



Chapter 11

Problem-Solving Methods to Facilitate Inclusive Education

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Inclusive education practices are essential to the development of a more equitable and socially just society. This chapter discusses various problem-solving methods that can be used to facilitate inclusive education. It is based on the work of the National Center for Learning Disabilities (NCLD) and the National Center for Technical Assistance and Dissemination (NCTAD). The authors are grateful to the National Center for Learning Disabilities (NCLD) for their support and to the National Center for Technical Assistance and Dissemination (NCTAD) for their support.

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Table 1. Basic components of inclusive education

Inclusive education is in place when each of these five features occurs on an ongoing, daily basis.

- 1. Heterogeneous Grouping All students are educated together in groups where the number of those with and without disabilities approximates the natural proportion. The premise is that “students develop most when in the physical, social, emotional, and intellectual presence of nonhandicapped persons in reasonable approximations to the natural proportions” (Brown et al., 1983, p. 17). Thus, in a class of 25 students, perhaps there is one student with significant disabilities, a couple of others with less significant disabilities, and many students without identified disabilities working at various levels.
- 2. A Sense of Belonging to a Group All students are considered members of the class rather than visitors, guests, or outsiders. Within these groups, students who have disabilities are welcomed,

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A sense of belonging to a group is one in which all students are considered members of the class rather than visitors, guests, or outsiders. Within these groups, students who have disabilities are welcomed, and all students are considered members of the class rather than visitors, guests, or outsiders. Within these groups, students who have disabilities are welcomed,

McGrath & O’Leary, 1998; Stenberg & Stenberg, 1999; & Tondal, 1999).

Table 2. Approaches to educating students with diverse characteristics

Traditional approaches	Inclusion-oriented alternatives
The teacher is the instructional leader. Students learn from teachers, and	Collaborative teams share leadership. Students and teachers learn from each

Diverse student needs can be accommodated within a variety of learning environments.

Teachers who work on individualized instruction can also find ways to share their best practices with colleagues, not only through formal presentations but also through informal discussions with colleagues.

When done correctly, positive social connections can be made with students who are at risk.

Teachers who work on creating a safe and supportive learning environment (Gott, 1998; McGee & Olson, 1998).

OS ORN, ARNES CREATIVE ROLE SOLVING AS A METHOD FOR INCLUDING STUDENTS WITH DIVERSE NEEDS IN THE CLASSROOM

The CPS model (Pern 1988, 1989, 1991) is an individualized learning model that focuses on the needs of students who are at risk. The model is based on the work of Vygotsky (1978, 1981) and is designed to help students who are at risk to learn and to participate in the classroom. The model is based on the work of Vygotsky (1978, 1981) and is designed to help students who are at risk to learn and to participate in the classroom. The model is based on the work of Vygotsky (1978, 1981) and is designed to help students who are at risk to learn and to participate in the classroom.

C... D... S... D

To be effective, the CPS model requires that teachers create a safe and supportive learning environment for all students. This is done by providing students with the opportunity to learn and to participate in the classroom.

- 1. Prob 30 v r 3 b v v r yon 3 e r t v nd 3 t c c y
to 3 o v r o b 3 .
- . Prob 30 v r 3 r o t 3 t c .
- . Prob 30 v r 3 t e n t b t w n d v r n t nd con v r n t
t n n .
- . Prob 30 v r 3 c t v y d r nd n t r d n t .
- . Prob 30 v r 3 n c o r r w n nd n .
- . Prob 30 v r 3 t c t o n .

**Problem Solvers Believe Everyone Is Creative and
as t e Ca a ity to Solve Problems** Ev r yon 3 r d
3 t t n t 3 c 3 I n o t e r t v e r I c o d n v r c o w t
t o 3 n d 3 o d 3 . M r y o t t r y 3 d 3 t t
t v r c b o n r t n l y n n t r r s o n e r t v
o t n t . T c t 3 t t o 3 t r e r t v r o b - 3 o v n
b t 3 c o n s t n t v nd v w t o t v n n o t e n t . G r t v b -
t 3 r b n 3 d v r t r s o n r r n 3 t r n t r ,
3 3 b t t t o n n r c , r o v 3 3 l y 3 n n o b c t n c
o n b 3 n t o o , d 3 t 3 t o v w t c d , o r n 3 3 c d -

In d c t o n , 3 n r y o t r d 3 o v b n n c o r -
d t o b v t t e r t n x r t 3 o d t v t o 3 c n o w d
o r e r t v 3 o t o n 3 . A s r 3 t t r 3 t n d n e y t o b c o n n c -
3 3 r v d n d n t o n o t 3 d c o n s t n t s t o 3 o v r o b 3 w
b c o n n e r 3 n v 3 3 c o n d n t n o n 3 o w n b t 3 n d r n c
t o o t r 3 . I n c o n t r 3 t 3 c t r 3 t o r 3 b v r y r o o o -
3 t b v t o 3 o v t r y c n 3 o n c 3 o n - o r n t d
3 c o o n t r o t 3 o C P S . v w o r n t o t r t 3 o o -
c n d n t v 3 o t o n 3 n d t c t o n 3 t t n o n d v d c o d
c o o 3 o n . T r e t c o 3 n C P S 3 r t 3 w t n t 3
c n n n c n d v d t b r 3 r s o n r o w t n d e r t v
c c v n b r o d r n o 3 t t o n 3 .

T 3 t 3 o C P S t d v n t o t b t 3 t t o r o y
v nd n c o r o t o 3 n d d b r t v 3 t r
x 3 t n b t 3 t o 3 o v r o b 3 . r n n t b 3 c o C P S 3 y .
P o r o y n o w o w t o d o o s t o r o w t 3 n d d , n d t v
v b n d o n t n t r v o r o t r v 3 t . T n w r n n c o 3
n r c t e n t 3 o t 3 x 3 t n 3 3 n n w n d d b r t w 3 .

Problem Solvers re timisti C P S , o r r y o t r r o b -
- 3 o v n t o d , 3 b 3 d o n o t 3 . P r o b 3 o v r 3 n t r t
r o c 3 3 w t t n o w d t t v r c n t v c c a n b

solved, is $\forall n$ or $\exists n$ on w .

Problem Solvers Iterate Between
an \forall Convergent in in A counter example to the
theorem of Parikh and Rabin is that there is no algorithm
to decide if a given formula is true in all models or in
some model. This is not true for the fragment of
CPS that is used to construct the model, diver-
gent w is not to be confused with w . The next is

Problem Solvers *a e t i o n* Prob 30 v r s x t n d
 t ow r o t r o t s k y c t n o n t r d s l d s t t r n r
 r t d d o n o t v t o b e r t s t t r n o r w o r d c n n . S o o
 d o n o t s t d s t t t v n r t b e s t v d t r
 d s n o t o o d n o . , t s s t o r n o k s r v d , A r d t t o s
 s b t t r t n o o d d t o n t o s n w (c t d n P r n s
 1988 , .) . A s o s t r t t o s C P S n d t n t o n w b t s t t
 c c n t t t r e t v r o b - s o v n b t s t v n d t -
 s v s n r t n o r n d b t t r d s . T v s t o c t , n o t t o w t
 o r t r c t s o t o n b e r t n c t o n . t t r d s w v s v b
 n d t r n d w n t v r d i s c o v e r d .

**STAGES OF THE OS ORN, ARNES
 CREATIVE RO LE/ SOLVING ROCESS**

T n o r t o n r r d n t s x s t s o t s t o r n P r n s C P S
 r o c s s r s n t d n t b n d d s e b d o n t o o w n s s s
 b s d o n d s e t o n s o t r o c s s o t n d k y s t o r n (19 , 199)
 n d P r n s (198 , 1988 , 199 , 199) n d n s t s n d r o t
 t o r s s o t r o c s s (G n r c o , 199) .

D v o n e t v c b t s s o n n d r t n (P r n s
 198 , 1988) t t s o d b t o t o o r s t d v o n t o c r e a t i v e
 a t t i t u d e t n s t r n n n d c t o n o s c c s t s n d
 r o c d r s . T s t s t o r n P r n s C P S r o c s s s o d b s d s
 s r n b o r d o r n v n t n o r r s o n n C P S o d s n d t c n s
 S o o t v r t o n s t t w v d v o d t o w t t c -
 n s o s c o o n d c o n v n c s o n r t d n t n x t
 s c t o n . C y c n n d r e y c n t r o t C P S r o c s s n d t s v r t o n s
 n t r n t e r t v t t d n d e r t v r o b s o v n
 r t o n s d v r o t n r t r t n n s o t d t o o s d o n v n e r t
 t n c o n t x t s (. , s c o o v r s s o o r v) o r w t c r t n r o b -
 s (. , s t d n t v r s s v s t s c n s s n d c t o n e r o r) .

Stae isioni in or be tive in in v
 v o d r v n d o w n t s r o d n y t s n d t r r d t t
 t r w s s o t n o n t t r o d v o d n o t n o t c d b e r T r s t
 s t o C P S s o n b c o n e r s n v w r o c n s n d
 o o r t n t s k y s h a r p e n i n g t h e p o w e r s o f o b s e r v a t i o n . I t r r s o
 t o s o t r s n s s n d r c t o n s t o x o r n w o s s b t s
 n d s r c o r o o r t n t s . T o o w n r s o r d s o s t o n s w
 r o b s o v r t t s s t

T n o o b c t v - n d n s s t r t n o n t o r n r c n .
 T n d i v e r g e n t l y k y c o n s i d e r n v r v o o t n t r o b s t o

xt, b conv r nt nd s ction o t n we n st t nt s
t tt t r s tw nt s to so v. Cons ns s v b ro t d ly
s n t b r s st on s c s W c o t s c n s do
w ost d s r t v w nt to cco s or so v Prob - nd n s
n ort nt st o CPS b c s, s Jo n D w y ob s r v d, A rob-
w d n d s so v d (ct d n P r n s 1988, .).

State Idea in in Id s r ot nt so ton s to t
c n st t nt s ct d t St . W r do t s d s co
ro C n r to d - nd n s brainstorming (s t o r n, 19 , 199).
r n s t o r n s d v r nt d - n r t n roc s s n w c d -
nt or v n r s s d r r d n o d r to rob so v r s s t c
b y o n d t ob v o s, s n t v s t v, b c s t s v t t t

tion (i.e., to the station) were 1) the distance, 2) the number of people, 3) the number of vehicles, or 4) the number of people per vehicle.

The observed number of people manipulating the number of people per vehicle (i.e., in the two cases) is the number of people per vehicle (i.e., the number of people per vehicle) multiplied by the number of vehicles (i.e., the number of vehicles) multiplied by the number of people per vehicle (i.e., the number of people per vehicle). At the same time, the number of people per vehicle is the number of people per vehicle multiplied by the number of vehicles (i.e., the number of vehicles).

So the number of people per vehicle is the number of people per vehicle multiplied by the number of vehicles (i.e., the number of vehicles) multiplied by the number of people per vehicle (i.e., the number of people per vehicle). For example, if the number of people per vehicle is 2 and the number of vehicles is 3, then the number of people per vehicle is 6.

xt, t nd v d ort n d to conv r on s b to or -
tr nd s t to v t t d s. S ct n so ton s c n b
c t t d by gross r r n n d s nd or tr r r n d n b x.
Id s r st d on t s d, nd or tr r st d gross t to . T
b x o r s s c t o r t c d b d on c c t r on. R t n
v b s s s s v r s s n s s c o r n v s t o r s c o x
s s c t t w s c t r d r n t v. R b r, w c v r s c o r -
n t o d s s d, t s n o t n t n d d to b o r t t r o v s
d c s o n - n o w r. R t r, t c t r n d r t n t o d r
n t n d d to r o v d r t o n r w o r o r c o n s d r n t r t s o
c d . F n d n t v, s o t o n - n d n s c o n v r n t s t o t
C P S r o c s s n w c d n t s n d t o s c t o r c o b n d s
o r w c n o c t o n s t n d v s d n d n t d .

State e tan e in in In c c t n c - n d n , t
r o b - s o v n t s s t o r s t t n d v r n t v b y s n n d n s w r -
n w o, w t, w r, w n, w v, n d o w s t o n s n o r d r t o
x o r v r v o w v s t o t s c t d s o t o n (s) o r w o r -
b n d c t v. T t t n c t s c o n v r n t v, d v o n s t -
b y - s t n o c t o n. T n t r r o c s s n d s w t t r o b s o v r s s
t n c t o n n d r r v v t n t c t v n s s o t s c t d
s o t o n (s). w c n s t t r s d r n n t t o n v b
v w d s o p p o r t u n i t i e s x 1 1 - . T c P n t , d v 1. - 1 1 T c 98 r n

t rob -sovn roc ss (., Ebr & St n s , 198), ss co -
 t v r t o n s v r o v d t o b c t v o r o n t - v c s s r o o s .
 CPS v r t o n s w o r s o w b c s o r h y t r n t r e t v
 t v r t o n s s v n t b n s o r s t s s n r o t e r -
 t v r o c s s c t c r d v o s s o n s o r r o w n . I t s o d b
 s d t t C P S n d t s v r t o n s r n r c t o o s o r s t d n t s t o
 s t o d d e s s n d v d v o r n r o s r n o c d c , s o c ,
 o r r s o n c n s o t r t n t o s d s e b d n t s c t r .

H. U D G
I O E A
O E C D D D

o r d t n c o t t r C P S v r t o n s w o d t o r t n
 t o n x n t o n o t c o n t x t n w c t v r t o n s r s . W
 n o w d e t o r s w o o t s t d n t s w o v w d v d r n d
 c t o n n d s n d s t t o b s r v t o n t o s t v b v r o n w t -
 n c s s r o o o r t x c s o n o s o s t d n t s r o v c c s s s
 r t r t n d t r n n w c w s s t d n t s n n s c n b r -
 c t d n d s o r d . F o r r o b s o v r s w t n n e s v d i c t o n
 o r n t t o n , c n t n t c s s r o o o s t d n t s w t w d v d r n
 d i c t o n n d s s n t r v o c c r n n c o n r v o r o r c d
 r t o n s . T r o r , t r o n o s n e s v c s s r o o s o r
 r o o r t n v o r v e t v d s n d s o t o n s t o b d v -
 o d n d e d . I n c s v d i c t o n n d e r t v r o b s o v n t r -
 o r r o s t v v n t r d n d n t e r c t r s t c s o c t v s c o o n .

CPS n d t s v r t o n s w o r b s t c r e a t i v e a t t i t u d e , a t m o s p h e r e , a n d
 c u l t u r e x s t w t n t c s s r o o n d s c o o c o n v . A n d d t o n
 s s , t r o r , n s n C P S w t n d o r c d r n n s c o o s s o w t o
 r o o t c t r o e r t v s o t t s t d n t s v n t v d n t v n d
 n n e r t v r o b - s o v n s t t s v n w n t v r n o t
 s d t o d o s o . T o o w n r s o s t t s t c s s r o o t c r s
 n d d n s t o r s v s d t o s t b s o r e r t v s c o o c t r s

E s t b s n d s c o b o r t v t r o c n w c b r s o
 t c s s r o o n d s c o o c o n v w o r t o t r t o w r d c o o n
 o s (T o s n d & , 199)

s r t t d t s o d c o b o r t v , o n , e r t v , n d r o b -
 s o v n b v o r s (. . , d e r n d i n t) o r s t d n t s

I n v o s t d n t s n n o r t n t n s t r c t o n d c s o n s
 G v s t d n t s o n o n o r t n t s t o s o v o r t n t r o b s n n
 t o s r n w c t r d s r w c o d n d c t d o n
 G r t o o r t n t s o r s t d n t s t o s t t t r c n b o r t n o n

... t n g w r to ... r o b ... o r ... s t o n
G r t o n o n o ... o r t n t s ... o r ... r n n t o b ... c t v ... n d ... n
A s d ... t s ... b ... r ... o y ... w ... n , n d ... b ... t o ... r n ... r o ... s t d ... n t s ... s w ... s
... r o ... c ... o t ... r

IEP/D ... S.U. / ... S ... /

c s t ... r o b ... - s o v n ... s t ... t ... s d ... s e ... b ... d ... n ... t ... s ... c ... t ... e ... r ... n
c ... d ... e ... n ... n ... r o b ... s ... o ... v ... n ... o ... r ... , ... c ... o ... n ... c ... s ... r ... s ... w ... t ... e ... r ... d ... t ... o
w ... t ... e ... r ... v ... n ... c ... s ... s ... t ... s ... o ... c ... s ... i ... o ... n ... e ... t ... c ... r ... s ... t ... d ... n ... t ... n ... c ... s ... s ... r ...
d ... r ... w ... n ... t ... v ... t ... t ... n ... t ... o ... t ... s ... t ... d ... n ... t ... o ... r ... o ... t ... r ... w ... s ... n ... e ... n ... s ... o ... n ... t ... r ...
v ... y ... n ... d ... r ... t ... s ... o ... t ... t ... n ... d ... v ... d S ... c ... c ... o ... n ... c ... s ... o ... d ... w ... s ... b ... c ... o ... n ...
s ... d ... r ... d ... s ... r ... o ... y ... P ... r ... s ... o ... r ... t ... d ... r ... o ... b ... s ... o ... v ... n ... c ... n ... b ... e ... o ... w ... r ...
n ... d ... c ... t ... v ... s ... t ... t ... v ... r ... c ... t ... o ... n ... s ... d ... s ... n ... d ... t ... o ... r ... o ... t ... c ... t ... s ... t ... d ... n ... t ... s ... r ... t ... s
n ... d ... n ... y ... r ... o ... b ... s ... e ... r ... v ... d S ... c ... c ... y ... d ... i ... c ... t ... o ... r ... s ... o ... d ... b ... e ... r ... t ... o

It n parental consent n d r s s i o n

It n student consent (D s c s s i n ... r ... v ... t ... t ... o ... s ... s ... b ... y ... o ... r ...
s ... o ... r ... t ... d ... r ... o ... b ... s ... o ... v ... n ... w ...t ... t ... s ... t ...d ...n ...t ...w ...o ...w ...b ...t ...o ...c ...s ...o
d ...i ...s ...c ...s ...s ...i ...o ...n ...n ...s ...d ...i ...c ...n ...d ...r ...o ...v ...b ...e ...r ...o ...c ...d ...n F ...o ...r
s ...t ...d ...n ...t ...s ...w ...t ...c ...o ...n ...c ...t ...i ...o ...n ...c ...e ...n ...s ...x ...o ...r ...v ...r ...o ...s ...o ...b ...s ...e ...r ...v ...-
t ...i ...o ...n ...s ...t ...s ...n ...d ...e ...n ...t ...v ...r ...o ...c ...s ...t ...o ...d ...i ...r ...n ...t ...e ...r
n ...t ...r ...s ...t ...n ...v ...o ...v ...n ...r ...s ...n ...n ...n ...r ...o ...c ...s ...s ...s ...)

R s c t s t d n t s p r i v a c y a n d c o n f i d e n t i a l i t y n d s (F o r s o s t d n t s
t ...y ...o ...r ...s ...o ...n ...n ...o ...r ...t ...o ...n ...t ...t ...y ...b ...e ...r ...v ...d ...n ...d ...s ...d ...n
r ...o ...b ...s ...o ...v ...n ...w ...t ...c ...s ...s ...t ...s ...y ...b ...n ...o ...n ...t ...r ...t ...n ...n ...o ...r ...o ...t ...r
s ...t ...d ...n ...t ...s ...n ...o ...r ...t ...o ...n ...y ...b ...c ...o ...n ...s ...d ...r ...d ...x ...r ...y ...s ...n ...s ...-
t ...v ...n ...d ...r ...v ...t ...)

s CPS v r t o n s r s c t v w t o t h e r c s s b r s e r d s s o
w ...t ...r ...t ...y ...v ...d ...s ...b ...y T ...s ...s ...t ...b ...e ...s ...t ...r ...o ...c ...s ...s ...g ...e ...n ...e ...r ...
g ...e ...n ...e ...c ...s ...r ...o ...o ...t ...o ...r ...d ...r ...s ...n ...d ...y ...c ...e ...n ...s ...n ...d ...b ...d ...n ...c ...s ...s
c ...o ...n ...y

**C S V ... /
E O ... I ... U ... I ... , F ... / ... E A D ... D**

T ...s ...s ...t ...n ...d ...c ...s ...t ...v ...e ...r ...t ...o ...n ...s ...d ...n ...n ...c ...s ...v ...c ...s ...r ...o ...o ...s ...s ...t ...o
v ...t ...t ...c ...e ...s ...t ...s ...t ...d ...n ...t ...s ...o ...r ...t ...r ...d ...s ...s ...n ...t ...s ...t ...s ...r ...-
s ...n ...t ...d ...n ...t ...b ...e I ...t ...s ...r ...e ...b ...e ...o ...w ...n ...y ...x ...e ...n ...t ...d ...s ...t ...d ...n ...t ...s
n ...e ...r ...t ...w ...n ...t ...y ...s ...y ...r ...e ...r ...s ...n ...t ...d ...w ...t ...n ...o ...r ...t ...o ...n , ...c ...e ...n
n , ...n ...d ...r ...s ...t ...o ...r ...t ...r ...d ...s ...

To start the discussion, consider the experience of a student who is a member of a student organization. The student is a member of the organization and is involved in the organization's activities. The student is a member of the organization and is involved in the organization's activities.

The student is a member of the organization and is involved in the organization's activities. The student is a member of the organization and is involved in the organization's activities. The student is a member of the organization and is involved in the organization's activities. The student is a member of the organization and is involved in the organization's activities.

They do not ask students or their parents. So they do not do so.

The CPS version is clear, and not only that but also for two
 reasons. First, students who are in the program, for the first
 time, are not allowed to answer the questionnaire, or to
 return it. Second, the students who are in the program
 are not allowed to answer the questionnaire, or to return
 it. The parents who are in the program are not allowed
 to answer the questionnaire, or to return it. The
 questionnaire is not to be returned to the program,
 or to the parents. The questionnaire is not to be
 returned to the program, or to the parents.

The first condition, which we now know to be satisfied by all
the students, is that the observation to be made, and the
second condition, is that the condition - namely, the
reason, and the condition, is satisfied. We now know too
that the condition is satisfied, or at least, the first

§ c d c tor to t r). W n don n d v nc , t c sroo
t c r st v n d o ow t sson or ct v w b r -
s nt d b c § SAM c n sst n d tn t or n ns to
dole s§ s tc b tw nt n n d sson nd t n d s o on
or or st d n t s.

Crt n s o ct v t s (. . , r - ro d s c s s o n s § -
ro t s s nd nd nt wor , s b s) w b constant rt
o c sroo s c n . I t ct v t s r r c r r n or t s w t v r -
t o n s n c o n t n t , c t s n r t d l y o b s r v t o n s o t s ct v t s w
b s n n r t n d t t o n d s or series o s r s t -

Facts about student's needs
1

Facts about class/activity
2

Direct ideas
3

Indir

Figure 1. (continued)

SOLUTION-FINDING	Criteria
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nc d k d s r t o n o r o r y n d v d d d c t o n r o r (IEP) o s d s r d r n n o t c o s b y o n d I E P r o r t s n d t n r s o r t i n c s s y t o s c c s s y r t c t n t d c t o n r o r . A s t t n d c o n o F r s o w s t o o w n r M o y s r o r y r n n o t c o s

M c o c s w n r s n t d w t o t o n s .

G r t o t r s .

F o o w n s t r c t o n s .

R c t t o o k y d s y n n o b s r v b c n n b v o r .

r s s t n c t o t r s .

E n n c t v s r w t o t r s (. . , y r o s) .

s d t d g r o w t c t o c t v t b t t y o r t d d v c s .

D o c s r o o o b w t r (s) .

T s s o n y p a r t i a l s t n o o t r n n o t c o s n r t d k y M o y s s o r t t , w c n c d s r r n t s .

In t s c o n d c o n o t S A M w o r s t (F r s 1 n d) , o b s r v t o n s k o t t c s s o r c t v y y b s t d . T s c t s s o d n c d w t t t c r n d s t d n t s c t y d o (. . , t c r s o w s v d o t , c s s y s n d c t o n , s t d n t s d r w d r s r o s o s t d n t s b d o d) . T o n c c r t n o r t o n k o t c s s y r r o n o r o r b r s o s t d n t s s o r t t t o o b s r v n t c s r o o . In M o y s s t t o n , t s o r o c t o d n t y w t t t c r n d s t d n t s d o t n t o d n t y t c r c r c o n t n o t n r d c t o n s s o n . T s n o o b s r v d v n t s n s n c n t , b c s r y c t v y y r o v t o b s n t r o t n o r b n n d o r d t n s s o n . F o r x , w c d t t o n s o r c c o o d t o n s o r M o y d o t c t s k o t s c n c c s s (s F r) k n t o n d ¹

o r t b r n s t t c r n d s t d n t s g r e e t c o t r n d t

¹T S A M w o r s t r s n t d n F r 1 s n t t o o r o r t t o c t t y s t t e x o r t o n o o s s b t s t c s t o t S A M r o c s s . T t o r s c n o w d t t t S A M o r s t d s c n d y w b n s c n t o r o t d s t t w b n r t d . I t y b s r , t r - o r , t o s y v t o r v b s r n d r o t S A M r o c s s n d t o w t d s s s o n b n s t s o r . S A M s r s s o r n c o r d t o o d y o r d v o t r o w n S A M w o r s t o r t s n d s r t w t t o r s .

	Solution (summary)
<p>Teacher presents problem.</p> <p>Some students ask: "Why are we doing this?"</p> <p>Teacher: "You're going to be a mathematician, aren't you?"</p> <p>Teacher: "You're going to be a mathematician, aren't you?"</p>	<p>Student gets opportunity to react to situation by having "A moment for" on her desk.</p>
<p>Teacher: "You're going to be a mathematician, aren't you?"</p> <p>Teacher: "You're going to be a mathematician, aren't you?"</p>	<p>Student offers another way to others and gets opportunity to react by having off-guesses.</p>
<p>Teacher: "You're going to be a mathematician, aren't you?"</p> <p>Teacher: "You're going to be a mathematician, aren't you?"</p>	<p>Student uses switch to activate TV/VCR and takes to next when adapted guess is completed.</p>

Figure 2. SAM creative problem-solving worksheets completed for Molly.

nor ▼.

Students nd nt r o wor by vn tn box ont t c r s d s .

A student turns off the lights b or s s own.

T teacher s s o tt .

R br, w n cn c r c ovr n c n s t ntr o ctv n c s roo s or ortnt to d v o n d t t o n s t n t ct s s o n c o n t s . W n c s roo r o c s r r r ▼ s s v n d t c r d r c t d, o ortnt s or n n r t c t o n o r c r c ovr n r or t d. W n c s roo r o c s r c t v n d r t c t o v, o ortnt s or n n r t c t o n x n d. A o o o r t v r o b s o v n, t r or, s t o n e s t c r s s o o r c t v n d r t c t o v n s t c t o n r o c s .

Step 3: Generate Direct and Indirect Ideas: A r s t v o d - n d n n v o v s ▼ s t t c c o r s o n o c c t k o t t s t d n t (s t r s t c o n n F r) w t c c t k o t t c s s o r c t v ▼ (s t s c o n d c o n n F r) t o o o r d r c t, o b v o s r t o n s s s . A n y d r c t d s t t r s t r o t s c o r s o n r r c o r d d n t t r d c o n o F r , b d D r c t I d s . G v n 8 1 c t s n c o t t w o c t c o n s t c o r s o n r o c s s s o d t n o o r t n w n t s .

t s c o r t c t s k o t M o ▼ n d r c s s s t d n F r . It s d t ▼ r n t t t t r s d r c t r t o n s b t w n t s c o n d c t n C o n 1 (. . , r t s o t r s) n d t r s t c t n C o n (. . , s t d n t s r t c o t r n d t t c r b o r t b r n s) . T s c s s r s t o o r n t r t t o t c n d r c t c r t n s o t c s o t t M o ▼ s o o r t c t n n c t v s r w t r s r t s d r c t v t o t t c r s n n d c t v ▼ o r s t d n t s

In or ton k o t t s t d n t ▼ c o r o n v o s v r s o r c s . I s n C A C (G n r c o , C o n n r , & I v r s o n , 1998), t s n o r t o n ▼ c o r o n o n o t r s o r c s 1) t P r o r - t - G n c ,) t S c d n M t r x , o r) t s t d n t s s c d . A P r o r - t - G n c s t s t o c t s r d n t s c o n t n o t s t d n t s d c t o n r o r . A S c d n M t r x r o v d s t o c t s s t v r t t o r t c r c s s o r o r c s s c t v t s . o t d n t ▼ r o r ▼ o b c t v s o r s t d n t , o t r n t c t d r n n o t c o s n d n r s o r t s t c d s t s d c d d r n d d o r s t d n t r t c t o n n c s s s . S A M s b n o t t s t d n n v r o n n t s w r C A C w s s d t o n r t n o r t o n k o t t o c s s t d n t . c o r s , n o r t o n k o t s t d n t ▼ b n r t d o r c o c t d n n y o t r w s d r c t v (. . , d r c t o b s r v t o n) n d n d r c t v (. . , r c o r d r v w n d n t r v w s w t t s t d n t , ▼ b r s r n d s s c o o r s o n n) .

to ▼ d i c t i o n . . . T r a c t i v e s n t r o o r t n y o r
 M o v t o o w n s t r c t o n e t d t o ▼ n (. . , r o n d e ,
 c n c r d s , o v n r r) . A n o t r d r c t r t o n s x s t s
 b t w n M o v s n d o r d o n c s s r o o o b n d t c t v y o
 d n n d c r n o r t c s s r o o s n d r b s . C r o y , c r n o r
 t c s s r o o n s c o d b c s s o b d o n w t c s s t .

S y s t t e c y c o r n c t s k o t s t d n t s n d s n d c s s
 r o o r o t n s y r v t t n t r y o c c r n o o r t n t s o r
 n n n c s o n r d y x s t , w t o t t n d o r s n c n t
 c n s n r o t n . T n b r o s c o o r t n t s o w v r , y
 b n s c n t o r n d i c t o n x r n c o d t y t r -
 o r , t y b n c s s y t o n v n t d t t o n s t o x s t n r o t n s o r
 n v n t c o t y n w x r n c s .

A t r d n t y n d r c t d s t y b n c s s y t o o o r i n d i r e c t
 i d e a s y y n d o r s t o c t s . F o o w n t s t t r n s d
 t o n d r c t d s c t s k o t t s t d n t n d c t s k o t t c s s o r
 c t v y r c o r d w y n n d o r (. . , s , W t
 w o d n n w n t d t s c t o r d t b r o s r r) .
 A t t s o n t , t s e t c t o d r d n t k o t t y , s n s s
 o r s b y o t d s t t r s t . F o r x , s o s t d o -
 r o r e v e r s i n g w r d t o t c t s n F r . T t c r n t n d s
 t o s s n s r o s t o y d i c t o n s t o r n o c c o n t n r
 r s n t d n t v d o t . y r v r s n w o c o o s s t r o
 t c r t o s t d n t , n d s n r t d o r M o v t o w o r o n c o c -
 n , r o r y o o r r (s C o n o F r) .

S o s t d o r o r e a r r a n g i n g w r d t o M o v s
 o o r c t n t o t r s n c o o t r o o n d t c t t , n t s
 s c n e c s s s t d n t s n d n o w o r y c n t n k o x o n t
 t c r s d s . R r r n n t c w r o w o r s t r n d n s o
 t t t o w o r k o x s o n M o v s d s w o d o r t s y
 o o r t n t s o r n t r c t o n s t r r s t d n t s n t c s s .

C o b n n r e a r r a n g i n g w t t d o r o m i n i f y i n g / m a k i n g
 s m a l l e r n d y n t t o t c t t t t s c n e t c r s s s o t
 s n d M o v n d s r c t c n r c t n t o n d o r n s s t n c
 t o o t r s c o d d t o t n d r c t d o v n M o v n d c s s -
 t , r t r t n t t c r , s s o t s . T o t t c o
 c s s r o o c t v t s y c , t t s c o d b d s r s o t t

A t o t t w o c t - n d n n d d - n d n s t s r r s n t d r
 n n r , s n t s o n , w v o n d s t n t t n t o n b c n d o r t
 b t w n t t w o s t s o c t s t o b o w r t c n o r o t n d s
 o r d t t o n s . F o r x , o n c d i c t o n n d s r s t d , c n w
 c s s c t v y c t c n b c o r d w t t n d s t o s n d s d -
 t y s r r d . T s d s s o d b r c o r d d s t y r n r t d .

Mo... not... sent... t... r... not...
. At o... ot... d... s... b... v... s... , t... do
tc t... nt... d... d...

Step 4: Evaluate Ideas and Choose Solutions: St... nvo... to-
nd... n... conv... nt... n... . Int... , d... ct... nd... r... ct... d...
r... v... t... d... b... d... on... s... to... e... t... r... . T... o... r... e... t... r... on... t... SAM
wor... s... t... (s... F... r... s... l... nd...)... r... o... r... d... s... s... t... r... t... n... on... t... s... or... v...
t... n... d... s... . Id... s... r... s... t... d... n... b... k... v... t... d... or... nt... t... nd... co-
n... o... t... SAM... wor... s... t... (s... F... r... s... l... nd...)... t... n... c... d... s...
d... d... d... c... c... o... r... d... n... t... o... t... s... ct... d... e... t... r... . s... n... t... o... r... e... t... r... n... c... d...
d... on... t... wor... s... t... on... v... s...

Do... s... t... d... d... d... r... s... s... n... d... nt... d... s... t... d... nt... n... d...
I... s... t... d... o... s... t... v... or... t... s... t... n... t... r... s... o... t... s... v... ct... on
s... t... d... nt... s... w... t... o... t... d... s... b... t... s...

I... s... t... d... v... to... v... d... v... d... o... t... c... o... s... (. . . , r... nd... s... s... nd...
t... on... s... c... c... s... t... o... n... n... c... s... nd... ct... v... t... s... c... o... c... nd...
c... o... n... t... r... o... t... t... t... c... r... s... o... n... s... , t... , nd... s... v...)

I... s... t... d... r... c... v... d... s... s... b... nd... n... n... h... y... t... s... r... (. . . , t...
t... c... r...)

As... r... d... y... not... d... , t... r... o... c... s... o... v... n... e... t... r... to... o... t... nt...
d... s... s... nt... nd... d... to... s... s... t... w... t... d... e... c... s... o... n... n... . G... t... r... t... r... or...
s... t... t... c... t... s... t... t... o... n... nd... b... d... s... t... d... , r... c... d... , n... t... d... , or... o... t... -
r... w... s... c... n... d... to... t... c... t... n... c... r... c... t... r... s... t... c... o... s... t... t... o... n... . It... s...
v... b... r... t... d... h... y... s... n... w... c... v... r... t... o... d... s... r... r... d... nd... s...
s... n... s... , s... o... n... s... r... r... d... s... o... t... o... n... s... v... b... n... s... ct... d... h... y... t... nd... o...
t... s... s... t... .

Step 5: Refine Ideas to Develop and Carry Out an Action Plan: nc
s... o... t... o... n... s... v... b... n... s... ct... d... , t... v... s... t... b... r... n... d... . Id... o... r... s... c... n... t...
t... n... to... b... n... n... c... o... s... n... t... s... nd... . For... x... , s... o... s... t...
t... t... d... r... ct... d... s... n... r... t... d... b... o... t... v... n... n... d... c... t... o... n... s... n...
c... c... o... o... d... t... o... n... or... Mo... v... . W... n... o... o... n... c... r... v... t... t... n... t... r... o... t...
 , Mo... v... s... v... s... c... r... c... t... r... s... t... c... s... v... wo... d... ro... t... t... s... t...
t... o... n... , W... t... t... r... t... s... w... r... b... r... T... s... v... o... s... d... -
t... t... o... n... t... o... w... Mo... v... to... r... t... c... t... , t... s... t... r... t... v... w... t...
t... r... s... . T... w... o... , w... t... , w... r... , w... n... , w... v... , nd... ow... s... t... o... n... s...
c... t... t... t... d... v... o... nt... nd... d... v... v... o... CPS... ct... o... n... n... . As... d... s...
r... n... t... d... , CPS... s... r... s... s... t... r... b... r... to... b... r... t... o... n... w... ct... s...
nd... n... w... w... v... s... to... t... r... s... t... n... . A... s... o... , t... s... o... d... b... not... d...
ow... r... t... d... v... v... c... n... t... r... o... t... SAM... nd... o... t... r... CPS... v... r... t... o... n... s...
d... v... o... s... e... r... t... v... t... t... d... nd... co... t... n... c... .

Evaluation of Intervention Impact on Inclusion: _____ PRE or _____ POST

Student name _____ Grade/Placement _____

Lesson/activity _____

Lesson/activity time of day _____ Length of lesson/activity _____

Observation dates: from _____ to _____ Number of observations _____

Teacher(s) of the lesson/activity _____

Name of respondent _____

Describe the extent of involvement (e.g., how, what) for the student with special needs in the lesson/activity: _____

Average number of minutes of participation: _____ min out of a total of _____ possible minutes

Average number of opportunities/turns for participation per lesson: _____

Compared to classmates, the time and opportunities for participation by this student were _____

_____ slightly less _____ about the same _____ more

How often are students of the lesson/activity able to _____ (0-10) _____

How involved was the student in the lesson/activity? _____

Not involved _____ Very involved

1 2 3 4 5 6 7 8 9 10

How much did the student benefit educationally (based on higher achievement) _____

Not at all _____ Very much

1 2 3 4 5 6 7 8 9 10

How clear is your idea which of the student's individual goals and objectives _____

Not at all clear _____ Very clear

1 2 3 4 5 6 7 8 9 10

How often did the student _____ during this lesson/activity? _____

(continued)

Figure 3. CPS Impact Evaluation. (From Giangreco, M.F. [1993]. Using creative problem-solving methods to include students with severe disabilities in general education classroom activities. Journal of Educational and Psychological Consultation, 4, 131-132; reprinted by permission of Lawrence Erlbaum Associates.)

or so ... to ... or ...
at CPSI ...

At ... CPSI ...
... CPS ...
... student ...

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