

# Impact and Prevention of Voice Problems in the Teaching Profession: Embracing the Consumers' View

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**Summary:** Teachers are vulnerable to developing voice problems due to their specific occupational demands during teaching. Information on how the teaching profession is impacted by voice problems and what the profession perceives to be useful information for preventing voice problems is important for health care service providers. A total of 122 subjects from the teaching profession (55 practicing teachers and 67 prospective teachers) were therefore surveyed to ascertain their perception of their voice condition and the impact of voice problems on their communication, social life, personal emotions, and occupation. The results showed that the practicing teachers perceived their voice to be significantly worse than the prospective teachers. In addition, the teachers also faced significantly more difficulties in their daily communication than the prospective teachers. These two groups of subjects believed that information on breathing exercises and specific vocal hygiene strategies would help them prevent voice problems. **Key Words:** Voice disability—Voice handicap—Treatment—Teaching voice.

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## INTRODUCTION

Teachers are at risk of developing voice problems.<sup>1</sup> They are among the most common occupational groups that seek medical advice for problems associated with voice.<sup>2,3</sup> Voice problems include difficulties in phonation, deviant voice qualities, and/or physical pain or sensation related to voice use.<sup>4</sup> The prevalence rates of voice problems in teachers have been reported to vary from 2.7%<sup>5</sup> to 7%<sup>6</sup> when expert judges using auditory-perceptual judgment were

involved in the identification process. More recent studies employing laryngoscopic examinations to identify vocal pathologies reported higher prevalence rates. Filho, Gomes, and Macedo<sup>7</sup> and Urrutikoetxea et al<sup>8</sup> reported higher prevalence rates of 9.7% and 13%, respectively. These figures rose sharply to 73%<sup>9</sup> and 81%<sup>10,11</sup> when self-reported surveys were used. These prevalence figures tell us that although the extent of voice problems in the teaching profession is variable, it warrants specific attention from the health care professions. In clinical settings, it is not uncommon to find the teaching profession constituting 16%<sup>12</sup> to 18%<sup>3</sup> of all the voice cases of speech pathologists, although a lower figure of 3.4% was once reported by Herrington-Hall et al.<sup>13</sup>

These variable prevalence figures are, however, not adequate for health care professions to plan occupa-

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tional safety services or preventive programs for teachers. Information on how voice problems impact the daily functional activities of individuals is helpful because health care workers can plan their services appropriately in response to how and what activities are being affected by voice problems. Information on how to eliminate the causes of voice problems (such as vocal demand, poor acoustic environments, stress, personality, vocal misuses, and hyperfunction) or to minimize their effects are generally considered to be useful for helping members of the teaching profession avoid voice problems.<sup>14</sup> Voice therapy programs that aim to educate people on managing or modifying these contributing factors have also been shown to improve the voices of people who already had dysphonia.<sup>15</sup>

Although benign voice problems are not life-threatening conditions, they have significant negative impacts on the occupational, social, psychological, physical, and communicative areas of a dysphonic individual.<sup>2</sup> In fact, the impact has been reported to be similar to that found in subjects with life-threatening problems.<sup>2</sup> The most common consequences of voice problems were reported to be missing work,<sup>12,16</sup> affecting job performance,<sup>9,16</sup> social activities, and emotions.<sup>17</sup> The impact of voice problems on an individual does not depend merely on the severity of the impairment. It also depends on how an individual perceives, reacts, and adjusts to the problem.<sup>17</sup>

The concept of impairment, disability (activity limitation), and handicap (participation restriction) proposed by the World Health Organization<sup>18,19</sup> is a useful framework to describe the impact of a problem or a disorder on an individual. The International Classification of Impairment, Disability and Handicap (ICIDH) Beta-2<sup>18,19</sup> defined impairment as the impact of bodily dysfunction. For example, a polyp on a vocal fold is a vocal impairment. Activity limitation (previously known as disability) is defined as a lack of ability or difficulty in the performance of daily activities. Restriction in participation (previously known as handicap) can be interpreted as a reduction or avoidance of voice activities by the individual, which results in an occupational or economic consequence. A teacher with a vocal polyp who cannot speak loudly when teaching is displaying a form of limitation in the teaching activity. If the teacher has to change careers due to the inability to speak loudly,

this restriction in participating in the teaching position brings about economical consequences.

The primary aim of the present study was to determine the extent of the impact of voice problems on the daily functions (occupation, communication, social life) and emotions in a group of teachers enrolling in a workshop for improving their teaching voice. It should be noted, however, that this group of teachers was not a typical cross section of teachers because, by being enrolled in a workshop for improving the teaching voice, they clearly were motivated and eager to comply with intervention programs designed for them. The second aim was to explore what specific skills or knowledge these teachers would consider useful to know in preventing voice problems.

## METHODS

### Survey questions

A survey form, which consisted of three sections with a total of 20 questions, was developed for this study (see Appendix A). Part 1 of the survey form was made up of 10 questions which sought the respondents' perception of the impact of voice problems on their daily communication, social life, personal emotions, and occupation. The investigator first established a set of possible items by consulting 45 dysphonic subjects receiving voice therapy and 10 speech pathologists working in the public hospitals in Hong Kong. These 55 subjects were asked individually and independently to list the situations they believed to be affected by voice problems. These situations were used to design the questions in part 1 of the survey. A four-point nominal rating scale was used, with the answer "not at all" given a score of 0 and "very much" or "most of the time" given a score of 3. The aggregate score of these 10 items (with a maximum of 30) reflects the subjects' perception of the severity of the impact of their voice problems. Part 2 of the survey ascertained the respondents' perception of their own voice conditions and identified possible associated risk factors for voice problems. Voice condition is defined as the respondents' perception of their voice using the description "bad" or "good." A total of seven questions made up this part. Part 3 explored what the respondents knew about vocal hygiene and asked for their opinion on the content of a program for preventing voice problems.

## Subjects

Three groups of subjects participated in this survey: a practicing teacher group, a prospective teacher group, and a nonteacher dysphonic group. A total of 161 individuals participated. The practicing teacher group consisted of 55 teachers enrolled for a workshop on improving teaching voice. Forty-eight of them were female and seven were male. The mean age of the teacher group was 30.2 years (standard deviation 7.8, range 20–46 years). With this subject selection procedure, the practicing teacher group represented a self-selected group of subjects. The prospective teacher group consisted of 67 final-year university students who were studying for a degree in education at the University of Hong Kong. They represented 96% (67/70) of the final-year teacher trainees at that university. The mean age of this group was 24.7 years (standard deviation 4.14, range 21–46 years). Fifty-one of them were female and 16 were male. The third group was made up of 39 dysphonic subjects who were not teachers. They were consecutive patients who were receiving treatment at the voice clinics in two teaching hospitals in Hong Kong within a one-month period. The mean age of this group was 36.74 years (standard deviation 10.15; range 20–57 years). Thirty-three of them were female and six were male.

## Procedures

This survey took place between March and November 1998. All the subjects were asked to complete parts 1 and 2 of the survey form. The practicing teachers and prospective teachers were also asked to complete part 3 of the survey form. All subjects from the three groups were asked to complete the questionnaire before the commencement of the program or treatment. The prospective teachers completed the questionnaire during their final year of training and they had received no information or training on voice care prior to the survey.

## RESULTS

Responses from the subjects were tallied under each subject group and inferential statistics were used to determine if the three subject groups were significantly different in various scores. Since a large number of statistical tests were carried out to determine the significance of the findings, a more stringent alpha level (0.01) was adopted as a compromise for avoiding both type I and type II errors. Therefore, only statistical test results that have  $p$  levels of less than 0.01 were considered to be significant.

### Impact of voice problems on daily functions and emotions

The extent of the impact of voice problems is indicated by the total score of part 1 of the survey. The mean scores obtained by the three groups of subjects on part 1 are listed in Table 1. The three groups were significantly different on the scores ( $F = 20.41$ ,  $df = 2, 158$ ;  $p < 0.0001$ ). With a maximum possible score of 30, the practicing teacher group scored (mean = 10.29) significantly lower than the dysphonic group (mean = 14.13; post hoc Scheffe test,  $p < 0.01$ ); but significantly higher than the prospective teacher group (mean = 6.72; post hoc Scheffe test,  $p < 0.005$ ).

When the scores for individual items were examined (see Table 2), it was found that five of the 10 items in part 1 distinguished the responses between the practicing teachers and the prospective teachers. With each of these five items (items 1, 3, 5, 6, and 7), the practicing teachers reported significantly more severe or more frequent problems than the prospective teachers did (all Mann-Whitney  $U$  test results were significant at  $p < 0.01$ ). Nevertheless, when compared with the dysphonic group, all except three (items 2, 4, and 5;  $p < 0.01$ ) problems faced by the practicing teachers were not significantly different from those reported by the dysphonic group. The in-

TABLE 1. Mean Scores for Each Subject Group on Part 1

Subject Group	Mean Score (Maximum = 30)	Standard Deviation	Range
Practicing teacher group	10.29	5.50	0–24
Prospective teacher group	6.72	5.27	0–20
Dysphonic group	14.13	7.02	1–27

**TABLE 2.** *Central Tendency of Scores for Individual Items in Part 1*

	Practicing Teachers		Prospective Teachers		Dysphonic Subjects	
	Mean	Mode	Mean	Mode	Mean	Mode
Communication						
Q1. Affect meaning	0.89	1	0.48	0*	1.18	1+
Q2. Need to repeat	0.76	1	0.63	0	1.51	1**
Social life						
Q3. Affect social life	0.87	1	0.36	0*	1.15	0*
Q4. Listeners felt annoyed	0.55	0	0.33	0	1.18	0**
Emotions						
Q5. Feel sad or distressed	1.20	1	0.54	0*	1.95	3**
Q6. Feel embarrassed	0.87	1	0.39	0*	1.21	0*
Q7. Affect self-esteem	0.65	0	0.19	0*	0.97	0*
Job						
Q8. Affect job	1.87	2	1.60	2	2.23	3+
Q9. Affect career image	1.29	1	1.21	0	1.03	0
Q10. Pressure on job	1.30	1	1.00	0	1.70	3+

\* Indicates significantly different ( $p < 0.01$ ) from the practicing teacher group using Mann-Whitney  $U$  tests.

+ Indicates significantly different ( $p < 0.01$ ) from the prospective teacher group using Mann-Whitney  $U$  tests.

Score: 0, Not at all; 1, A little or occasionally; 2, Moderately or sometimes; 3, Very much or most of the time.

ternal consistency of the 10 questions in part 1 was examined using Cronbach's alpha coefficient. A correlation of 0.9 was found, indicating a high internal consistency of the items.

### Background of the subject groups

The three groups of subjects were significantly different in age ( $F = 31.09$ ,  $df = 2, 158$ ,  $p < 0.0001$ ; all post hoc Scheffe tests,  $p < 0.001$ ). The three groups of subjects were also significantly different (Kruskall-Wallis test: chi square = 61.02,  $df = 2$ ,  $p < 0.0001$ ) in their self-perception of voice problems. The majority of the dysphonic subjects reported their voice condition to be "bad" (see Table 3), which was statistically different from the "fair" condition reported by most prospective teachers (Mann-Whitney  $U = 773$ ,  $Z = -6.09$ ,  $p < 0.0001$ ) but not significantly different from those reported by the majority of practicing teachers (Mann-Whitney  $U = 773.5$ ,  $Z = -2.5$ ,  $p = 0.012$ ). Furthermore, the voice condition reported by the practicing teacher group was significantly

worse than that reported by the prospective teacher group (Mann-Whitney  $U = 337$ ,  $Z = -6.7$ ,  $p < 0.0001$ ).

Table 4 lists the number of subjects in each subject group that had consulted laryngologists and reported improvement in their voice condition. The consultation rate was 100% for the dysphonic group. The practicing teachers reported a consultation rate of 37%, which was significantly lower than the dysphonic group ( $Z = 6.01$ ,  $p < 0.0001$ ) but significantly higher than the 10% reported by the prospective teacher group ( $Z = 3.34$ ,  $p < 0.0001$ ). The rate of voice improvement of the dysphonic (79%), practicing teacher (45%), and prospective teacher (57%) groups were not significantly different ( $p > 0.02$ ) following the laryngological consultation. Furthermore, more than 50% of the practicing teachers and 40% of the dysphonic subjects who consulted laryngologists had at least three or more consultations (Table 5).

The median onset time of voice problems was between 7 and 12 months for the practicing teacher

**TABLE 3.** Perception of Voice Conditions for the Last 6 Months

Groups	N	Mean (Standard Deviation)	Median	Mode
Practicing teachers	55	3.47 (0.66)	3	3
Prospective teachers	67	2.64 (0.62)	3	3
Dysphonic subjects	39	3.82 (0.72)	4	4

Ratings: 1, Very good; 2, Good; 3, Fair; 4, Bad; 5, Very bad.

**TABLE 4.** Number of Subjects Who Consulted Laryngologists and Reported Improvement Since Consultations

	Practicing Teachers	Prospective Teachers	Dysphonic Subjects
Number of subjects who consulted laryngologists	20	7	39
Number of subjects who reported improvement	9	4	31

**TABLE 5.** Distribution of Subjects Who Consulted Laryngologists

Number of Visits to Laryngologists	Practicing Teachers	Prospective Teachers	Dysphonic Subjects
1	6	2	13
2	4	3	10
3-5	4	–	11
6 or more	6	2	5
Total	20	7	39

group and more than 12 months for the prospective teacher group and the dysphonic group (see Table 6). These onset times were significantly different among the three groups of subjects (Kruskal-Wallis test: chi square = 9.43,  $df = 2$ ,  $p = 0.009$ ). The significant difference lies between the dysphonic group and the practicing teacher group (Mann-Whitney  $U = 437$ ,  $Z = -2.79$ ,  $p = 0.005$ ). The three groups were significantly different in the number of voice symptoms reported ( $F = 97.55$ ,  $df = 2, 138$ ;  $p = 0.0001$ ). The teacher group reported significantly fewer symptoms (mean = 4.5, standard deviation = 2.1) than the dysphonic group (mean = 7.3 symptoms, standard deviation = 3.4; post hoc Scheffe test,  $p = 0.0001$ ) but more symptoms than the prospective teacher group (mean = 0.7, standard deviation = 1.6; post hoc Scheffe test,  $p = 0.0001$ ). The five most common symptoms, as reported by at least half of the practicing teachers who complained of voice problems, were “dry throat,” “hoarseness,” “shortness of breath,” “cannot sing high pitch,” and

“vocal tiredness” (see Table 7). When subjects were asked to identify from a list of seven habits that they might have, the teacher group reported a mean of 1.47 items. The prospective teachers and dysphonic groups reported a mean of 1.76 and 1.31 items, respectively. No significant difference was detected among these three groups ( $F = 2.3$ ,  $df = 2, 158$ ;  $p > 0.1$ ). More than 50% of all subjects reported “eating spicy or deep-fried food” and “chatting in noisy restaurants” (see Table 8).

In order to determine whether the impact of voice problems has any relationship with the severity of voice condition, correlation analyses were carried out. The total score of part 1 was found to correlate significantly with the subjects’ perception of how good or bad their voices were (Spearman’s rho = 0.49, two-tailed  $p < 0.01$ ) and number of symptoms reported (Spearman’s rho = 0.47, two-tailed  $p < 0.01$ ). No significant correlation was found between the total score in part 1 and the number of habits ( $p > 0.5$ ) nor the onset time ( $p > 0.1$ ).

**TABLE 6.** *Number of Respondents Across Different Onset Time of Voice Problems*

Number of Months Since the Voice Problem First Noticed	Practicing Teachers	Prospective Teachers	Dysphonic Subjects
Less than 1	2	2	1
1–2	3	2	4
3–6	11	1	2
7–12	5	1	3
More than 12 months	13	4	29

**TABLE 7.** *Symptoms Reported by Respondents*

Symptoms	Total	Responses from 34 Practicing Teachers	Responses from 12 Prospective Teachers	Responses from 39 Dysphonic Subjects
Dry throat	56	23	6	27
Hoarseness	54	20	4	30
Shortness of breath	54	19	6	29
Cannot sing high pitch	51	22	3	26
Vocal tiredness/fatigue	38	17	4	17
Frequent throat clearing	28	11	3	14
Itchy throat	27	11	1	15
Weak voice	25	7	8	10
Pain	24	10	2	12
Voice loss	24	10	3	11
Voice tightness	24	1	-	23
Cannot sing low pitch	20	3	2	15
Loss of voice control	14	2	2	10
Total responses	439	156	44	239

### Knowledge on voice care and prevention of voice problems

The practicing teachers and the prospective teachers were asked to complete part 3 of the survey. From a list of eight possible contributing factors for voice problems (see Table 9), the teacher group identified an average of 4.1 items (standard deviation = 1.8, range = 1–8), which were not significantly different ( $t = 0.278$ ,  $df = 120$ ;  $p > 0.8$ ) from that reported by the prospective teacher group (mean = 4.0 items, standard deviation = 1.89, and range = 1–8). Therefore, in terms of knowledge, the teachers appeared to be as good as the prospective teachers. More than 50% of these two groups of subjects identified “inappropri-

ate breathing,” “insufficient rest,” “inefficient student discipline,” and “noisy environment” as the factors causing voice problems. The first three items are related to personal strategies or skills while the fourth item is related to environmental control.

Of the 55 teachers, 45 reported that they had taken some actions to prevent voice problems. For the prospective teacher group, 29 of them reported they had taken some actions. The list of actions (see Table 10) was variable. Most of them were grouped under 18 categories, with one category of miscellaneous. The most common strategy, which was suggested by about 25 subjects, was “hydration,” then followed by “speak softly” and “use amplifiers in classroom

**TABLE 8.** *Number of Subjects Reported in Each Category of Habits*

Habit	Total Number of Subjects (123)	Practicing Teachers (45)	Prospective Teachers (45)	Dysphonic Subjects (33)
Eating spicy or deep-fried food	78	11	30	15
Chatting in noisy restaurants	63	9	30	12
Long telephone chat	34	3	17	9
Singing	30	0	17	3
Drinking alcohol	8	2	2	3
Talking while playing mahjong	5	1	2	-
Smoking	2	0	0	2
Others	14	4	3	7
Total responses	234	82	101	51

**TABLE 9.** *Factors Identified by the Respondents that Contributed to their Voice Problems*

Category	Responses from 55 Practicing Teachers	Responses from 66 Prospective Teachers	Total Responses
Inappropriate breathing	51	54	105
Insufficient rest	47	50	97
Inefficient student discipline	39	52	91
Noisy environment	32	47	79
Bad classroom design	20	24	44
Emotional problem	14	20	34
Inefficient teaching method	15	18	33
Frequent extracurricular activities	13	5	18
Total responses	231	270	501

teaching.” A total of 45 teachers and 52 students gave their opinions as to what should be included in a voice care program. Table 11 lists their suggestions. More than 50% of the subjects suggested “voice care strategies” and “breathing exercises” should be the topics included in the program. The third-ranked topic was “proper voice production methods.”

## DISCUSSION

The results show that the group of practicing teachers who felt to be significantly more affected by their voice problems perceived their voice to be much

worse when compared to a group of prospective teachers. The teachers’ emotions, social life, perception of pressure on their job, and communication were all affected. Although the practicing teachers were significantly older than the prospective teachers as a group, it is unlikely that the differences in their responses were related to the age factor per se as the correlation between the score of part 1 and age is low ( $r = 0.22, p < 0.01$ ).

Only 37% of the practicing teachers consulted laryngologists for their voice problems. This finding, to some extent, support the findings by Morton and Watson,<sup>20</sup> whose survey showed that teachers perse-

**TABLE 10.** *Number of Subjects Who Suggested Different Strategies to Avoid Voice Problems*

Suggested Strategies	Responses from 45 Practicing Teachers	Responses from 29 Prospective Teachers	Total responses
Hydration (drink water)	13	12	25
Speak softly	17	3	20
Use amplifiers	10	10	20
Speak less	12	5	17
Take more voice rest	9	6	15
Varieties of speaking strategies	10	3	13
Take herbal tonic	3	6	9
Avoid screaming/abuses	5	3	8
Take throat lozenges	6	2	8
See doctor	7	-	7
Carry out breathing exercise	-	7	7
Avoid spicy or deep-fried food	5	2	7
Take a course	6	-	6
Get more sleep	4	2	6
Drink honey	3	2	5
Speak slowly	4	-	4
Use nonverbal communication	4	-	4
Better pupil discipline strategies	2	1	3
Miscellaneous	3	2	5

**TABLE 11.** *Content of Vocal Hygiene Program Suggested by Teachers and Prospective Teachers*

	Practicing Teachers	Prospective Teachers	Total
Voice care strategies	27	25	52
Breathing exercises	16	34	50
Proper voice production methods	27	19	46
Prevention/correcting abusive behaviors	7	7	14
Voice exercises/projection	7	2	9
Food suggestion	2	7	9
Vocal pathologies—knowledge	5	—	5
Anatomy/physiology of voicing	3	2	5
Voice treatment methods	2	3	5
Relaxation exercise	2	—	2
How to speak with appropriate pitch	1	—	1
Completed voice analysis of individual voice	1	—	1

vered with their voice problem without seeking medical help. One may wonder why the majority of the teachers did not seek medical help and, instead, chose to attend the workshop in the present study. The fact that the practicing teachers perceived their voice condition to be significantly better than the dysphonic group may account for this low percentage. The teachers might have thought that the voice problems were not severe enough to warrant medical intervention. Nevertheless, they might have considered their voice problems to be related to voice use in teaching and so they decided to enroll in the workshop to improve their teaching voice. Since the provision of information on vocal hygiene has shown to be effective in voice therapy,<sup>15,20,21</sup> an educational approach could be taken as the first line of preventive measure for people who engage in occupations that have a high demand on voice use. Some investigators have suggested that this kind of educational program should be included in the curriculum of teacher training.<sup>20</sup> Voice clinicians often design these educational programs based on what they believe to be appropriate for the population. The clients themselves are hardly ever consulted on what they would like to get out of these programs. This survey provides us with some data on how the consumers think and what they believe would be appropriate for their needs.

“Inappropriate breathing” was identified by the practicing teachers and prospective teachers as the most common contributing factors for voice problems. This supports the clinical observation made by the author that Chinese people in general regard breathing as a major component in voice production. They believe that inappropriate breathing is a cause of voice problems. Such a belief may be related to the fundamental principle of traditional Chinese medicine concerning “qi” (strength or energy), which most ethnic Chinese have been exposed to at some stage of their lives. The principle regards the “pectoral qi” (chest energy related to breathing) as the energy source for voicing.<sup>22</sup> A weak “pectoral qi” will therefore result in a weak or disordered voice. Therefore, a person with a voice problem should look at strengthening the “pectoral qi” through breathing exercises. Although it is generally agreed that breathing exercises do not necessarily lead to better voice production,<sup>4</sup> their value as a preventive measure should not be underestimated as it is considered to help relax the body in general.<sup>23</sup> The call by more

than half of the consumers to include breathing exercises in a program for preventing voice problems should not be dismissed lightly. Given our current understanding of breathing and voicing coordination, voice clinicians have the responsibility to clarify any misunderstanding about breathing/voicing coordination and to provide information to their clients on the usefulness and limitations of breathing exercises for voicing.

In this survey, the consumers indicated that the most important piece of information that they would want in a voice care program was strategies on caring for their voice. There is evidence that a vocal hygiene program with information on strategies to eliminate abusive vocal behaviors and to promote optimal voice production is effective in treating voice problems.<sup>15</sup> However, to what extent these strategies would increase the compliance of the patients and what particular strategies would be appropriate and effective remain to be determined. In this study, the teachers themselves had already carried out a number of strategies which they considered to be appropriate (Table 10). These common strategies, such as “hydration,” “speak softly,” and “use amplifiers” are primarily passive or conservative ones as they aim at preserving the voice in good condition or preventing deterioration. The clients need to be informed of the rationales behind these strategies so that they understand how and why they should be done in a specific way.

## CONCLUSION

This survey has revealed how a select group of teachers who were enrolled in a workshop for improving teaching voice and a group of prospective teachers perceived the impact of voice problems on their lives. They would like to learn more about voice care, breathing exercises, and voice production methods. This information provided by the consumers allows the health professionals to target their services appropriately. The suggested content of a program for preventing voice problems in the teaching profession does not present new ideas but addresses the concerns that come directly from the consumers.

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## APPENDIX A

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Name \_\_\_\_\_ Age \_\_\_\_\_

Sex  Male  Female  
M F

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Please put a tick (✓) in the appropriate box.

**PART I***Effect on Communication*

**1. In the past 12 months, how much difficulty did people have understanding your message because of your voice problem?**

Not at all       A little       Moderately       Very much  
0                      1                      2                      3

Not applicable, I don't have a voice problem.  
9

**2. In the past 12 months, how often did others ask you to repeat your message because of your voice problem?**

Not at all       Occasionally       Sometimes       Most of the time  
0                      1                      2                      3

Not applicable, I don't have a voice problem.  
9

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*Effect on Social Life*

**3. In the past 12 months, did your voice problem affect your social life?**

Not at all       A little       Moderately       Very much  
0                      1                      2                      3

Not applicable, I don't have a voice problem.  
9

**4. In the past 12 months, to what extent did your voice problem annoy your students, family, or friends?**

Not at all       A little       Moderately       Very much  
0                      1                      2                      3

Not applicable, I don't have a voice problem.  
9

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*Effect on Yourself*

**5. In the past 12 months, to what extent did your voice problem make you feel sad or distressed?**

Not at all       A little       Moderately       Very much  
0                      1                      2                      3

Not applicable, I don't have a voice problem.  
9

**6. In the past 12 months, how frequently did you feel embarrassed because of your voice problem?**

Not at all       Occasionally       Sometimes       Most of the time  
0                      1                      2                      3

Not applicable, I don't have a voice problem.

9

**7. To what extent is your self-esteem affected by your voice problem?**

Not at all       A little       Moderately       Very much  
0                      1                      2                      3

Not applicable, I don't have a voice problem.

9

*Effect on Work***8. To what extent does your voice problem affect your job?**

Not at all       A little       Moderately       Very much  
0                      1                      2                      3

Not applicable, I don't have a voice problem.

9

**9. How badly does your voice problem affect your career image?**

Not at all       A little       Moderately       Very much  
0                      1                      2                      3

Not applicable, I don't have a voice problem.

9

**10. Does your voice problem put any pressure on your job?**

Not at all       A little       Moderately       Very much  
0                      1                      2                      3

Not applicable, I don't have a voice problem.

9

**PART 2***The Status of Your Voice***11. How would you describe your voice in the last 6 months?**

Very bad       Bad       Fair       Good       Very good  
5                      4                      3                      2                      1

**12. Have you ever consulted an Ear, Nose & Throat specialist doctor regarding your voice problem?**

Yes  $\longrightarrow$  (please go to Q.13)

1

No  $\longrightarrow$  (please go to Q.15)

0

**13. If you have consulted a specialist doctor before, how many times?**

- Once       Twice       3 to 5 times       6 times or more  
 1                      2                      3                      4

**14. Did your voice improve after you consulted the specialist doctor?**

- Yes       No  
 1                      0

**15. When did you find out your current voice problem?**

- Less than 1 month ago                       1 month ago but less than 3 months  
 1                                                              2  
 3 months ago but less than 7 months       7 months ago but less than a year  
 3                                                              4  
 1 year ago  
 5  
 Not applicable, I don't have a voice problem.  
 9

**16. Which of the following symptoms is affecting you currently?  
 (You may check more than one box.)**

- |                                                     |                                                         |                                                      |
|-----------------------------------------------------|---------------------------------------------------------|------------------------------------------------------|
| <input type="checkbox"/> Dry throat<br>11           | <input type="checkbox"/> Itchy sensation<br>12          | <input type="checkbox"/> Pain in throat<br>13        |
| <input type="checkbox"/> Voice loss<br>14           | <input type="checkbox"/> Shortness of breath<br>15      | <input type="checkbox"/> Weak voice<br>16            |
| <input type="checkbox"/> Vocal fatigue<br>17        | <input type="checkbox"/> Hoarseness<br>18               | <input type="checkbox"/> Lost control of voice<br>19 |
| <input type="checkbox"/> Voice spasms<br>20         | <input type="checkbox"/> Frequent throat clearing<br>21 | <input type="checkbox"/> Can't sing high notes<br>22 |
| <input type="checkbox"/> Can't sing low notes<br>23 | <input type="checkbox"/> Others _____<br>24             |                                                      |
- Not applicable, I don't have a voice problem.  
 9

**17. Do you have the following habits? (You may choose more than one item.)**

- |                                                                                                    |                                                                     |
|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| <input type="checkbox"/> Smoking<br>11                                                             | <input type="checkbox"/> Chatting while playing mahjong<br>12       |
| <input type="checkbox"/> Singing in karaoke<br>13                                                  | <input type="checkbox"/> Talking on the phone for a long time<br>14 |
| <input type="checkbox"/> Chatting in noisy restaurants<br>15                                       | <input type="checkbox"/> Consuming alcoholic drinks<br>16           |
| <input type="checkbox"/> Eating spicy or deep-fried food<br>17                                     |                                                                     |
| <input type="checkbox"/> Other habits that you feel will affect the throat, please state:<br>_____ |                                                                     |

- None  
 9

**PART 3***Knowledge on Voice Care***18. Which of the following do you think will cause voice problems?**

- |                                                                                     |                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------|
| <input type="checkbox"/> Inappropriate control of breathing<br>11                   | <input type="checkbox"/> Not enough rest<br>12        |
| <input type="checkbox"/> Noisy environment around the school<br>13                  | <input type="checkbox"/> Bad student discipline<br>14 |
| <input type="checkbox"/> Inappropriate classroom design<br>15                       | <input type="checkbox"/> Own emotional problem<br>16  |
| <input type="checkbox"/> Frequent participation in extracurricular activities<br>17 |                                                       |
| <input type="checkbox"/> Own style of teaching<br>18                                |                                                       |

**19. Have you taken any action to avoid your voice problem from worsening?**

Yes, please state the methods:

1

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

No     Not applicable, I don't have a voice problem.

0

9

**20. In your opinion, what should be included in an educational voice care program?**

- Please list:
1. \_\_\_\_\_
  2. \_\_\_\_\_
  3. \_\_\_\_\_
  4. \_\_\_\_\_
  5. \_\_\_\_\_