moderate (IQ 35 – 49), severe (IQ 20 – 34), and profound (IQ < 20). ICD-10 based criteria were used due to popularity (Schalock, Ruth, Luckasson, Borthwick-Duffy, Bradley et al., 2007) and wide acceptance across member countries of the World Health Organization (WHO, 2007). ID experts selected intervention goals by consulting with parents and offered such intervention on site in homes with parents present. This process also provided hands-on training to CBRWs. In these visits, both professionals and CBRWs interacted with schoolteachers, Auxiliary Nurse Midwife (ANMs), and other community workers of education and health, who were acquainted with the project and requested to support the program by integrating ID people in existing schemes.

Cases, such as other IQ tests at either the AGT center or in medical camps, to further determine IQ profiles and plan appropriate intervention. Gessells Drawing Test (GDT), Segwin Form Board (SBF) and Indian adaptation of the Alexander Pass Along Test (PAT) were used to obtain a quick estimation of a child's intellectual functioning. A WISC adaptation, called Malins Intelligence Scale for Indian Children (MISIC), was administered on children attending school because this test covers academic components. The Stanford Binet Intelligence Test (BKT) was used to obtain an estimation of a child's functioning abilities in different areas of intelligence, such as attention, memory, logic, and visuospatial. The obtained scores were used to plan the intervention. Initially, detailed assessment was conducted using the "Functional Assessment Checklist for Planning (FACP), Language Assessment Tool (LAT), and Behavioral Assessment Scale of Indian Children for Mental Retardation (BASIC-MR). FACP provided an estimation of functioning in areas of self-help and academics, and LAT assessed receptive and

expressive communication levels and disorders of articulation, voice, and fluency. The frequency and severity of maladaptive behavior problems were assessed through BASIC-MR. Experts found that these tests provided less significant help in a CBR setting due to their administration time requirements and cultural irrelevance. CBRs principally believe in training CBRWs on simplified rehabilitation techniques and tests to minimize the gap for rehabilitation service delivery between ID and professionals. Due to poor applicability and complexity attached to administration, scoring, and interpretation, the idea of using these tests was abandoned. Experts could not find more user-friendly, reliable, valid, standardized and culturally sensitive tests to apply in a CBR setting.

b) CBRW Visit: CBRWs conducted a follow-up of given interventions at every visit. They also watched and mentored parents administering interventions. Interventions were written in the form of task analyses on case files. CBRWs also spent time with ID children, playing and initiating interaction with other children and community members, to maximize exposure in a natural setting, boost learning and confidence, and socialize within a community. CBRWs visited in hopes of selecting those interested in forming the "village committee" group, a backbone of CBR. Moreover, they approached schoolteachers to discuss the possibility of integrating children with ID into regular schools. Teachers willing to enroll ID children into their classrooms and to receive training on inclusion were noted.

c) Medical Camps: medical camps were organized in Menimata, Chikhliya, Silawad, Palaya, and Talwada-Bujurg villages. These villages were considered cluster villages in the project, and people from 3-4 surrounding villages participated. People with ID were assessed for medical conditions, such as epilepsy and psychiatric illness. A physical examination was also conducted. These camps also served people with other disabilities, such as mental illness. Other rehabilitation services, physiotherapy, speech and language training, and behavior modification were also provided to

the individuals with ID during these camps (Lakhan, 2013b; Lakhan, 2014). Camps were also used for health education and awareness on psychiatric disorders and disabilities to prevent secondary disability. Disability management, prevention, inclusion and employment options were discussed.

Trainings: Training and exposure visits were organized for parents, community members, and other government grassroot workers such as ANMs, Aganwadi (workers at integrated child development centers), and teachers to strengthen understanding about identification and management of ID.

- a) **Parents and caretakers:** The key strength of CBR depends on its social ecology in which people with disabilities, their parents, and community members are enabled (Sen and Goldbart, 2005; Kuipers and Doig, 2013). ID people are more vulnerable and disadvantaged than other disabled individuals because of their limited cognitive and communication abilities. Most ID people require assistance for personal needs and depend on parents and siblings for care. Parent groups were formed so parents could voice common concerns, share feelings, and morally support one another. These groups were also trained on handling their children, taking care of their personal needs, carrying out rehabilitation intervention, and learning about available government benefits. These trainings were conducted at the AGT center and both parents of ID children were encouraged to attend.

- b) **Community:** Strengthening community with knowledge of ID people and their various needs enhances sensitivity towards the entire issue, helping to foster their integration. "Village Committees" were formed by interested villagers willing to work on disability. Committees of about ten people, mostly male, were formed in each CBR village

and brought to AGT center for two days of training. Social, environmental causes of ID, government schemes, and advocacy skills were discussed with the objective of strengthening committees with knowledge. Committee members support ID people and their parents by asserting rights toward a disability certificate, education, and equal opportunity for employment.

Community meetings: Meetings were conducted consistently once a month in each village from the beginning of the program in 2000 until the end of the project in 2010. The focus of the community meetings changed from time to time. The beginning phase of the program from 2000 until 2004 focused on awareness, capacity building activities of CBRWs, parents and community, medical intervention, disability certificates, and inclusive education. During the second phase from 2004 to 2007, the focus slightly shifted towards developing local leadership and enabling people with disabilities to take leadership roles. During the third phase from 2007 to 2010, an attempt was made to bring community forward to take ownership of the program (Lakhan, 2014).

Individual cases in the process of education inclusion were discussed. Duties were assigned to committee members to meet with teachers. Discussion on income generation activities was also done. ID experts often attended these meetings and facilitated discussion on prevention and management of ID. These community meetings were primarily used to form committees, create awareness, motivate parents, income generation options, and promote health.

Awareness activities: Several awareness activities were conducted in the evenings, and in the larger villages in the afternoon on market day. Street play, puppet shows, musical nights, and distribution of pictorial pamphlets were the main activities. Play activities, called "child-to-child activities", were conducted in schools to sensitize non-disabled children for inclusion of their ID peers in schools and during play in the community. Such activities were adopted

enthusiastically by children and potentially began to change their mindsets about disability.

Advocacy initiatives and activities:

Government advocacy on the ID issue is a key requirement in CBR. People should be enabled and guided through the process so villagers united with ID people and their parents to assert their rights and fight against discrimination and injustice, for which rallies were facilitated. Predominantly, village committees came forward and spoke freely with government officers.

Results

See Appendix

Medical Intervention: All 262 (100%) cases with or without any associated conditions such as psychiatric disorders and epilepsy received appropriate intervention with regular follow up.

Vocational Intervention: Attention was first given to those who were 18 years of age or older. Most parents who had a child with less severe ID were able to involve them in their agricultural work. This involvement provided no monetary gain to the family, but developed a sense of productivity in individuals with ID and a hope to their parents. In several villages, committees turned out proactive and ensured inclusion of ID people in the *National Rural Employment Guarantee* (NREG) scheme. Committees recommended officers of the scheme to assign ID people simpler tasks such as offering water to workers. No exact statistics are available, but we recall that eight people with moderate to higher ID received a few days of employment under NREG. Few people obtained employment at community centers run by religious groups. The parents of ID children younger than 18 years of age were encouraged to involve them in household chores and other tasks in preparation for employment.

Discussion

Physiotherapy as well as occupational and speech therapy were considered part of the medical intervention. At the end of the project, many parents (approximately 70%) were able to

carry out stretching, positioning, balancing, and gait exercises for their ID children. They were able to take up smaller goals for language stimulation towards enhancing their comprehension and expression. Parents were also able to identify problematic behavior and their handling of those situations became more supportive and free of punishment. In a few cases, we found that parents were using a reward system for helping their children learn good behavior. Parents understood the importance of regular medication for epilepsy or any other medical problems. Awareness, advocacy, and training developed confidence in parents to approach government hospitals and assert their rights to healthcare and medicine (Lakhan, 2014). CBR attempted to link all cases with government hospitals to obtain appropriate consultation and medication, but only carried out for a small number of cases. Cases involving psychiatric disorders or epilepsy could not obtain medicine from government hospitals, since these hospitals had no provisions to buy such medicine (Lakhan, 2013b). CBR project leaders along, together with parents and village committees, met with district and state government health officers requesting medicine at the district hospital. Until the end of the ninth project year, medicines were provided only by CBR and AGT through oral assurance from government officers for arrangement.

Education for people with ID was not considered important among ID parents and communities. Few teachers contacted in the project's beginning were not at all aware about the inclusion of ID children. Those who were aware, however, did not have the ability to teach ID with regular students in their classrooms (Parasuram, 2006; Rao, 2008; Lakhan, 2013a; Das, Gichuru, & Singh, 2013; Singh, Verma, Das and Yeh, 2014). As the project progressed and awareness activities continued, the concept of inclusion spread among parents, community, and teachers, which was noted in meetings. Readiness among parents and teachers to enroll ID children in regular school came very late. Several meetings were conducted with district level education officers to facilitate this inclusion. District officers were urged through meetings and even rallies to conduct training for

teachers to build their capacity of teaching ID children in regular classrooms. Few teachers showed willingness for training; those that did completed three days of orientation on inclusion for ID at AGT on CBR cost and became more open and confident in teaching ID children in their classes. A total of 74 children were able to enroll in regular schools. The objectives of inclusion were set up in consultation with teachers and were very low compared to their matched peers. The objectives were as follows: the child feels motivated to come school, learn basic routines, gets an opportunity to interact with peers, learns basic reading, writing (name & address), counting, socialization, and attends school regularly for at least for one academic year. Initial attempts were made to enroll less severe children. Children who could not attend regular schools were enrolled in “Non-formal education” (NFE) centers that were started in communities as an alternate provision for schooling (Lakhan, 2013a). The objective of NFE was to motivate non-school going children through recreational activities in the afternoon or evening when children usually stayed home. A community member recommended by the village committee served in these NFEs and received a small payment to honor their time and service.

Employment is achievable for ID people. Parents can involve their adult children in their own occupation and compensate for time and labor. Keeping employment in an independent setting is difficult even though the PWD act states that all person with disability including ID should be given equal opportunity in job. Practically, ID people require some assistance to perform work related tasks that need to be modified and made simpler. Additionally, they require systematic graduated exposure and consistent reinforcement to transfer into employment. The PWD Act has neither included awareness on this matter nor provided employers any support to modify their infrastructure to accommodate ID people.

CBR has little scope for promoting employment options for ID. Committees that understand the nature and characteristics of ID can compromise with employers to

accommodate such workers. In rural areas, where the process is comparatively less challenging than in an urbanized setting, the approach of employing ID people in assisted or sheltered workplaces is feasible.

The biggest outcome of CBR was changing the mindset of people. ID people are stigmatized (Perkisin, Holburn, Deaux, Flory and Vietze, 2002; Jahoda & Markova, 2004; Cooney, Jahoda, Gumley and Knott, 2006; Edwardraj et al, 2010) and almost do not have their own identity in their communities. Many of them are called local names resembling mental disability such as *Bholaram* (son of God who does not know anything), *Budhu* (does not know anything), or *Ganda* (mentally ill). These stigmas are emotionally painful (Beart, Hardy and Buchan, 2005). During meetings and training, a sense of connectivity, belongingness, and respect toward ID individuals were all observed and recorded while interacting with the villagers.

Awareness and capacity building activities in the community helped develop a realistic image of an ID person to their parents, further reducing stigma and discrimination in society and increased visibility and possibility of inclusion. Empowerment leads to inclusion and vice versa, which is a key target of CBR (Arokiasamy, 1993). Moreover, volunteerism is a principle of CBR, but could not be supported in this project, which failed to sustain volunteers even for a month to support activities. CBR practitioners should make appropriate arrangements for compensating their workers for their services.

Conclusion & Research Implication

This study demonstrates that through the CBR program, parents can learn rehabilitation skills in medical, educational, social, and communication areas and they can carry out physiotherapy, communication training, and teaching. Parents can also learn to talk with schools to enroll their child. They can also understand the importance of involving their children with ID in household activities in order to prepare them for future occupations. Through

the CBR, parents can also learn some behavior modification skills.

CBR seems to be implementable and an overall beneficial approach in poor rural areas. Its execution requires professional determination, commitment, individual willingness, and flexibility in time, place, and income. This project changed the lives of individuals with ID, their parents, and siblings. Positive changes were noticed in the knowledge, attitude, and practices of people involved, although these changes would need to be quantified via standard tests. As the project is complete after a ten year funding term, a final evaluation is needed to compile results and summarize the project's impact on the lives involved. Unfortunately, at the end of this project, most professionals left the organization and AGT did not receive funding for a final external evaluation. This process-based article provides a descriptive and structural framework of implementing CBR in rural poor settings.

Results mentioned in this paper were based on reports, data, meeting notes, discussion, interaction between experts and parents, community, CBRWs, and colleagues. The author attempted his best to keep an objective position, but subjectivity cannot be denied.

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Conflicts of interest: none

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Appendix

Table 1: Profile of ID people who received CBR services

Variable/ ID	Borderline ID (IQ>70)	Mild ID (IQ 69-50)	Moderate ID (IQ 49-35)	Severe ID (IQ 34-20)	Profound ID (IQ<20)
Population					
<i>Tribal</i>	1(0.38%)	42(16.0%)	57(21.7%)	5(13.3%)	5(1.9%)
<i>Non-Tribal</i>	4(1.5%)	37(14.1%)	43(16.4%)	28(10.7%)	10(3.8%)
Gender					
<i>Female</i>	3(1.1%)	39(14.9%)	46(17.5%)	31(11.8%)	5(1.9%)
<i>Male</i>	2(0.8%)	40(15.3%)	54(20.6%)	32(12.2%)	10(3.8%)
Socio Economic Status*					
<i>Very Poor</i>	0(0.0%)	30(11.5%)	36(13.7%)	28(10.7%)	3(1.1%)
<i>Poor</i>	2(0.8%)	35(13.3%)	43(16.4%)	20(7.6%)	5(1.9%)
<i>Middle</i>	3(1.1%)	12(4.6%)	19(7.2%)	14(5.3%)	6(2.3%)
<i>Upper</i>	0(0.0%)	2(0.8%)	2(0.8%)	1(0.38%)	1(0.38%)
Parent Education					
<i>None</i>	1(0.38%)	58(22.1%)	80(30.5%)	52(19.8%)	9(3.4%)
<i>Primary</i>	0(0.0%)	12(4.6%)	4(1.5%)	1(0.38%)	0(0.0%)
<i>Middle school</i>	3(1.1%)	6(2.3%)	8(3.0%)	4(1.5%)	0(0.0%)
<i>High School</i>	1(0.38%)	1(0.38%)	0(0.0%)	5(1.9%)	3(1.1%)
<i>Bachelor</i>	0(0.0%)	2(0.8%)	8(3.0%)	0(0.38%)	3(1.1%)

Table 2: Major outcome of the CBR at the 9th year of the program

Variable/ ID	Borderline ID (IQ>70)	Mild ID (IQ 69-50)	Moderate ID (IQ 49-35)	Severe ID (IQ 34-20)	Profound ID (IQ<20)
Inclusion					
<i>No</i>	1(0.38%)	25(9.5%)	81(30.9%)	63(24.0%)	15(5.7%)
<i>Yes</i>	2(0.8%)	54(20.6%)	18(6.9%)	0(0%)	0(0%)
Disability Certificate					
<i>No</i>	0(0%)	14(5.3%)	17(6.4%)	6(2.3%)	0(0%)
<i>Yes</i>	5(1.9%)	65(24.8%)	83(31.6%)	57(21.7%)	15(5.7%)
Parent Training					
<i>No</i>	2(0.8%)	13(4.9%)	24(9.1%)	15(5.7%)	4(1.5%)
<i>Yes</i>	3(1.1%)	66(25.1%)	76(29.0%)	48(18.3%)	11(4.1%)