A Systematic, Holistic and Integrative Process of Self-Control for Voicing with Optimal Coping Effects in Teachers. 2. A Process of Change – An Expert's Opinion

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Key Words

Process of change • Coping skills • Stress • Learning process • Teacher's voice • Emotion • Self-control

Abstract

A learning strategy is presented for eustress-euvoicing, which prevails over distress-disvoicing. It is based on the understanding of the mechanisms of stress-voicing, conceived as a dynamic circular process of interacting entities, i.e. stressors/signals-arousal/activation-emotion-coping-effects (SAECE), which is the rationale for a multidisciplinary approach in coaching professional voice users. A systematic, holistic and integrative process of self-control (SHIPS) is directed by functional analysis and consists of awareness and change. Emotion, a mixture of appraisal, affect and movement, is the pivot in SHIPS. SHIPS with (student) teachers aims at the competence of voicing (V) in an optimal (O) way of coping (C), which means vocal communication that is effective (E) to meet a balance in physical, interpersonal and existential wellness when responding to demands and challenges in the individual teacher's (T) field of communication (VOCE-T). The process of change intends to influence the course of multiple interactions in SAECE. SHIPS (de)conditions distressors and eustressors related to (non)-integrated

coping. The (student) teacher and coach are conscious and active participants in the process of change that aims at (un)learning of attitudes and skills for coping by VOCE-T.

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The field of therapy and its many facets
needs anything but another closed system
A.A. Lazarus (1968)

Evidence based practice is the integration
of best research evidence with
clinical expertise and patient values
Institute of Medicine [1; p. 147]

Introduction to a Systematic, Holistic and Integrative Process of Self-Control

Stress in voice (stress-voicing) is an important feature in optimal vocal communication. Thinking in an interdisciplinary way leads to a common view on problem analysis of the teacher's stress in voicing. Multimodel concepts are basic to the learning strategy of a systematic, holistic and integrative process of self-control (SHIPS).

They imply cognitive-behavioural approaches [2–21]. The coaching of professional voice users toward self-control is the main aim of SHIPS. A multidisciplinary model could serve as a working hypothesis in the assessment of biopsychosocial human communication regarding the individual's reaction pattern in eustress and euvoicing versus distress and disvoicing. Wellens and Van Opstal [22, 23] have proposed a comprehensive dynamic model of how stress affects voice with fluctuations in daily life and along the stages in life. In this model a holistic-analytic approach has shown to be appropriate.

Stress-voicing is considered as a whole that is made up of dynamic conditions and events. These conditions and events are ordered into 5 entities: stressors/signals, arousal/activation, emotions, coping and effects (SAECE). The way these entities interact is conceived as functional relationships in a circular process. In this circular process, emotion, defined as a mixture of appraisal, affect and movement, is the pivot. Around this pivot, stressors/signals, arousal/activation, coping and effects show a mutual and dynamic interaction [22]. Each entity forms patterns of conditions and events. In the SAECE model, the functional relationships constitute the biopsychosocial characteristics and potentials of the voicing individual. This understanding is the key for opening a view on how specific autonomic and motor neural aspects in interaction with cognitive aspects of emotion in stress-voicing have been developed and are maintained [2, 3, 14, 16, 19, 22, 23]. Awareness or understanding of the mechanisms of SAECE is essential for the trainee's insight in biological and mental excitement in stress-voicing [this issue, table 1 in part 1; 23]. The accumulation of too high biological arousal and too intense mental activation prompts the teacher to be intensively distressed and vocally disrupted [22, 23]. In times of high excitement, neurobiological functions are selectively inhibited or become hyperactive; motor or cognitive functions are directed to (over)adaptive or defensive acts [23, 24].

The entities stressors/signals, arousal/activation, emotions, coping and consequently effects of the SAECE model can be modified [5, 6, 21, 25]. Subsequently, these modified entities should be integrated systematically. Facilitation, modification and generalization make up the process of change. The SAECE model is the rationale of awareness and of change. Functional analysis is a tool for the organization of mechanisms of SAECE, applied in individual stress-voicing and decision making. Ordering and decision making is a dynamic repetitive process [10, 11, 15, 20, 26].

Teachers in Process of Change

Teachers are among the most obvious and demanding professional voice users. In these voice users, high criteria for adapted voicing have to be met [22, 23, 27–29].

In the care and cure of the (student) teacher's voice, a multidimensional approach is indicated in many cases. Apart from medical and organizational interventions, adaptation of the teacher's voice should be enhanced by voice training or therapy [22, 23, 30]. In the coaching of stress-voicing, self-regulation of trait stress is highly facilitative for the prevention of state stress. This means that in consistent conditions, the memory and the anticipation of effects (trait) of the voicing behaviour colour the teacher's actual feeling about his/her modes of coping and state control. In turn, self-regulation of state stress is basic to adapted communication skills [this issue, part 1]. Understanding stress-voicing is based on principles of learning that govern the mutual reinforcing influences within and between the entities of SAECE. In this way, a learning process plays a central role in the multidimensional approach of stress-voicing. Methods for change through facilitation, modification and generalization of behaviour are substantiated by these same principles [12, 19, 25, 31]. Therefore, principles of learning rule stress-voicing management. Consequently, it is felt relevant to propose an adequate learning strategy in the coaching of stress-voicing. This proposed learning strategy is designed as a systematic, holistic and integrative process to attain self-control (SHIPS). The overall learning process in SHIPS assumes awareness and change [24, 32, 33]. Awareness and change are a twin process. This twin process aims at a gradual growth aptness to self-control, which is the working agent throughout SHIPS. This results in eustress-euvoicing prevailing over distress-disvoicing.

The process of awareness has been described in part 1 [this issue]. However, the present paper (part 2) deals with the learning strategy of change. In the dynamic of awareness, the (student) teacher arrives at an understanding of the mechanisms of the possible etiological factors and the factors that influence the course of the problem. Change is the process of development of desirable habits and enlarged skills. Awareness is created parallel to the process of change and facilitates change. The aim of change is to obtain a habit of voicing (V) in an optimal way (O) of coping (C) to meet basic needs effectively (E) in the teachers' field (T) of communication (VOCE-T).

All the features of SHIPS are considered to be prerequisites for long-lasting results in VOCE-T. The modification and integration of the entities stressors/signals,

arousal/activation, emotions, coping and effects are targeted and executed step by step. This way of processing is called 'systematic'. The 'holistic' feature of the process refers to the context of SAECE.

Systematic integration is the most remarkable distinctive feature of the holistic process of awareness and change towards VOCE-T. It follows from the fact that SHIPS intends to enhance eutress-euvoicing that is defined by interrelated aspects. In a systematic way, they reinforce each other in a dynamic process of facilitation, modification and generalization.

As described in part 1 [this issue], functional analysis leads to awareness, which provides the targets for change. Furthermore, awareness enhances motivation and leads to facilitation of self-control to change. In the course of change of the competence to cope through VOCE-T, three domains of behaviours in vocal communication are gradually interwoven: instrumental vocal skills and habits, the emotional ability to react, and social attitudes and skills in specific roles and situations. The development and integration of these three domains of stress-voicing constitutes the learning process towards VOCE-T.

Functional analysis is basic to the systematic and holistic features of SHIPS as a process of awareness and change. Through functional analysis, the multiple interactions within and between the entities of SAECE are assessed in view of change in the three domains of VOCE-T. In a systematic way, these aspects reinforce each other in an ongoing and integrating process of change by facilitation, modification, and generalization. Consequently, functional analysis is a guiding mechanism for both the coach and the trainee in SHIPS.

The aim of this paper is to describe the learning process of change of the multiple interactions of SAECE by application of SHIPS. Change has features of a systematic, holistic and integrative process with self-control considered to be the working agent. These features are described in this paper.

Examples from case reports and self-reports that are illustrative to the text and/or that contribute to the comprehension of it have been inserted in what follows.

Change of the Course of Multiple Interactions in SAECE

SHIPS enhances the awareness of voicing. Voicing is considered as a mode of coping with needs for safety, security, and creativity, the basic motivational systems in human beings [this issue, part 1]. SHIPS uses functional

analysis as a holistic-analytic process for learning about (dis)harmony of effects on basic levels of needs.

For example Carl reports: 'Through the therapy, I have become a lot more aware of the relationship between a number of elements that all have to do with euvoicing.'

'Being able – in a therapeutic context – to speak about how I felt and reflecting on the connection voice-emotion, was a real eye-opener. At the same time, I started to read more books about self-development, and take better care of myself in general.'

This is put into the perspective of (non)-adaptive and/or (non)-integration of coping skills of vocal communication [this issue, part 1]. The pivot in awareness and change of stress-voicing is emotion, defined as a mixture of appraisal, affect and movement [16]. In the strategy for change, the focus is on the trainee's competence to develop a relative mastering of an equilibrium in the meeting of needs by modes of vocal communication. This competence should be adapted to the whole of the complex communication environment in order to be able to meet the (student) teacher's communication needs [this issue, part 1]. In this perspective, emotion has a central function in the competence of adapted vocal communication [22, 23].

Self-regulation of emotion and self-control of coping intend to enhance and maintain an optimal balance. To attain this balance, different aspects of stressors, reactions and coping need to be systematically integrated. Self-regulation of emotion and adapted vocal communication imply specific coping skills. In the process of change, procedures of instrumental learning are planned parallel to emotional (re)training and social learning. The process for attaining VOCE-T results in the trust in coping competence that consists of the conscious disposition of a 'skill to moderate arousal' and to direct it in function of emotional, vocal and social skills.

In awareness and change, the development of the power of free choice is crucial for a positive feedback loop of stress-voicing. This means the trainee is a conscious and active participant in the whole course of SHIPS. Self-control on ongoing change is facilitated by the continuous thread of awareness [22, 23, 32, 34–36]. Self-control is developed by information (informed consent), by experience with exercises on criteria for (self)-reflection and by self-feedback in an individualized programme of application. Self-control on integration is a prerequisite for generalization in the development towards VOCE-T.

For example Carl reports: 'Once I understand the connections between the elements of SAECE and SHIPS I feel that from then on I can "be my own therapist", though I very well understand

that as a professional speaker, I do need lots of practice and focus, just like a professional athlete needs a lot of practice in order to be able to keep producing good results.’

The procedure of functional analysis that is basic to awareness [this issue, part 1] is also an organizing tool for the strategy of interventions. Functional analysis underpins structuring and progressive decision making. This enables target setting, the choice of modifiers and criteria for (self)-evaluation about results of intervention in a continuously developing way [11, 15, 20, 26, 37]. In the learning strategy of change in SHIPS towards VOCE-T, the conditions and events that are chosen for change are called targets. The process of integration develops in a systematic and holistic way throughout change during the stages of facilitation, modification and generalization. These stages are described below.

Facilitation

In the process of change, the various entities of SAECE are interrelated and influence one another. This means that it is necessary to modify not only one entity [e.g. a (di)stressor] but also the other entities. Modification within one entity influences another entity, and vice versa. This is called facilitation between entities.

The strategy of the stage of facilitation follows the fact that the various entities consist of multiple conditions and events that interact and form a pattern. This means that for example a cluster of stressors contains stimuli in the internal and external environment.

For example bad acoustics, dry air and a noisy urban situation of the school, or noisy students.

For example Carl reports: ‘... over the years, having to work in a language that was a foreign language for me, but not for my students’.

Stressors as a cluster have an impact not only on the physical vocal load, but also on the arousal and on emotions, i.e. on other entities of SAECE.

For example various neurobiological conditions, such as habitual muscular tension, irritability and blood pressure, exhaustion, inability of a teacher to instil and maintain discipline [33].

For example Carl reports: ‘It was the anticipation of “difficult” voicing conditions that already increased the level of anxiety.’

Facilitation in SHIPS is the influence on a pattern of conditions and events that enhances modification of other elements. In the learning strategy of change in SHIPS towards VOCE-T that goes along the stages of facilitation, modification and generalization. The conditions and events that are chosen for change are called targets. Tar-

gets can be chosen within the various entities of SAECE. In SHIPS, targets are chosen if they are relevant and can be realistically modified.

For example in modification of targets of the external environment, the behaviour of the pupils and acoustic conditions can be influenced but a school near a highway cannot be displaced.

For example Carl reports: ‘I never stopped to think that speaking to a group of 100 teenagers in a noisy city street on a school field trip was really not normal. Now I realize that sometimes it’s better for everyone to wait and find a better location for explaining certain things, especially for my own voice.’

The various targeted elements in an entity should be integrated with each other and with the elements in other entities.

Awareness of the multiple conditions and events within the various entities of SAECE, their impact on facilitation and the selection of adequate tools for modification is guided by functional analysis.

Increased consciousness of SAECE leads to identification of targets with a strong facilitating potential. Stressor/signal as a facilitating entity in SAECE consists of potential targets among the stimuli from the external and internal environment. A stressor elicits a biological and mental alarm reaction that prepares the organism to cope with the stressors [22, 24, 33]. All kinds of stimuli can function as a stressor or can be conditioned by the individual as a signal. Stimuli are more or less consciously interpreted/feared as stressors or signals either for their opportunity to meet needs or for their danger to needs at different levels of human well-being [this issue, part 1]. It is obvious that a broad range of stressors that is inherent to the teachers’ voicing can be chosen as targets. As professional voice users, teachers represent a group of high-risk individuals for external and internal stressors [22, 27, 29, 33]. In addition, teachers are exposed to the stress of daily life [this issue, part 1]. In this respect, discussion and devices concerning lifestyle, confined work rhythm and harmful elements in the environment of the teacher’s daily life are highly relevant [this issue, part 1].

For example trainees report: ‘They have some periods during which they have to work hard and long, are under excessive pressure, are in a race against the clock and even suffer from a disturbed biorhythm. They often have to perform in far from ideal circumstances. Task demands are high on the teaching stage and presuppose a high degree of awareness and self-control. This can easily disappear when confronted with too intensive stress’ [33].

For example Carl reports: ‘Very few people realize that we teachers go from one deadline to the next: from grading papers, to preparing new materials for class, a new field trip, or a test, to writing report cards and meeting with parents. Outside the teaching profession, people usually look with envy at the long summer

holiday. Yet they forget the rest of the school year, when we often cover days of 14 hours or more, including during the weekend. Moreover, I know very few teachers who don't work on school-related materials during the holiday: looking for new ideas and materials, cleaning up their classroom, or taking professional development courses. It seems to me that most parents are relieved in September when they can send their kids back to school: two months constantly with their own kids is usually enough for them. We spend 9 months with up to 30 or 40 kids every hour of every day...

'Biological harmful stimuli are quite common, and may invade from the external environment' [33]. These stimuli are assessed for their potential as facilitators for change of the intensity of arousal.

For example '... dry atmosphere, space acoustics, noise, medication, alcohol, tobacco, stimulants, tranquilizers, narcotics, micro-organisms, allergens, dust etc. Biological invaders can harm the voice user's body or larynx through a hereditary predisposition or by acquired vulnerability' [33].

For example Carl reports: 'I dread the times when I get a cold, or even worse, the flu. Schools are perfect places to spread germs, and so teachers are definitely very vulnerable to all sorts of microbes. Staying home for one or a couple of days is usually not an option as it means double work: not only in preparing materials for a substitute teacher (which I know I will have to cover myself again later anyway), but also in grading all the work that comes in from during my absence. And that while I should be resting to recover ...'

Targets of the internal physical environment (e.g. the neurobiological condition) are chosen because of their function as facilitators of arousal and motor reactions. This means changing of the internal condition involves the preparedness to change psychomotor aspects of the vocal behaviour.

For example 'stimuli generated by the internal environment play an important role in the stress response. Numerous proprioceptive stimuli from sensory receptors located in the larynx, skin, joints, ligaments, postural muscles and other tissues of the body, constantly relay information to the brain for processing. Such information is important in order to co-ordinate the mental and physical factors involved in vocal performance' [33].

In this way, training of optimal stress-voicing obviously profits from general motor and breathing attenuation. This attenuation is felt as a general wellness.

For example Carl reports: 'Since I have started to do some breathing exercises before or between classes, I feel I am much more in control of how I use my voice. I can feel again what it's like to be centred and composed. Those few minutes every day are probably the best investment of my time.'

The process of facilitation is carried out by the use of specific tools. These tools should be fitted to the target in order to be adequate. Differentiation in motor tension

and forces, together with precision of movements in training of the vocal act will be facilitated. Specific cues are selected in order to promote this desirable condition to an adapted use of the voicing apparatus. A rich instrumentation of tools is available to the trainer. For example differential relaxation, (manual) manipulation of tensed musculature, body alignment, general fitness and eutonality in general movements, coordination of motor and respiration rhythms.

For example Carl reports: 'Also in the beginning, the manual facilitation by the therapist was extremely helpful: it created a sense of anticipation of what euvoice COULD feel like. Gradually we worked on becoming less dependent on the manual facilitation and more and more self regulating.'

For example Yves reports: '... is my breathing okay, am I relaxed, am I not too sure of myself, am I firmly "rooted" on the floor, is my throat sufficiently lubricated (I always carry a supply of tap water) in other words, it is a moment to run checks and balances. I adhere to what I call a sort of an inverted causality principle: when one behaves relaxed/alert/rooted, one will also be mentally relaxed/alert/rooted – a known principle of behavioural psychology.'

Awareness of emotional conditions creates willingness to change emotion. By the process of awareness in SHIPS, the individual obtains a clearer understanding of the role of emotion in developing and sustaining (problematic) aspects of vocal communication.

For example Carl reports: 'Through the therapy, I have become a lot more aware of the relationship between a number of elements that all have to do with euvoicing. Especially the central role of emotion in the whole of physical well-being is something that I now understand much better. ... as time during the sessions was spent on what seemed non-voice related issues. At a time in my life of great change, though, and at that moment I wasn't aware of the connection between emotion and my problems with the voice.'

Emotional skills are felt as pivot elements of stress-voicing management [33]. Emotions, as Izard [14] states, 'constitute the primary motivational system of human beings which activates neural, cognitive, and motor processes, mobilizes and channels energy, and motivates and guides mental and physical activity'. This awareness could encourage the trainee's consent to focus on emotion as a target in the process of change. Awareness facilitates the motivation to change emotion.

For example Carl reports: 'Being able – in a therapeutic context – to speak about how I felt and reflecting on the connection voice-emotion was a real eye-opener. At the same time, I started to read more books about self-development, see a homeopathic doctor and acupuncturist, and take better care of myself in general.'

Another facilitating condition is the awareness of attitudes and behaviours in social performances [this issue, part 1]. Functional analysis might reveal specific lacks in coping with the teachers' multiplicity of communicative demands. The (student) teacher might feel ineffective regarding his ability to influence the behaviour of the audience. This lack of charisma might trouble the (student) teacher on the level of need for social esteem. But when the educational task is felt as a vocation, the teacher's worry about a lack of social abilities and skills represents a danger to an essential value in the teacher's existential well-being. Targets for generalizing adequate vocal communication, besides classroom, in groups and on stage, inside and outside from school, might be relevant to a (student) teacher who is a trainee in SHIPS. Combining communication needs in a personal, domestic and professional context is a social ability which is a source of either human enjoyment or embarrassment.

Mental, physical and physiologic facilitation adheres to an optimal antecedent stimulation for modification.

Modification of Coping Competences

Optimizing coping skills follows the understanding of the coach and the (student) teacher as a trainee about potential competence in VOCE-T. This competence means keeping or readapting a balance in basic needs of vocal communication.

'Coping is the process of managing the demands that are appraised as taxing or exceeding the resources of a person' [38]. It is similar to the (biological) stress response, a homeostatic mechanism, with its main effect to counteract, to eliminate the source of stress [33].

Coping behaviours are the constant cognitive and behavioural strategies aimed at managing the biological and mental arousal, and at developing skills that meet the basic needs of human well-being. Every individual develops his own 'coping style', his favourite ways of coping [39]. 'A person's emotional appraisal and the self-evaluation of his competence leads to coping or adaptive reactions, either to meet the perceived need, or to counteract the perceived danger' [33].

The domains of the competence in VOCE-T are threefold: mastering of the instrumental use of the voicing apparatus, self-regulation of emotion, and skills in social performances.

Developing these domains of competence means rendering abilities and skills optimally in order to deal with the internal and external environment. In a process of change, abilities and skills are obtained, refined, reinforced, and adapted. A (change of) self-image [40] about

coping competence should result from interactive influences of the vital energy of eustress, the potential coping abilities and from achieved performances.

By functional analysis of the individual's SAECE within each of these domains of abilities and skills, targets are identified and tools for modification of behaviours are selected.

Each skill is a set of tools. The tools for modification of the entities of SAECE have to be determined, combined and adequately applied in an integrative way. Thus, the process of change is modification of the various targets within the entities of SAECE.

Instrumental Voicing Skills

Instrumental voicing skills are the healthy techniques for the use of the vocal apparatus and its combination with the use of voicing as a flexible signifier in communication.

These skills of technical use and linguistic significance are achieved by variations of intensity and accent, in pitch and melody, in rhythm and pacing, phrasing and velocity.

When anticipating communication demands and opportunities, an attitude of hope is enhanced by the disposition of a broad pallet of instrumental vocal skills. A broad pallet serves the competence to cope effectively with the different levels of needs [this issue, part 1].

The trainee's hopeful anticipation of VOCE-T has to replace fear for loss of control on the vocal instrumental acts. Through the mastering of the skills of instrumental control, the feeling of being disabled to adequately meet communication needs and demands is counteracted. Fear undermines self-confidence and it hinders flexibility and creativity in a diversity of communication contexts [this issue, part 1]. A flexible instrument and adapted technique of the use of it feeds the attitude of hope in a realistic way.

The aim of control of instrumental skills adheres to VOCE-T. For vocal skills, this specifically means the domain of anatomy-physiology such as the production of phonation with creation of possibilities and limits in intensity, tone, or voice quality. In this example, functional analysis creates awareness of the conditions and events that lead to low intensity, bad tone, or decreased voice quality. Therefore, with respect to vocal skills, the targets are specific. For example, targets of modification are adequate regulation of movements in the vocal tract and muscle tension, in other words the development of motor skills. Differentiation, precision and coordination of muscle tension are conceived as subtargets. Other exam-

ples of subtargets within a target are rhythm, accents, and tone within prosodic aspects of voicing. Subtargets have to be integrated with each other within the main target. Additionally, targets integrate with each other directly or via subtargets.

The application of various aspects of the vocal skill needs to be systematically combined and integrated progressively and systematically with aspects of the emotional and the social skills.

For example learning to master motor and paralinguistic aspects of the vocal act in a diversity of situational contexts.

For example Carl reports: 'Most importantly, thanks to self-observation as well as working in small groups, I identified 3 points as the most important for me to work on in the therapy besides techniques for a healthy voice: using hand gestures to support the vocal message, using broad facial expressions and good articulation, and using breathing exercises to control breathing and support phrasing in speech.'

The conscious and adapted use of non-vocal and body language can promote integration of the vocal acts in the totality of a communication situation. Integration of prosodic vocalization is sustained by the combination of vocal with non-vocal acts such as facial, gestural, and bodily acts which show to be individual characteristics in styles of expression and information.

Principles of instrumental reinforcement are applied to update and/or modify the instrumental vocal skills. The result is achieved by intensive training either in a playful manner or at a high level of self-discipline.

A systematic application of laws for operant learning is appropriate. Vocal skills which function as operants are reinforced, modified, or acquired by consciously well-defined aims and systematic manipulation of their consequences. Creating a new habit implies well-determined rate and time schedules of external reinforcement and self-reflection [41]. Negative practice, shaping, prompting, imitation, differential reinforcement, modelling, rehearsal, or massed practice are current procedures [4, 25, 36, 42].

Emotional Skills

For example Carl reports: 'I recognized the role of physical fatigue: when tired, the chance of slipping back into bad (old) habits and coping skills was much greater. But most of all, I learned that without also placing the emotional elements, all of these speech therapy techniques alone would be insufficient to reach a state of euvoice and eustress.'

Change of emotion aims at the development of self-control regarding emotional modes of expression in com-

munication needs. On the other hand, change aims at the development of coping behaviours that follow emotion as a motive. This means that change aims at voicing as a coping act that is activated by opportunities and threats, connected to values of survival and physical wellness, interpersonal rewards, creativity and existential fulfilment.

Multiple aspects can be a (sub)target in emotional skills. Emotion is experienced as attainable for regulation of dosage and of evaluative labelling [24, 43, 44]. Emotional learning and unlearning imply the mastering of a skill to moderate arousal and to channel activation and cognitive appraisal [10, 24, 35, 43, 45–48]. Verbalization and anticipation of moods, affects and emotions are a substantial target in SHIPS [34, 49, 50], and these go along with the formulation of either disharmony or balance.

For example Carl reports: 'In the beginning stages of the therapy, the sessions often felt more like sessions at the psychologist than at the speech therapist. I also had the need to talk about some of the things that were bothering me and felt that having "a listening ear" was more important than breathing or articulation or voice exercise.'

Methods for change aim at variables of emotion. Emotion is considered to function as either a motive or an organizer of behaviour [14].

It should be kept in mind that mild emotions and minor or moderate body changes or changes of moods which persist over a long period of time are easily ignored. SHIPS makes the teacher become aware of them through observation training. Tension, chosen as a dimension to represent neural-physiological activation, is attainable for regulation [14, 51]. This may be achieved by a variety of means. A large array of methods is available for relaxation and meditation, among others [24, 44].

For example Yves reports: 'I adhere to what I call a sort of an inverted causality principle: when one behaves relaxed/alert/rooted, one will also be mentally relaxed/alert/rooted – a known principle of behavioural psychology.'

Physiological cues for self-regulation have to be combined with cognitive restructuring [34, 35, 49]. Also cognitive aspects can be monitored in several ways such as: narrowing or widening of the focus of attention, imagery and anticipation [52], inner dialogue [53, 54], rationality [8, 50, 55], and changing of habits, thoughts and attitudes [35].

In SHIPS rehearsing of the self-regulation skill goes along with (self)-reflection on the dimension of tension-intensity or energy. (Self)-judgment on a gradual scale is introduced by the following labels: 'sleepy – indiffer-

ent – relaxed – interested – surprised – in fear or in high excitement'. The formulation of this scale is based on the system of Duffy [56, 57], that, in analogy to that of Lindley [17, 58, 59], allows emotion to vary quantitatively and not qualitatively [14]. The labelling of intensity is distinguished from the hedonic tone of it. This dimension is differentiated on a continuum from 'pleasant to unpleasant'. Also self-assurance and impulsiveness are used to describe subjective experiences associated with various emotions [60].

Environmental and task stimuli are evaluated in vitro and in vivo [52]. Intrapersonal and interpersonal stressors and other situational signals are discussed in their function as evokers of motor responses or emotional reactions [12]. The stressors are discussed as being evocative of either aversion or attraction.

Occasions of being gripped by fear or by anger, being overwhelmed by sadness, or experiencing great joy are recalled [61]. Expressive movements and their communicative message [62] become more conscious in (verbal) modelling and rehearsing.

Feelings of anxiety are considered in relation to the oscillation between fear and excitement [this issue, part 1]. Fear as 'the emotion that supports avoidance or retreat from the object' and anxiety as 'the basis of an ambivalent relation to the object' are discussed [59, 63, 64]. Discussions on this issue are led by the ideas that fear may result from the unknown, uncertain qualities or possibilities in the object of choice; the excitement from the novelty and possibility as such and from investigatory activity that reduces the uncertainty and fear and permits interest to operate. Fear places limits to a person's thrust into the unknown; interest-excitement sustains exploration [14]. Verbalization and anticipation of moods, affects and emotions are a substantial target in SHIPS [34, 50, 65]. And these go along with the formulation of either disharmony or fulfilment of the basic human needs.

A skill for self-regulation can be established by monitoring perception, imaging, thinking, remembering, planning in combination with physiological (self)-regulation and motor (eu)tonicity.

For example Carl reports: 'I remember how frustrating it was each time I felt really excited to talk about something to be interrupted and made aware of bad posture, poor articulation, or too much use of hand gestures. It was not till later, after having experienced how the communication could be strengthened and improved and at the same time the voice could be used in a better way, that I realized that this is also a more authentic way of communicating that at the same time is beneficial to the speaker as well as to the audience.'

To accept emotion and to use it in function of authentic expression by means of adapted voicing is felt as freeing a force. It means having a power at your disposal for self-direction along (re)discovered ways to cope appropriately with challenges and/or dangers to basic values. This is analogous to the basic notions of 'acceptance' and 'commitment' in the acceptance and commitment therapy of Hayes et al. [35].

For example Carl reports: 'Most importantly, thanks to self-observation as well as working in small groups, I identified 3 points as the most important for me to work on in the therapy: using hand gestures to support the vocal message, using broad facial expressions and good articulation, and using breathing exercises to control breathing and support speech.'

For example Yves reports what he concentrated on in exercise and in real life applications: 'My primary goal is securing spontaneity. A licked performance has never been my aim. Speaking too perfectly equals digging a ditch between the audience and the speaker. An occasional stutter and flutter, or having to search for words – when it occurs, I don't really mind.'

Social Skills

Changes in social and organizational skills may turn out to be relevant aims in SHIPS [this issue, part 1]. In the process of awareness, specific lacks may become apparent. A broad armamentarium in the realm of social and organizational skills appears to be desirable to the (student) teacher in order to meet the multiplicity of communication demands of his professional environment. The opportunity for (re)learning about suitable social skills and organizational behaviour can be offered in the context of training in SHIPS. Group settings are suited for modelling and role playing of social learning of skills [25, 34, 66].

For example Carl reports: 'For me the group sessions were a real eye-opener. Not only did it allow me to learn and observe different communication styles (some efficient, some not) among my classmates, but through the feedback of the other members of the group it also made me become much more conscious about my own communication style.'

The following targets in social and organizational skills may be relevant to a teacher: assertiveness in authenticity and expressivity; negotiation in handling personal interrelations and in meetings; conflict-free decision making; different leadership styles and flexibility of roles; public speaking; counselling with parents; time scheduling and setting priorities, and planning of post-graduate schooling.

Emotional coping abilities for stimulus appraisal and channelling of activation are highly facilitative for operant and social learning experiences. Also improved skills in how to use the voice as an optimal adapted instrument

are enhancing the desired effects of social and organizational abilities.

For example Carl reports: 'Even though I have not been using my voice the same way as before in the past year, I have found situations when the techniques and insights from the therapy have helped me to deal efficiently with speaking situations or with authenticity and self-confidence in speaking situations in general. For example, when I attended a job fair and was exposed to three days of very intensive job interviews. Or when I had to make presentations to groups of people regarding "my" charity project. Not only the fact that I received a job offer after almost every interview as well as the good results in fundraising after presentations about the charity project are sufficient evidence to me, but much more importantly the self-confidence I felt during these speaking situations and the fact that I felt to have control over the speaking situation. I even chose my new job, based on "intuition" about the authenticity of the interviewer.'

This reciprocal reinforcement of abilities is enhanced by procedures for (systematic) integration. Growing in understanding happens in interactive and integrative methods of change. The experience-based understanding of the mutual facilitative and reinforcing factors in social (dis)abilities regarding stress-voicing is necessary for the development of self control.

For example Yves reports: 'My objective is speaking normally in "abnormal" speech situations: speaking for small or large audiences, TV cameras and radio mikes are all "abnormal", in that they are formalized and stylized forms of the normal, face-to-face speech situations in daily life. Being conscience of prerequisites, conditions and techniques that help recreating this "daily conversation" atmosphere is, in my view, the reason why training in voicing has been of importance to me.'

Self-Control and Integration

The aim of change is eutress-euvoicing. The (student) teacher becomes aware that the various aspects of eutress-euvoicing are interrelated.

For example Carl reports: 'I also recognized the role of physical fatigue: when tired, the chance of slipping back into bad (old) habits and coping skills was much greater. But most of all, I learned that without also placing the emotional elements, all of these speech therapy techniques alone would be insufficient to reach a state of euvoice and eustress.'

The learning methods that are applied in facilitation and modification have to lead to a new integrated SAECE. In the procedure of change in SHIPS, integration progresses in a systematic and holistic way. Systematic integration is considered as the most remarkable distinctive feature of the holistic process of change into VOCE-T.

Self-control of integration is a prerequisite for generalization in the development towards VOCE-T. It is promoted by the continuous thread of awareness throughout the whole process of SHIPS and is considered to be the working agent in facilitation and modification. Self-control is developed by information (informed consent), by practice and by feedback on utilization of the voicing as an improved instrument. *Integration* is considered an essential characteristic: conceptual in SAECE and procedural in SHIPS. This consideration results from the fact that SHIPS intends to enhance durable change of patterns within and between the SAECE entities of the stress-voicing holism. The aim of integration is mutual reinforcement of the targeted elements. Selfcontrol regarding integration has to result in *generalization*. It is the core element in care and cure of the voice by application of SHIPS. Characteristically, integration takes place in a systematic and progressive way throughout SHIPS. As a consequence of an intended strategy, *systematic integration* installs generalization.

Systematic Progress of Integration and Generalization

SHIPS intends to install a durable change in interrelated aspects in a circular process of eutress-euvoicing. A systematic progression of integrated change in SHIPS consists of the following steps:

- (1) Application of behavioural learning methods that lead to an optimal integrated pattern within each entity of SAECE.
- (2) Modified targeted elements are integrated with one another, within each entity, that are integrated with the elements in other entities.
- (3) The changes of the entities stressor/signal, arousal/activation, coping and effects are integrated in a circular process, with emotion as a pivot.
- (4) The changed and integrated entities are abilities that are applied in an integrative way within each domain of behaviours.
- (5) The abilities in the emotional, instrumental voicing and social domains are interwoven in order to become a potential coping competence; the development of skills in emotional stimulus appraisal and in channeling of activation enhances instrumental and social learning.
- (6) This competence of coping potential has to become a conditioned behaviour that must be associated with a wide range of external and internal eustressors. Meth-

ods for integration and generalization training consist of application in a varying and widening context of intentions, roles, situational and linguistic aspects.

- (7) Generalization should result in coping in a wide range of contexts in daily life and in the teacher's professional life. At the ultimate integration level of three of these behaviour domains is the potential to VOCE-T.

How is systematic progress of integration and generalization obtained? As the integration of the situational characteristics, intentions, conditions and events in vocal communication skills is felt to be highly relevant in the process of change, it should be organized in a systematic way. Systematic integration has to be dynamic throughout the different stages of change. Specific methods for systematic integration are included in the stages of facilitation, modification and generalization. These methods are either more or less elaborated, depending on the individual case of the (student) teacher as a trainee in SHIPS.

Within the limits of this present paper, some characteristics when applying methods for systematic integration are mentioned:

'Motor tuning' and tension adjustment in SHIPS follow the facilitative reconditioning. It is going to be applied in combination with emotional, instrumental, voicing and/or social skills. Also, instructions for homework imply self-control on facilitation when training in self-observation, in multiple skill exercises and in systematic generalizing of abilities. By reinforcing the facilitation of desirable habits, the vocal instrument attains the optimal physiological and physical condition for VOCE-T.

For example Yves reports: 'Luckily in most instances where I have to perform (besides speaking for a small or large audience there is radio, TV, reunions), there is an opportunity, prior to the actual speech situation, where I have a brief moment to myself to run an internal checklist ...'

Carry-over of an integrated application of well-defined aspects of vocal, emotional, and social skills is enhanced by extending a potential or mastered disposition to an 'automatism' of skills. The use of 'reminders' is useful.

For example Carl reports: 'Magda's suggestion to put small coloured stickers in strategic places that I would see in my everyday practice, was really helpful. Nobody else knew what they meant, but for me they were a constant reminder.'

For example Yves reports: 'I seem to have a problem what speech volume is concerned. Mostly microphones do the job for me, so it's not really much of a problem. Nevertheless, control is preferable. When speaking for audiences without amplification, people tend to not understand me because I'm not talking loud enough. Adequate breath control should be a special point of attention, for

which I have made up a plan since I grew aware of the aforementioned problem. The first step is the audience providing feedback: two people on opposite sides in the back row receive a sign saying "Louder please", which they have to hold up in the air each time my speech volume drops beneath the understand ability threshold.'

In conditioning of voicing aspects to an automatism applying Premack's principle [67] is useful. 'Within Skinner's framework, Premack has suggested that the relationship between a response and the subsequent event be treated purely on the basis of *relative* response probabilities. Briefly, Premack asserts that a *behaviour* serves as a reinforcing stimulus if its probability of occurrence is greater than that of the behaviour to be reinforced, when both responses are freely available. Behaviour modification simply involves a rearrangement of responses so that opportunity for making the high probability response is always contingent upon prior execution of the desired response of somewhat lower probability' [36].

Examples of how the newly learned and well-controlled skill is systematically connected with already existing automatisms or with behaviours of relative higher probability of emitting: using keys, opening the refrigerator, opening a tap, and vocal or verbal skills that are already well mastered.

An automatism is also reinforced, when the trainee '... makes positive covert statements just prior to highly probable behaviours, (it is) increasing the strength of these positive behaviours in his repertoire' [36]. On the basis of relative probabilities, the process of integration develops in a systematic and holistic way.

Effect: Empowerment of Self-Confidence

Experiences of generalization empower the feeling of self-confidence. This follows the growing understanding of stress-voicing in synergy with increased mastering of integrated coping abilities. This synergic interaction results in an increased self-confidence in coping competence for VOCE-T.

Awareness regards stressors/signals-arousal/activation-emotion-coping-effects. The experience-based understanding of the mutually reinforcing aspects in stress-voicing is the basis of the development of self-control.

The (student) teacher becomes conscious of the self-power over decreasing or (re)moving distress provoking and maintaining stimuli in the micro-, mezzo- or macro-environment of communication.

Knowledge of relations within and between the dynamic entities of SAECE in stress-voicing underpins the (re)shaping of the totality of this circle. Reshaping occurs through integration and through generalization. The teacher's awareness of being self-agent to reshape the cir-

cular process of distress-disvoicing into eustress-euvoicing constitutes the feeling of self-power.

For example Carl reports: 'Now I realize that I DO have control over my own voice in every speaking situation. I also understand the role of emotion for optimal voicing and I have a number of techniques at my disposal to improve voice quality.'

In VOCE-T, the teacher's anticipation of self-control is to count on durable effects of SHIPS. Self-control is the core of the learning process of why and how to achieve balance in the basic human needs, through understanding the elements of the SAECE circle and the mastering of these elements by adequate coping. Coping with the basic human needs is a strong motivational system. It gives a certain dynamic to the trainee in SHIPS. This dynamic empowers the (student) teacher to become a master in VOCE-T.

For example Carl reports: 'Since the start of the therapy, I have had fewer absences related to voice issues and a better feeling of general well-being. In some ways, I can say that I feel more balanced and more authentic. Thanks to the therapy, I have sorted out for myself what I hold really important and what not.'

Synthesis

'It is commonplace to state the obvious relationship between emotion and voicing and between stress and voicing' [33]. 'However, only rarely is there specific reference to what the stated relationship between emotion and voicing consists of, and what the consequences of it are for diagnostics, therapy management and training' [33].

In a comprehensive model stress-voicing is considered as a dynamic holism, inherent to the waves of life [24, 33]. The holism of stress-voicing is conceived as a circular process of stressors/signalization-arousal/activation-emotion-coping-effects. Emotion is the pivot of the mutual functional relationships between the entities of SAECE. This concept implies a holistic-analytic approach that is appropriate in coaching of stress-voicing. Actually, the author presents a learning strategy for training, which aims at eustress-euvoicing prevailing over distress-disvoicing: a systematic, holistic and integrative process of self-control (SHIPS). SHIPS consists of the twin processes of awareness and change that are synchronically interwoven and consistent.

Systematically and at different stages of SHIPS, the individual aspects of stress-voicing are assessed by the procedure of functional analysis.

Interdisciplinary thinking leads to a common view on the problem analysis of the teacher's stress in voicing. Un-

derstanding the integrative loop of SAECE is important for continuity of the process of awareness. Awareness – de facto – is not covered if only restricted to the phase of intake. Growing in understanding happens in synergy with experiences of change.

Focus on teachers' voice seems to be very relevant [29, 30]. (Student) teachers as trainees in SHIPS go for the competence of voicing in an optimal way of coping to meet needs effectively in the teachers' field of communication (VOCE-T). The focus is on the individual (student) teacher's environment of demands and challenges to communication.

The experience-based understanding of the mutual facilitative and reinforcing factors in the internal and external environment is necessary for the development of self-control in stress-voicing. Knowledge of relations within and between the dynamic entities of SAECE underpins the (re)shaping of the totality of this circular loop. In this respect, functional analysis is a valuable tool for diagnostics and evaluation. At the same time, it is serving as a guide in deepening understanding [48] and in strategy for changes.

Multimodel concepts basic to the learning strategy of SHIPS imply cognitive-behavioural approaches [2, 21]. The coaching of professional voice users unto self-management is the general framework of SHIPS. Some basics are similar to the ideas of existential analysis [9] and the acceptance and commitment therapy [35]. Principles of conditioning and reconditioning of attitudes and habits are applied. Paramedical practices in psychomotor use of the voice are a highly relevant source of experience in therapy and training. Empirics out of the arts of word and vocal performance are inspiring to it as well.

In SHIPS, the (student) teacher's awareness is growing about interactions in distress-disvoicing versus eustress-euvoicing.

For example Carl reports: 'Now, almost 2 years after start of therapy, I can say that I understand the model much better and can be a lot more pro-active in avoiding problems with voicing and establishing a sense of eustress and general well-being. I am now also convinced that this holistic approach has been much more beneficial for me, both in the short term as well as in the long run, than an approach focused on only elements of speech therapy.'

(In)effective vocal communication becomes understood as a function of multiple interactions of inherited and/or acquired dispositions, competences, momentary states, situational demands and acquired abilities. A distinction is made between undesirable versus more desirable aspects of the individual's stress-voicing holism in

the learning process of awareness aimed at the process of change.

The learning strategy of SHIPS in awareness of and change into VOCE-T goes along the stages of facilitation, modification and generalization. For the development of a desirable and durable improvement of attitudes and skills for eustress-euvoicing, all the features of SHIPS are distinctive: holistic, systematic and integrative and self-control. Self-control is the main catalyst of SHIPS.

Systematic awareness leads to facilitation of motivation and preparedness. In the process of functional analysis, the search for stressors is implied. In the course of SHIPS, understanding grows about (dis)harmony of effects on basic levels of human needs. These needs are viewed in relation to the teacher's (non)-adaptive coping in vocal communication. Also, intensity and effect of reactions on signals for needs are assessed. Emotional reactions reflect either hope or distrust of being able to cope effectively with stressors in order to meet basic needs in communication. (Non)-rewarding effects are identified as distressors or eustressors. In other words, emotion is recognized as the pivot in stress, because it goes along with changes in arousal/activation reactions connected to appraisal of distressors or eustressors. Appraisal implies the (self)-evaluation of competence to cope with stressors. This means that emotion is a central criterion for self-judgment in stress. The trainee's self-confidence in stress-voicing implies self-supporting the competence to cope with needs that feel challenging or threatening in a communication situation.

A clearer understanding (awareness) of the individual's SAECE should evoke motivation to proceed in a process of change. It follows from the fact that the intention to meet different needs adequately and harmoniously obviously requires adapted coping abilities. Attempts at stimulus control and at developing coping competence are part of the process of change. These endeavours aim to enlarge and/or direct the potentials to attain and to maintain an optimal balance of needs in the teacher's field of communication.

Awareness facilitates the motivation to change and it promotes understanding and authenticity in attitudes and self-reflection. Cognitive awareness implies apprehension of conditions and life events and their interpretation as a stressor. By growing awareness, signals of distress can become conscious cues for change into eustress. Physical and physiological facilitation promote the preparedness to change arousal and motor reactions. Changes in the internal somatic and external material environment are targets for devices in SHIPS. Mental, physiological and physical facilitation adhere to an ideal antecedent

stimulation for the change into an optimal environment to develop coping competence, and this adheres to changes in emotion.

The trainee's understanding is growing about competence in VOCE-T. This developing awareness goes along with the competence to cope effectively. This competence means mastering of an equilibrium in basic human needs met by modes of vocal communication. In SHIPS, changing this competence means optimizing of attitudes and skills that are to be obtained, acquired, reinforced, and adapted. Domains of behaviour in VOCE-T that SHIPS is focused on are threefold: self-regulation of emotion, the mastering of instrumental voicing acts, and abilities in social performance. Through functional analysis of the individual's SAECE within each of these domains of behaviour, targets are identified and tools for modification of behaviours are selected. In order to render the coping behaviours optimal, principles of learning define the methods used for it.

When behavioural learning methods, such as (verbal) modelling, rehearsal, and memory exercises are applied in SHIPS, they should lead to an optimal, integrated pattern within each entity of SAECE. As a consequence and as an intended strategy the modified entities (stimuli, arousal/activation, coping, effects in a circular process pivoting around emotional evaluation) are integrated. In this (re)learned pattern of vocal communication: emotional, instrumental voicing and social abilities are interwoven in order to arrive at this integrated competence. The ultimate level of integration of the behaviour domains is VOCE-T. Systematic integration is the most remarkable distinctive feature of the holistic process of awareness and change into VOCE-T. It follows from the fact that SHIPS intends to enhance interrelated aspects of eustress-euvoicing. In a systematic way they reinforce each other in an ongoing process of facilitation, modification and generalization. The process of integration develops in a systematic and holistic way. Targeted elements within each entity are integrated with each other and with the elements in other entities. The modified entities have to reach a renewed integration of SAECE which is the circular process of eustress-euvoicing. Within each domain of behaviours, the targeted attitudes and skills are applied in an interactive way. And this interwoven complex of coping potential becomes conditioned to a wide range of external and internal eustressors.

In the learning strategy of SHIPS, the development of the power of free choice is crucial [34, 35] for resulting in a positive feedback loop of stress-voicing. Self-control is considered to be the working agent for ongoing and du-

nable change. It is promoted by the continuous thread of awareness. This means the trainee is a conscious and active participant [31] in the whole course of the process. Self-control is inherent to several practices in the process of awareness and change. It is developed by information (informed consent), by experience with exercises on criteria for (self)-judgment, and by self-feedback in an individualized programme of application. Empowerment of self-confidence increases coping competence. Powerful self-confidence reflects an attitude in which fear is replaced by hope, based on know-how of optimal vocal communication. Being hopeful is feeling effective in influencing stress-related conditions and events in the external and internal environment. This hope is reality tested. By feedback on arousal, self-control of the teacher's vulnerability is experienced as attainable. It is the awareness of self-control which is needed to moderate the level of stress in terms of frequency, intensity and duration. It means self-confidence is developed about the ability to channel emotional reactivity by its visceral, cognitive and motor variables. The teacher feels self-confident about activation and canalization of the desirable energy sustaining a skilled use of the voice in communication or 'euvoicing' [23].

Powerful hope for eustressed vocal performing feels like predominating over the frightening anticipation of loss of self-control. This attitude of hope should continue to function in the teacher's field of communication as an alternative for unrealistic and/or counterproductive fearful anticipation and anxious worrying.

Generalization training gives the therapeutic experience of being able and self-responsible to apply the competence in order to meet basic needs in communication. The anticipation of being able to cope with threatening or challenging situations is a hopeful attitude that becomes reality tested. It is an attitude of feeling in control of the integrated skills of self-regulation of emotion, mastering of instrumental voicing acts, and social performance. The (student) teacher's experiences with reality testing empower the self-responsibility as a self-regulator of an equilibrium in coping effects.

For example Carl reports: 'In conclusion, I would say that I feel I am now making better use of my voice "potential", feel more confident doing so, and more authentic in the things I do. I know that the speech therapy is only one element in this growth, but I can truly say that the holistic approach of the speech therapy has been an important element in connecting a number of things and seeing the whole picture. It feels like I had to first "peel off" all the bad habits accumulated over the years, before I could go back to the essence and the potential of the communication skills that I have in me.'

By a flexible use of vocal communication in different styles of leadership, in different roles, and in a wide variety of situations and social interactions with students, parents, colleagues, directors, and organizational instances, VOCE-T should enhance the teacher's charisma and servitude.

Conclusion

Changing of habits is not evident. It might be quite exciting to the open-minded teacher who does not hesitate to go for what makes school life a better habitat. However, it might be confronting to teachers' self-image. The professional pride of the person might be touched. It might be difficult to accept for the teacher who considers himself to be well informed in general issues and whose professional establishment is a corner stone in the cultural development of society. In order to improve specific targets or to acquire desirable modes of coping in the teacher, training may be tailored for a considerable part to the individual's case. Specific aims or aspects of skills have to be differentiated. Does it mean a (student) teacher should become a starter trainee? Some resistance is understandable. However, the anticipation of becoming an active and responsible actor in SHIPS could evoke the teacher's willingness to engage in a learning process of awareness and change. An integrated programme, inspired on mutual consent by the holistic character of stress-voicing, might be more efficient to the teacher than a setting in which the teacher has to visit various caregivers at different locations and times. The use of the SHIPS strategy may serve to meet the need for enhanced awareness in student teachers, in caregivers [30], and for postgraduate training in the profession of teaching. Self-control in VOCE-T in the care and cure of the voice is the core element of SHIPS and it is the working agent in the process of eustress-euvoicing prevailing over distress-disvoicing.

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