

The prevention of high-risk students with emotional and behavioral problems in Taipei City

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Abstract

Students with emotional and behavioral disorders (EBD) and autism spectrum disorder (ASD) often present complex emotional and behavioral problems when interacting with the new environment. They are considered as high-risk to have mal-adjustment . “Emotional and Behavioral support team” (EBST) is founded as itinerary support to inclusive school in Taipei City. EBST teachers apply the concept of “Positive Behavior Supports” (PBS) and “three-tiered model of prevention” to assist inclusive school to deal with emotional and behavioral problems of students with disabilities.

The purpose of this study was to introduce the current process of screening and preventing students’ emotional and behavioral problems, and to examine the effects. The result indicated that “the preventive model of at-risk students with emotional and behavioral problems” is an important secondary prevention strategy by EBST. It was designed as three levels consisting of screening students with adjustment difficulties by survey, following up and evaluating students’ adjustment by phone, and consulting school teachers with intervening strategies or referral resources. Afterwards recommendations of implementation of preventive model are addressed.

Key words : Positive Behavior Supports, prevention of high risk emotional or behavioral problem, student with disabilities

Introduction

High-risk students with emotional and behavioral problems in inclusive school

The Special Education Law was legislated successively in 1980, and amended in 1997, 2009, and 2013. Taiwan's special education has gradually merged into the mainstream educational environment. In the trend of inclusive education, an increasing number of students with disabilities are placed in inclusive schools and receive special education on a yearly basis. Some of them are prone to emotional and behavioral problems in the process of adapting to the general education environment. Since its inception in 2003, the “Emotional and Behavioral support team” (EBST), a sub-division of Taipei City East Special Education

Resource Center (TERC) has served a total of 641 students with disabilities with serious emotional and behavioral problems, with a total of 212 students with autism spectrum disorder (ASD), accounting for 33.07 percent of all, and a total of 249 students with emotional and behavioral disorders (EBD), accounting for 38.85% of all. It is clear that students with ASD and EBD are considered as high-risk to have mal-adjustment in inclusive school.

The emotional and behavioral problems of ASD and EBD students

The main features of the students with EBD are presenting emotional or behavioral problems, and the characteristics of students with ASD are persistent deficits in social communication and interaction, as well as their restricted, repetitive patterns of behavior, interests, or activities. These two categories of students often present complex emotional and behavioral problems when interacting with the new environment, making them difficult to establish or maintain interpersonal relationships, and often affecting themselves, learning, or peers' and teachers' lives, which may also limit the opportunity to participate in school activities.

EBST classified referred student into four types of emotional and behavioral problems: school absence, class interrupting, disruptive behavior, and aggressive behavior. According to the record of the 2014 annual report of EBST, students with ASD exhibit aggressive behavior (32.26%), and followed by acts of disruptive behavior (25.81%). Students with EBD have highest proportion of school absence (41.86%). Following that, the class interrupting problem is second (23.26%). Students with these two or more complex behaviors accounted for 77.78% of students with ASD and 61.9% of students with EBD, which indicates that students with ASD and EBD show emotional and behavioral problems covering both external and internal behavioral problems. Therefore, students with EBD or ASD appeal difficult to adjust to school. They cause teachers to face more challenges.

EBST service in inclusive school

Following trend of inclusive education and the requirement of Special Education Act, Education Bureau of Taipei City Government set up EBST as itinerary support to inclusive school in Taipei City. EBST composed of standard- trained and experienced teachers, applying the concept of “Positive Behavior Supports” (PBS) and “three-tiered model of prevention” to assist inclusive school to deal with emotional and behavioral problems of students with disabilities. EBST applies the concept of “School-Wide Positive Behavior Support” by Sugai & Horner (2002) to develop “Positive Behavior Support Service model for students with disabilities in Taipei City” and systematically provide preventive service. (Figure 1). Different tasks are designed for three different tiers, primary, secondary, and tertiary.

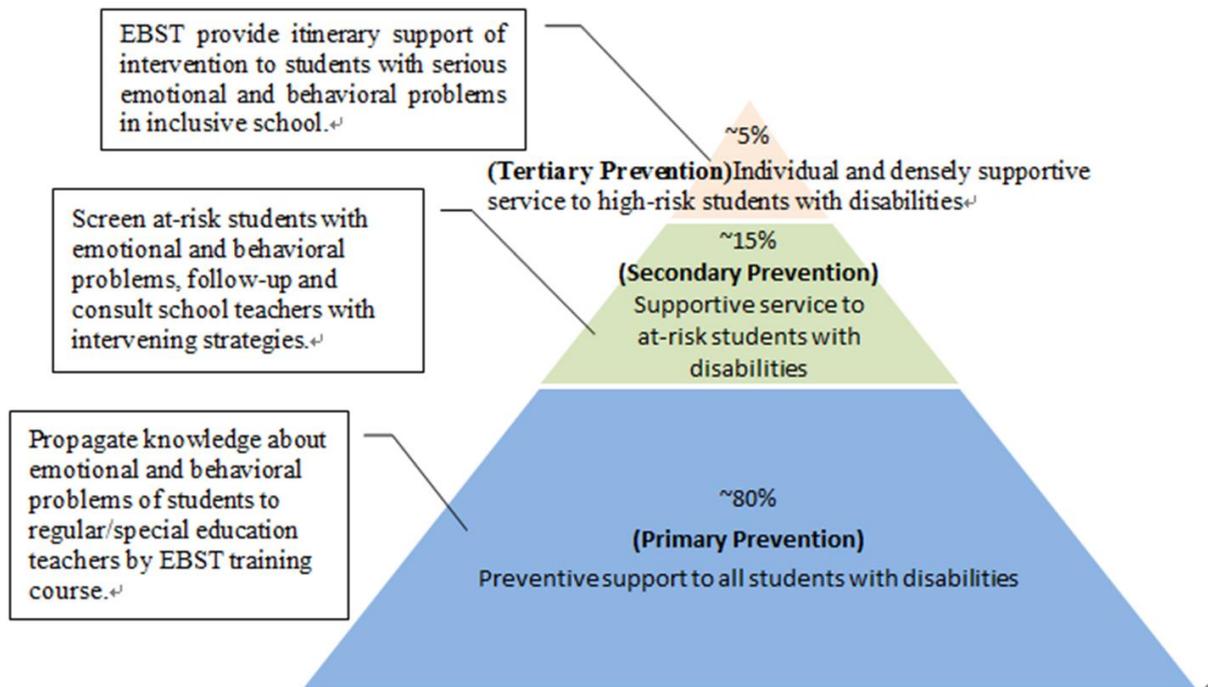


Figure 1 Positive Behavior Support Service model for students with disabilities in Taipei City

The main purpose of Primary Prevention is to enhance the competence of regular/special teachers dealing with emotional and behavioral problems of students with disabilities. Most students (~ 80%) will get improved under teacher’s good strategies. In Secondary Prevention, EBST focus on how to prevent at-risk students with emotional and behavioral problems (~15%) getting worse. Also find out potential high-risk students to follow-up at the same time. In Tertiary Prevention, EBST provide individual and intensive supportive service to high-risk students (~5%) who have serious emotional and behavioral problems in inclusive schools.

In Secondary Prevention, EBST build “the preventive model of at-risk students with emotional and behavioral problems” to early detect and assist at-risk students with emotional and behavioral problems. This study focus on the effect, implement and result of screening. The preventive intervention will provide to teachers as reference of dealing with the high-risk students with disabilities.

Method

Research design

The follow-up study was conducted to focus on at-risk students with emotional and behavioral problems in first semester of the new educational stage. The study investigates the effect and result of “the preventive model of at-risk students with emotional and behavioral problems”. There are two-phases: a survey about students’ adjustment and screen students with difficulties in the first month of the new academic year (October, 2014). Secondly, phone interview by EBST teachers to follow up at-risk students and the interview records were

analyzed to find out the screened at-risk students' change of adjustment in the end of the first semester (December, 2014).

To achieve the purpose, four research questions are addressed as followed:

1. How about EBD or ASD students' adjustment in new school?
2. What are adjustment difficulties of students screened as at risk?
3. What are intervening strategies provided by EBST teachers for students with adjustment difficulties?
4. Which key indicator helps to distinguish high-risk students with adjustment difficulties?

Participants

All the first year students with EBD, ASD, or EBD with learning disabilities (EBD w/LD) of elementary, middle, and senior high/vocational schools in Taipei in 2014 are the subjects in the study. Questionnaire and interview was made with teachers who are familiar to students in the new schools.

There were 863 cases registered new students with EBD, ASD, EBD w/LD, and 823 surveys were collected in first phase. There 101 cases with phone interviews in second phase. The background information of participants are listed in Table 1.

Table 1 Participants' Background Information

Categories of Disability		ASD	EBD	EBD w/LD	Total
First phase: Questionnaire	Elementary school	133	46	20	199
	Middle school	161	138	51	350
	senior high/vocational school	138	76	60	274
	Total	432	260	131	823
Second phase: Phone interview	Elementary school	15	15	1	31
	Middle school	18	17	5	40
	senior high/vocational school	11	13	6	30
	Total	44	45	12	101

The preventive model of at-risk students with emotional and behavioral problems

1. Level I: Survey and screen by questionnaire

"Questionnaire on the adjustment of new students" is filled out by school teachers on website a month after schools began. Screen out students with adjustment difficulties including school maladjustment (SCM) and school absence (SCA). Students rated no problems on the SCM and SCA are considered well-adjustment. They were not list in the follow up in end of semester.

2. Level II: Follow up and evaluate by phone interview

Phone interview was made by EBST teachers to school teachers whose students with adjustment difficulties in the first month of semester. All the information provided by the special education teachers in school. The EBST teachers evaluate and record students' adjustment and the change. At-risk students rated as well-improved were not referred to EBST as the Level III.

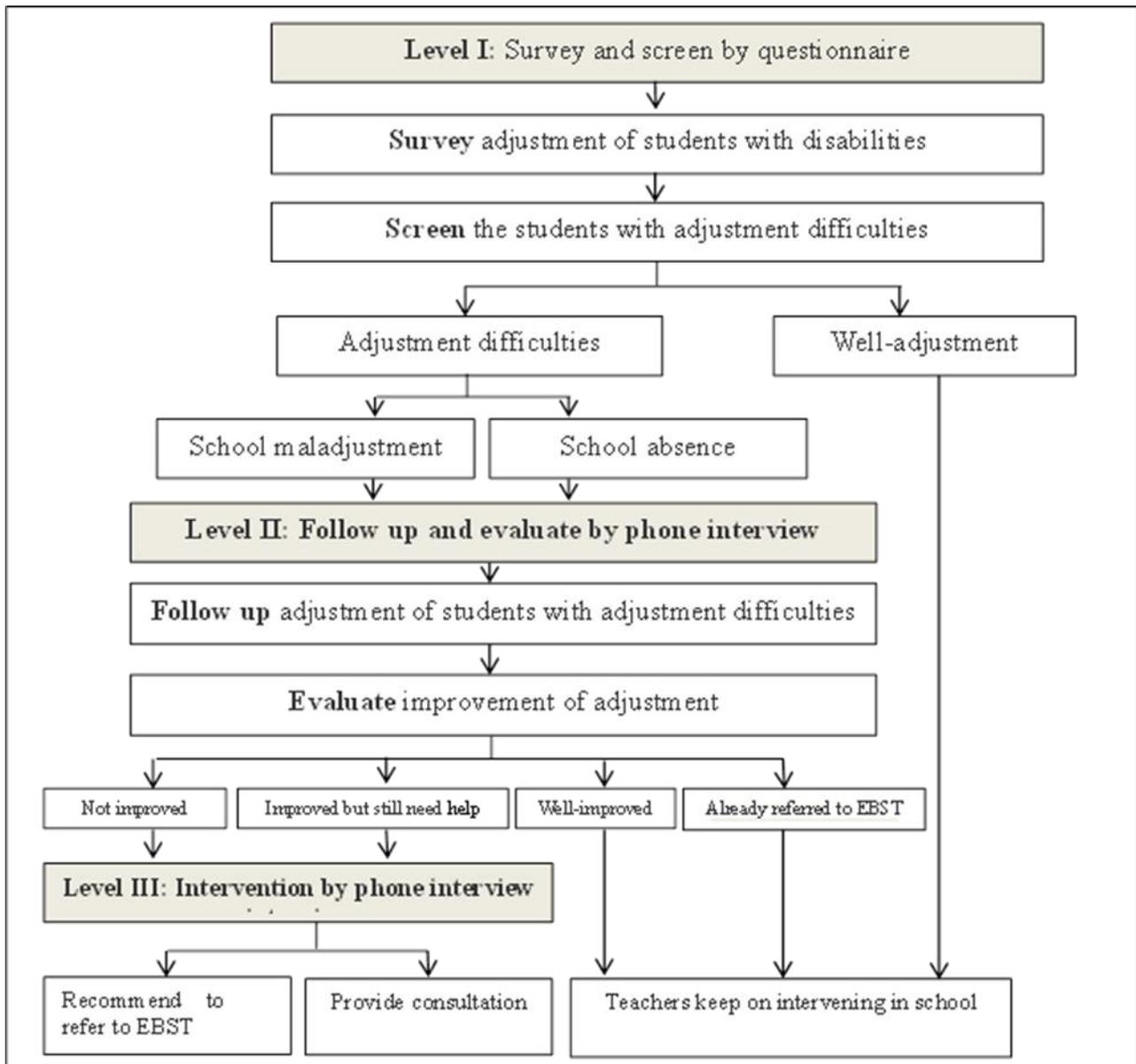


Figure 2 The flowchart of at-risk students with emotional and behavioral problems preventive model

3. Level III : Intervention by phone interview

At the same time, EBST teachers provide consultation or recommendation to refer to EBST according to the result of level II. See Figure 2.

This model has some features:

- An electronic questionnaire would be better than a paper-and-pencil questionnaire. The computer will save us a lot of time and labor, also help to collect and analyze data.
- Interviewers are at least two years experienced teachers from EBST. They have good interview skill and teaching technique in school. They will collect data, confirm question, and provide strategies quickly.
- Provide feasible and effective intervention to students with adjustment difficulties by three level screening and data base.

Instrument

1. Questionnaire on the adjustment of new students

The questionnaire is edited by senior EBST teachers and referred to special education professor. The content are (a)basic information including applicant teacher, student educational stages, categories of disability.(b)condition of students in school(13 questions) including “interpersonal domain (4 questions), learning domain (6 questions), behavioral and emotional domain (3 questions)”.(c)checklist of students’ adjustment(2 questions),one is “students’ adjustment in school” ,the other is “absent days in a month”. At last, teachers fill out difficulties of student’s adjustment and problems of teacher’s intervention in a blank column.

We used a five-point Likert scale questionnaire ranging from very good(1 point) to very poor(5 point). Score of ”condition of students in school” and “students’ adjustment in school” are high correlated ($r=.81$). “Absent days in a month” was classified to five items: none, ≤ 3 days, 4-7 days, 8-14days, ≥ 15 days. The lower score and absent days, the better adjustment.

Student with SCM is defined who were rated ≥ 4 in the question “students’ adjustment in school”, but excluding absent ≥ 15 days. Student with SCA is defined who were rated ≥ 15 days in the question” absent days in a month”.

2. Phone interview record form

Phone interview record form was filled out by EBST teachers after phone interview. The content are: (a) blank column of follow-up situation of students with adjustment difficulties. (b)checklist of improvement of students’ adjustment including “not improved”, ”improved but still need help”, ”well-improved”, and “already referred to EBST”(c)checklist of EBST teachers’ intervention including “recommend to refer to EBST”, ”identify problem”,” review and support of used strategies in school ”, ”provide feasible strategies to school teacher”.

Data Analysis

1. The result presents percentage of students’ adjustment, change of adjustment in the end of semester, and intervention by EBST teachers. Analyzes rated points of each question by calculating average and standard deviation.
2. To find key indicator to distinguish high-risk students with adjustment difficulties, Independent-Sample T Test was used to examine difference in average of “condition of students in school” in questionnaire between students with “adjustment difficulties” and “no adjustment difficulties” .

Result and Discussion

The preventive model of at-risk students with emotional and behavioral problems

1. Level I

- Distribution about data of students’ adjustment

Adjustment of students with disabilities is defined as the point in the questions "students' adjustment in school" and "absent days in a month". Of the 823 students, most of the students were rated as either "good (38.9%)" or "fair (44.8%)" in "students' adjustment in school" (Table 2). It means the majority of students had no difficulty in school adjustment. It's possible that teachers put the transition into effect, or most of the teachers have had the opportunity to become better acquainted with their students during the first month of new school.

High proportion of students (89.9%) attend school every day, and 6.2% of students absent days less than 3 days. The result shows that most students with ASD, EBD, and EBD w/LD can attend school for compulsory education. Also shows that special education service in all educational stages can satisfy the need of students with disabilities and reduce the possibility of dropout.

Table 2 Distribution of students' adjustment

Students' adjustment in school	Items	Very good	Good	Fair	Poor	Very poor	Total
	N	38	320	369	75	21	823
%	4.6%	38.9%	44.8%	9.1%	2.6%	100%	

Absent days in a month	Items	None	≤3	4-7	8-14	≥15	Total
	N	740	51	10	3	19	823
%	89.9%	6.2%	1.2%	0.4%	2.3%	100%	

● Percentage of students with adjustment difficulties

Refer to Table 3. Of the 823 students screened, 722 students (87.7%) were found well-adjustment. While 101 students (12.3%) were found to have adjustment difficulties, 82 students (10.0%) were found to have school maladjustment (SCM), 19 students (2.3%) were found to have school absence (SCA).

Table 3 Percentage of students with adjustment difficulties

Type	Sub-type	Num.	%
Well-adjustment		722	87.7%
Adjustment difficulties		101	12.3%
	School maladjustment(SCM)	82	10.0%
	School absence(SCA)	19	2.3%
Total		823	100%

The background of students with adjustment difficulties was analysed as Table 4. On the perspective of category of disability, there are 17.3% students with EBD, 10.2% students with ASD and 9.2% of students with EBD w/LD were found to have adjustment difficulties. On the perspective of educational stage, percentage of elementary school students (15.6%) is higher than middle school (11.4%) and senior high/vocational school students (11.0%).

In school maladjustment, percentage of students with EBD (14.6%) and elementary school students (15.6%) are highest. In schools absence, the percentage is highest in EBD w/LD students (3.8%) and senior high/vocational school students (4.4%).

This shows that the higher educational stage, the lower percentage of students with school maladjustment, however, the higher percentage of students with school absence. It

indicates that students' adjustment gets better as their educational upgraded or more experience to change to new environment. On the other hand, some of students with emotional and learning problem or poor adjustment for a long time may have school absent issue.

Table 4 Background of students with adjustment difficulties

Types	Categories of Disability						Educational stage					
	ASD (N=432)		EBD (N=260)		EBD w/LD (N=131)		Elementary school (N=199)		Middle school (N=350)		senior high/vocational school (N=274)	
	n	%	N	%	n	%	n	%	n	%	n	%
SCM	37	8.6%	38	14.6%	7	5.3%	31	15.6%	33	9.4%	18	6.6%
SCA	7	1.6%	7	2.7%	5	3.8%	0	0.00%	7	2.00%	12	4.4%
Adjustment difficulties	44	10.2%	45	17.3%	12	9.2%	31	15.6%	40	11.4%	30	11.0%

2. Level II

There are 101 students with adjustment difficulties screened as at risk from 823 students in level I. They were followed up by phone interview by EBST in Level II. The evaluation of students' improvement of adjustment done by EBST was referred Table 5.

Table 5 Descriptive statistic of follow up adjustment

Follow up	School maladjustment		School absence		Total	
	Num.	%	Num.	%	Num.	%
Already referred to EBST	2	2.4%	9	47.4%	11	10.9%
Not improved	18	22.0%	6	31.6%	24	23.8%
Improved but still need help	38	46.3%	2	10.5%	40	39.6%
Well-improved	19	23.2%	1	5.3%	20	19.8%
Fail to contacted	5	6.1%	1	5.3%	6	5.9%
Total	82		19		101	

Eleven students (10.9%) of the 101 had referred to the EBST, 24 students (23.8%) are not improved. While another 20 students (19.8%) are well-improved and 40 students (39.6%) are improved but still need help. These numbers show that over the course of nearly one school semester, approximately 60% of students have shown varying degrees of improvements.

The 11 students had already referred to EBST, consist of two (2.4%) with SCM and nine (47.4%) with SCA. Seven of the students with SCA were receiving Tertiary Prevention intervention by EBST in a continuation from the preceding educational stage, while the other four students (two with SCA, two with SCM) were referred to EBST by their new school teachers. Students in this group have presented serious emotional and behavioral issues and need to receive individual and densely supportive service by EBST.

Further analysis shows that 23.2% of students with SCM are well-improved, 46.3% are improved but still need help. Another 22.0% are not improved. Of the students with SCA, 31.6% are not improved, 47.4% had already referred to EBST. The percentage of student

improved and improved but still need help are less than 20%.

This means that while students with SCM are able to improve in terms of adjusting to their new school within a short period, the same may be more challenging for students with SCA. Students with SCA might occasional happen in next educational stage.

3. Level III

Of the 101 students with adjustment difficulties, 24 did not improve in Level II while 40 showed improved but still need help. To prevent not improved students getting worse, and support students who improved but still need help to adjust to school, EBST teachers have proactively offered consultant to teachers. For details, please refer to Table 6.

Of 24 students without improvement, three (12.5%) had been recommended for referring to EBST due to the severity and frequency of their emotional and behavioral problems and the lack of significant impact by teachers' intervention in school. In addition, consultation have also been offered to another 21 teachers, with the focus on these services on identify problems (41.7%) followed by providing feasible intervening strategies to school teacher (33.3%).

Of the 40 students who are improved but still need help, their teachers were able to work well with these students and ways of intervention. However, certain problems require more serious intervening. Consultation provided by EBST teachers are focussed on providing feasible strategies to school teacher (40.0%) and review and support of used strategies in school (35.0%).

To sum up, consultation for teachers facing students not improved and improved but still need help differ in terms of focus. There were at least one resource classroom in every school in Taipei and most of special education teacher attend short-term teacher training program for developing individualized functional behavioural plans to learn the concept of positive behavioral support (Tseng et al., 2013). EBST teachers empower school teachers' experiences and abilities to assist students with emotional and behavioral problems. The consulted strategies are much flexible and feasible in different school.

Table 6 Descriptive statistic of intervention

Improvement of adjustment		Recommend to refer to EBST	Provide consultation		
			Identify problem	Review and support of used strategies in school	Provide feasible strategies to school teacher
Not improved (N=24)	Num.	3	10	3	8
	%	12.5%	41.7%	12.5%	33.3%
Improved but still need help (N=40)	Num.	0	10	14	16
	%	0.0%	25.0%	35.0%	40.0%

4. Three-tiered model of prevention and “the preventive model of at-risk students with emotional and behavioral problems”

In terms of the three-tiered model of prevention, “the preventive model of at-risk students with emotional and behavioral problems” is a Secondary Prevention strategy. Screening by

three levels, EBST will early detect at-risk students with emotional and behavioral problems who require additional intervening support. At the same time, EBST will detect high-risk students and recommend referring to EBST receiving individual intervention.

Sum up the year of screen, 823 students with ASD, EBD and EBD w/LD were evaluated in the beginning, 101(12.3%) students with adjustment difficulties were found using a screening questionnaire on level I. EBST teachers follow up by phone interview in level II, 87(11.6%) students have shown varying degrees of improvements and their teachers were able to work well, while 14(1.7%) students with serious emotional and behavioral problems and did not respond positively to intervention in school. EBST teacher provide consultation or recommend referring to EBST in Level III. For details, please see Table 7.

Table 7 Three-tiered model of prevention and the result of “The preventive model of at-risk students with emotional and behavioral problems”

Three-tiered model of prevention	The preventive model of at-risk students with emotional and behavioral problems					
	Intervention	Object	N	%	N	%
Primary Prevention	Teacher keep on intervening in school	Students with ASD · EBD · EBD w/LD with no adjustment difficulties across elementary to senior			722	87.7%
Secondary Prevention	Level 1- Level 3 Screening students with adjustment difficulties by questionnaire ,follow up and provide consultation	Student with School maladjustment	82	10%	87	11.6%
		Student with school absence	19	2.3%		
Tertiary Prevention	EBST teachers provide individual and supportive intervention	Already referred to EBST before phone interview	11	1.34%	14	1.70%
		Recommend to refer to EBST after phone interview	3	0.36%		
					Total	823 100%

Key indicators to distinguish high-risk students with adjustment difficulties

Please see Table 8. Students with adjustment difficulties present significant differences in learning domain, emotional and behavioral domain, and the overall scale. However, no statistical significance was found with interpersonal domain. Analysis the questions under “interpersonal domain”, compared to students with no adjustment difficulties, students with adjustment difficulties had more difficulty in terms of playing with their peers and interacting with their resource teachers. Under the “learning domain”, students with adjustment difficulties experienced comparatively more trouble in terms of following instructions, following to classroom rules, and participating in learning activities. While they have no significant difference in academic achievement and finish homework. These may affect by the floor effect.

In addition, under the “emotional and behavioral domain”, the two groups showed statistically significant differences for all questions, including emotional stability, the handling of surprise occurrences, and the ability to control one’s emotions. Compared with other

students, the 101 students identified through the screening questionnaire present obvious emotional and behavioural issues. That is to say, the screening questionnaire for new students is an effective tool for detect at-risk students with emotional and behavioural problems.

Table 8 Independent-Sample T-test on condition of students in school

Type Item	Adjustment difficulties (N=101)		Well-adjustment (N=722)		t
	M	SD	M	SD	
Interpersonal domain	14.34	2.89	10.08	2.33	0.85
1. Peer relationship	3.77	0.84	2.63	0.73	1.64
2. Play with their peers	3.94	0.87	2.70	0.78	2.58**
3. Interact with their subject teachers	3.59	0.86	2.48	0.68	1.30
4. Interact with their resource teachers	3.03	1.09	2.27	0.70	-2.15*
Learning domain	20.95	4.55	13.96	3.49	2.11*
1. Follow instructions	3.66	0.96	2.32	0.78	3.43***
2. Follow to classroom rules	3.76	0.96	2.33	0.81	4.28***
3. Attend school	2.57	1.33	1.74	0.73	-1.22
4. Finish homework	3.50	1.06	2.33	0.89	1.60
5. Academic achievement	3.74	0.97	2.76	0.89	-0.19
6. Participate in learning activities	3.70	1.04	2.48	0.72	2.12*
Emotional and behavioral domain	12.20	2.28	8.07	2.15	4.71***
1. Emotional stability	3.89	0.89	2.44	0.78	4.78***
2. The handling of surprise occurrences	4.25	0.78	2.96	0.82	3.42***
3. The ability to control one's emotions	4.06	0.85	2.66	0.82	4.47***
Total	47.49	7.82	32.09	6.84	2.92**

*p <.05 , **p <.01 , ***p<.001

Students with adjustment difficulties show significant difficult in many aspect, such as follow instruction, follow to classroom rules, emotional stability, the handling of surprise occurrences, and emotional control. Teacher require more compliance in class because Confucian thought emphasize more respect and polite to teachers. Students with unstable emotion or can't follow the rule will affect its adjustment in school. These questions are key indicators to distinguish high-risk students with adjustment difficulties.

Conclusion

1. The majority of students with ASD, EBD, EBD w/LD in elementary, middle, senior high/vocational school had no adjustment difficulties during the first month of school. About 90% of students attend school every day.
2. Of the 823 students screened, 12.3% of students have adjustment difficulties. 10.0% of students have school maladjustment (SCM), 2.3% of students have school absence (SCA).
3. Students with SCM are able to improve to adjust to their new school in first semester, the same may be more challenging for students with SCA.
4. Consultation for teachers facing students not improved and improved but still need help

differ in terms of focus. The former is to identify problems, the latter is to provide feasible intervening strategies to school teacher.

5. In terms of the three-tiered model of prevention, EBST teachers will early detect at-risk and high-risk students with emotional and behavioral problems via “the preventive model of at-risk students with emotional and behavioral problems”.
6. Questionnaire on the adjustment of new students is an effective tool for screening at-risk students with emotional and behavioral problems. Key indicators to distinguish high-risk students with adjustment difficulties are “follow instruction”, “follow to classroom rules”, “emotional stability”, “the handling of surprise occurrences”, and “the ability to control one’s emotions”.

Suggestion

According to the conclusion, it is recommended:

1. “The preventive model of at-risk students with emotional and behavioral problems” provides effective screening tool and develop different intervening model. The model also regarded as preventive reference for relative staff.
2. Propagate key indicators to distinguish high-risk students to teachers by training course, and assist teachers detect students with adjustment difficulties early.
3. Only 5% of students with school absence get improved within a semester in new school, it will be better if we can develop other screen criteria to find school absent students in advance, and popularize intervening strategies to suspected student with school absence in school.
4. To analyze the factors related to the improvement of students’ adjustment as reference of future transition.
5. Follow up the situation of students who are not improved and don’t refer to EBST, and investigate the effect of consultation provide by EBST teachers.

The subjects are students with ASD, EBD and EBD w/LD entering elementary, middle, and high/vocational schools. Therefore, the results can’t be analogized to other categories of disability or educational stage.

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