Yoga and meditation for better language learning

Yoko Wakui
Aoyama Gakuin Junior College, Keisen University
Miki Kohyama
University of Edinburgh
Hiromi Ishikawa
Sayama Chuo Junior High School

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37 first-year female students in a Japanese junior college in a required English reading course were introduced to yoga and meditation in class to measure its impact on English acquisition. There are three essential elements of yoga: postures, meditation, and mental attitudes. Following one-minute of meditation, students practiced a few-minutes of easy yoga postures, adapted for the classroom, to wake up. Three hypotheses were made prior to the study: yoga and meditation 1) reduce stress, 2) increase energy and motivation, and 3) increase memory. The students answered three questionnaires, took ten vocabulary quizzes, and wrote reflective notes in each class. In addition, students observed a video-recording of themselves sitting and meditating while breathing, and reflected on it. The results indicated that students experienced stress reduction, relaxation, an increase in energy, positive attitudes towards learning English, and improvement in memory as a result of yoga and meditation.

日本のある短期大学の必修英語のリーディングコースに在籍した37名の女子学生にヨガと瞑想が紹介され、英語習得にどのような影響を与えたか、ということについて考察された。ヨガには3つの重要な要素、ボーズ、瞑想、想念がある。学生達は1分間の瞑想と、それに続く2、3分間の目覚めるための、教室でも実行可能で容易なヨガのポーズを毎回練習した。ヨガと瞑想は1)ストレスを減少させる2)エネルギーとモチベーションを高める3)記憶力を高める、という3つの結果が研究の前に予測された。 学生達は1年間に3回アンケートに答え、10回単語テストを受け、毎回の授業で感想文を提出した。また学生達は着席し瞑想しつつ深く呼吸をしている自分自身の姿をビデオで1回見て、それについて考察した。ヨガと瞑想の結果、学生はストレス減少、リラックス効果、エネルギーの増加、英語学習に対するポジティブな態度と記憶力の増加を示した。

oga has changed our lives. Wakui started yoga about 20 years ago. At first, she practiced yoga on her own reading a book about yoga. Since she felt comfortable doing yoga, she started practicing yoga regularly 15 years ago and realized the numerous benefits of yoga. She noticed that she felt less tired than before, and she recovered from chronic chilblains, backaches, stomachaches, and migraines. One of the biggest gains for her was that she changed her way of living. Now she feels much more flexible, comfortable, stable, energetic, confident, and compassionate to others than before. Above all, she feels the happiest since she was born.

Kohyama started practicing yoga about five years ago and looks slimmer and smiles more. Her body is more flexible and so is her mind. She is more open to new ideas and ready to tackle new challenges. Before difficult tasks, she does some yoga postures that help her focus on the positive. She sleeps through the night without waking up. Since her body and mind are balanced, she does not eat food that her body does not need. She no longer craves sweets in the middle of the night. Her life is simpler, yet satisfying. She no longer buys unnecessary clothes that exceed the limit of her closet space. She recovered from chronic headaches and backaches. She recovers from colds much faster than before.

The list of yoga's benefits to the lives of Wakui and Kohyama goes on and on. The wonderful effects yoga has had on our lives made us determined to introduce yoga to university students who have difficulty concentrating on English lessons.

"Life is full of stress" (Inlander & Moran, 1996).

Our students seemed to have stress, because of which they could not still their minds and felt frustrated by many factors. As a result, they had problems concentrating on their learning. They became either noisy or easily fell asleep during the lesson. They were not ready to study. We thought students' negative emotional conditions may be an obstacle against successful learning, because "stress has a negative effect on ... memory" (Inlander & Moran, 1996).

We believe that it is important for students to learn yoga and learn how to balance their mind and body to facilitate an optimal state of learning. In schools, we learn to read, write, calculate, etc.; however, less attention has been paid to the way students cope with anxiety and stress in classrooms. "Emotional excitement affects the rate of breathing; equally, deliberate regulation of breathing checks emotional excitement" (Iyengar, 1966, p.45). By learning to breathe properly, students could create a positive and affective state that is suitable to maximize language learning.

Yoga and meditation can provide solutions to reduce student anxiety in increasingly competitive language classrooms. Epps (1996) introduced yoga in her physical education class of 15- to 18-year-olds as a non-competitive sport. Gazette and Hukill (1976) supported the use of yoga in schools based on humanism and whole person education theories.

Our friends who heard that we would present Yoga and Meditation, or the audience who were thinking of coming to see our presentations asked us if they would need a mat for attending our session. When they thought of yoga, what came to their minds were *asanas*, that is, physical postures.

There are three essential elements to practicing yoga: yoga postures, meditation, and mental attitudes. Breathing and yogic philosophy are, in fact, essential parts of yoga. The three elements of yoga are all connected and they should be introduced and practiced together. This is the secret of yoga's power to change oneself more strongly and deeply compared to exercises originating in the West.

Yoga reduces stress and leads us to positive thinking. We thought of combining these effects with English learning in order to solve students' stress problems. Positive Meditation, developed by Wakui (Agawa & Wakui, 2006) based on Hirschi (1998)'s theory, was used. PM was effectively applied using positive ideas combined with breathing and it was introduced when the class was noisy, students were too excited to study, or they couldn't concentrate on studying after the exam. It takes only five minutes for a unit of meditation with yoga. For PM here, students closed their eyes for one minute and put their hands on their laps: the left hand in the right hand, the thumbs touching each other (Hirch, 1998). Students thought of a positive word and repeated it without vocalizing. Students then opened their eyes and worked out in order to wake up. For instance, they massaged their feet or shoulders or stretched them. There was a limit to introducing yoga in ordinary university English classrooms, for example, we could not sit or lie on the floor. Thus in our class, yoga was primarily introduced with small scale yoga postures so that the students could work out within their limited space as Beleu (2001) considers a workplace space. One popular exercise is as follows. Students found a partner. One partner stood next to the other one who was sitting on a chair. They pushed

their partners' shoulder down with their hands, while their sitting partner raised their own shoulder in resistance. They repeated this for the other shoulder and then changed roles.

This study posed the following questions:

- 1. Will the students be free of stress after yoga and meditation?
- 2. Will the students get energy and feel motivated to study after yoga and meditation?
- 3. Will the students' memory improve through practicing yoga?

Literature Review

What is Yoga and Meditation?

Originating from ancient India, yoga "is a union of the mind, body and breath, so all aspects of your life are impacted by your practice" (Menechella, 2006, p.1). It is a part of the traditional Hindi way of life to maintain a healthy balance between the mind and the body. Although the body is a vital component for healthy living, it needs to be balanced with the "senses, mind, intellect and soul" (Iyengar, 1966, p.41).

There are three parts to yogic practice: yoga postures, meditation, and mental attitudes, as mentioned above. Yoga postures strengthen muscles and make the body flexible. A definition of meditation according to Walsh and Shapiro (2006) is, "...a family of self-regulation practices that focus on training attention and awareness in order to bring mental processes under greater voluntary control and thereby foster general mental well-being and development and/or specific capacities such as calm, clarity,

and concentration" (pp.228-229). The third part of yoga is mental attitudes underlined by Hindi wisdom and philosophy of life. According to Yoga Sutra, an ancient script on yogic principles, there are five elements: saucha (purity), santosa (contentment), tapas (austerity), svadhyaya (study of the Self), and isvara pranidhana (surrendering). Some terms differ from conventional understanding and they require explanation. Purity in this case is the intention to act from compassion rather than selfishness. Contentment is to be satisfied with who you are, what you have and what you do. Austerity is consistency in striving towards ones' goals. Study of the self is to remember the true nature of self and seek balance between oneself and the external environment. The last, surrendering, means to act as best as one can and relinquishing all attachments to the outcome of ones' actions (Lasater, 2007).

Effects of Yoga and Meditation

According to Walsh and Shapiro (2006), there have been "several hundred studies [on meditation] conducted over four decades" (p.229). These studies relate to anxiety and stress reduction, decreasing pain, curing eating disorders, panic, and phobic disorders, and improving concentration, short- and long-term memory, academic performance, and creativity (p. 230).

Stress and Anxiety Reduction

Stress and anxiety are the most discussed effects of yoga and meditation in the literature, especially in the medical and psychological fields. Stress affects the performance of students by changing affective mood from positive to negative. Theories in second language acquisition emphasize the important role of affect in language learning (Arnold, 1999; Krashen, 1987; Lightbown & Spada, 1993). Students' negative emotional conditions constitute an obstacle against successful learning, that is, as Krashen (1987) called it, an affective filter. Students feel vulnerable when the affective filter is high, when they are stressed. McCall (2005) wrote, "Yoga slows down the mental loops of frustration, regret, anger, fear, and desire that can cause stress" (p. 4). Kirsch and Henry (1979) found that self-desensitization and meditation reduce public speaking anxiety among students. Similarly in other studies, anxiety and stress decreased after meditation (Oman, Hedberg, & Thoresen, 2006; Rama, Ballentine, & Hymes, 1979; Rausch, Gramling, & Auerbach, 2006). Based on the positive effects of yoga practice, Janowiak (1993) wrote, "Since studies report that practitioners of meditation have gained increased emotional stability and reductions of stress as benefits, it may be appropriate to include the instruction of meditation within health education curricula of the university level" (p. 1).

Increase in Motivation and Energy

Meditation was found to be effective in increasing motivation (Walsh & Shapiro, 2006). Another common effect of yoga is the increase in energy. Breath provides the vitality and life energy that the body needs. Proper breathing ensures that an adequate supply of energy is provided. The energy level was raised as a result of yoga asana practices (Coulter, 2001; Hirshi, 1998; Lalvani, 1996).

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Increase in Memory and Concentration

Yoga and meditation increases short- and long-term memory (H.H.Dalai, 2005; Hirschi, 1998; Marihashi, 2001; McCall, 2005). Yoga and meditation help increase attention and concentration (Iyengar, 1966; Walsh & Shapiro, 2006). Although some researchers such as Kirkland & Hollandsworth (1980) and Yuille & Sereda (1980) disagree with meditation's effectiveness in memory improvement, meditation seems to provide optimal affective states for students to engage in language learning.

Based on the literature reviewed above, yoga and meditation have the potential to enhance English acquisition in the following ways: 1) stress and anxiety reduction, 2) increasing motivation and energy levels, and 3) increasing memory and concentration.

Students

The students were from a compulsory elective reading class in a women's junior college. They were all first year students. Their majors differed: some belonged to the Department of Japanese and others belonged to the Departments of Domestic Science or Art. The weekly content-based course offered "Life and Nature" issues for a 90-minute class period.

It was found that students had neither confidence nor motivation to learn English soon after the class started. Since the whole class was extremely noisy, it seemed that there was no choice but to use a microphone for the first time in the instructor's 25-year teaching career.

Materials

The goal of this research was to know the effect of yoga on student's ideas, attitudes, and memory. Three textbooks were presented to choose from on the first day of the course, because "students acquire knowledge best when it is related to their own sets of abilities and interests" (Gardner, 1993, p. 129). Cotterall (1995) also claims "learners have the right to make choices with regard to their learning" (p. 219). One was about current topics, the second was about health and environment, and the third was entitled *Healthy Living*. They chose the last one, perhaps because they were interested in health and the illustrated textbook looked easy and interesting. It, however, contained a lot of difficult technical terms concerning health. Students had trouble understanding the contents in the beginning stages of the course, but eventually they got used to English sentence patterns and the gist of each chapter. This may be because they chose their favorite textbook.

Procedure

The goal of our research was to understand the effect of yoga on students' ideas, attitudes, and memory as mentioned above. We distributed questionnaires three times during the year to see what changes were taking place. Vocabulary quizzes with ten questions were given ten times during the course. Students were also expected to submit reflection notes with free comments at the end of every class.

Ouestionnaire

Questionnaires were distributed three times. Students were asked 18 questions concerning yoga and meditation (See

Appendix). The questions were categorized into seven; experience (item1), concentration (2,3), relaxation (4,5,6), energy (7,8,9), memorization (10,11,12), belief (13,14,15,16), and future (17,18). The Likert scale was used to measure students' responses. Students scored from 1 to 5 and wrote their comments at the bottom of each questionnaire.

Quiz

Students were expected to realize for whom the quizzes were given and why the tests had to be conducted. At first, students discussed how to conduct a quiz, for example, which part of the lesson they wanted to include in the quiz, how they wanted to check the answers, or who had to check answers. Students took the tests as a trial for a couple of times to decide what kind of quiz would be the best for them. Students took ten quizzes, each of which included ten questions. Students took the tests every other week, when they had finished two units of the textbook.

Student reflections

Students wrote their comments at the end of each class. It was necessary for them to do it before they forgot what they felt (Wakui, 2005, 2006). The students' free comments help the instructor get information from the students such as requests or questions, their reflections on the in-class activities, or the teacher's attitudes, and so on. In return, the instructor can give feedback to each student when necessary. "Urging student input and reflection on their language learning experiences encourages them to take more responsibility for their learning and thereby perhaps results in better learning" (Leki, 1991, p. 210).

Videotaping

Students agreed to be videotaped while they were meditating. The aim of videotaping students was for them to see their own postures in order to learn how to sit properly and for the instructor to know the students' reaction when they saw themselves meditating on the video. They were expected to sit straight with their hands on their laps and their thumbs touching. They were supposed to think of a positive word while they had their eyes closed. After meditation, they stretched their hands and feet to wake up, but that part was not on the video, because the purpose of the video was for students only to see how they were sitting.

Findings

Ouestionnaire

According to Item 1 of the questionnaire, most students had no experience of yoga before this course, except for a few who had experienced a few years of yoga. The results of the questionnaires are in Figure 1 below. Overall, scores were raised; in particular, those that students evaluated at more than 4.00 on the following items in the third questionnaire. Students could concentrate on yoga comfortably in class (item 2, 4.00 in the third questionnaire), and could relax during and after yoga (item 4 and 6, 4.30 and 4.08). Students thought yoga was good for their health (item 14, 4.57), and liked yoga and meditation (item 15, 4.16). They also believed it was a good idea to do yoga in class (item 16, 4.27), and wanted to do yoga at home (item 17, 4.22).

There was a marked change in the scores between the first and the third questionnaires. You can see a relatively

big difference in particular, for items such as 3, 5, 7, 8, 13, and 15. Students could concentrate more (item 3, difference 0.52), reduced their stress (item 5, difference 0.52), and they felt fresh and had more energy (item 7 and 8, difference 0.55 and 0.57) after yoga and meditation. In addition, students got to like English (item 13, difference 0.74), which was the largest increase, 0.74. Lastly, students became fans of yoga and meditation (item 15, difference 0.63).

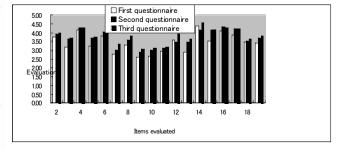


Figure 1. Results of the first, the second, and the third questionnaires

According to the comments students gave in the questionnaires, students reduced stress a great deal and got more energy after yoga and meditation. It was also obvious that the number of students who got to like yoga and meditation increased. It was almost the same tendency as the figure showed, but it was much clearer to hear students' own comments. As a whole, students' comments tended to be more and more specific in the second and the third questionnaires, whereas the ones in the first questionnaire

were non-specific (Cauk, 1994; Wakui, 2006). There were 32 kinds of comments in the first questionnaire, 36 in the second, 43 in the third. In the second and third questionnaires, students had a much wider variety of comments, especially concerning relaxation and belief.

Students gave three kinds of comments about relaxation in the first questionnaire, twice in the second questionnaire, and three times in the third questionnaire. The number of students who commented on relaxation increased in every questionnaire as well (12, 15, 33). Many students seemed to feel less stressed and relaxed after yoga and meditation, even in the first questionnaire. In the second questionnaire, students gave more detailed comments such as "I feel relaxed and not worried about an upcoming exam." and "I feel stressful because of preparing for tests and submission of reports. I have little time to sleep, but I can get rid of stress doing yoga." In the third questionnaire, their comments went into further detail, for example, "I am very happy to find a way to relax, because it is one of the best ways to relax." "To my surprise, I felt lighter after doing yoga." "The detoxification pose made me feel really good."

Lastly, on the final questionnaire, the kinds of students' comments related to belief increased in number to more than twice, from 8 to 17. In all the questionnaires, students could not believe that they could learn yoga in class but agreed with yoga's effectiveness for health at the end of the course. According to responses on the first questionnaire, students were at first interested in yoga because they believed that yoga was fashionable and good for losing weight. On the second questionnaire, however, their comments were totally different. They stated different kinds of benefits of yoga

such as "Yoga calms your spirit down." "We can practice yoga anywhere and anytime." "Everybody can do yoga." "I thought yoga requires a lot of hard work, but I found it easy." On the third questionnaire, they commented, "The idea of incorporating yoga in an English class is good." "The idea of doing yoga in an English class was surprising, but it gave me a lot of merits." Students seemed to feel that they were more involved in class activities.

Quiz

Students got 7.32 on average in the quizzes. The average score of the first quiz was 5.81, but students improved gradually and got 8.51 on the final test. High scorers, A, B, and C and low scorers D and E were chosen to show the differences, represented in Figure 2.

Students' comments on the questionnaires were given below with their scores of questionnaires and quizzes. The average scores of all students were 3.45 - 3.69 - 3.80 in the three questionnaires, and 7.32 in quizzes. There was a tendency for high scorers in the questionnaires to also achieve high scores in the quizzes and low scorers to have low scores in quizzes. On top of this, high scorers gave very favorable comments concerning yoga and meditation. In other words, those who gave positive comments on questionnaires were likely to get higher scores in both in questionnaires and quizzes.

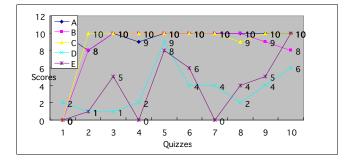


Figure 2. High and low scorers in quizzes

- A. It is important for us to do Yoga. Questionnaire (4.00 - 4.94 - 5.00) Quiz (9.70)
- B. I will try Yoga in order to concentrate on remembering vocabulary.
 Questionnaire (4.71 4.88 4.82) Quiz (8.50)
- Yoga is suitable for calming down before or during my study time at home.
 Questionnaire (4.43 - 4.47 - 4.24) Quiz (8.90)
- D. No specific comments. Questionnaire (2.76 - 3.18 - 3.35) Quiz (3.50)
- E. No specific comments. Questionnaire (3.06 - 3.65 - 3.18) Quiz (3.90)

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Student reflections

It is indispensable to use student reflections when you conduct follow-up investigations to know what is going on in the students' minds (Wakui, 2005, 2006). I will give two conspicuous examples, which may also explain the correlation between their attitudes and scores.

Student F (3.18 – 3.35 – 4.24) (9.00) started to weep when she heard her Japanese teacher of English speaking English only on the first day of the course. She expected to have her class conducted in Japanese and feared failing the course because she was not confident enough to understand the class content in English only. The student seemed to be overwhelmed with stress at that time. Her comments in those days were, "It is impossible to write my report in English." In the next semester, however, she wrote, "I'll try to write on the reflection notes in English." At the end of the course, she wrote, "It might be quite effective to do yoga just before exams or after them." She was a low scorer at first, but ended up as a high scorer.

Student G (0 – 3.00 – 3.65) (4.10) kept telling me that she did not understand what I said in class for all the first semester. When I found her reading comic books, she wrote, "I don't feel like studying. I'm really hopeless." In the next semester, she wrote, "Though I still find difficulty in catching what you say, I'll try." On the day she submitted her report after the deadline, she wrote on her last reflection notes, "I'm so sloppy that I troubled you, but it was fun and relaxing doing yoga." Although she still had low scores, her scores got closer to the average.

Videotaping

Students enjoyed watching themselves meditating in the video. They wanted to see their posture, perhaps because they had been told about how important posture is when meditating. While most students expressed relief after watching their postures, student F humbly criticized her own posture saying that she had been arching her back. She was told that her posture had been nicely made and had no problem. When a video camera did not work at first, students expressed their disappointment, but also compassion to their instructor with comments such as "I was disappointed, but I felt sorry for my teacher." The next time, I hope it will succeed." Since having compassion to others is crucial in yoga's teaching, it was impressive to hear comments such as this.

Implications

By simply learning how to breathe, students seemed to have changed in many aspects of their life as Menechella (2006) suggests. Even though it was a one-year course, remarkable results were observed. First of all, students seemed to have reduced stress. Second, it seemed that students got energy and were greatly refreshed after practicing yoga and meditation. Third, students' memory may have improved. Lastly, belief and inner attitudes may have influenced their language learning.

Many students stated that they became free of stress as Janowiak (1993) and McCall (2005) claim. On the first questionnaire and early reflection notes, one third of students felt less stressful and comfortable after doing yoga. Two thirds of students reduced stress and felt comfortable on the

second questionnaire and midway reflection notes. On the third questionnaire and later reflection notes, almost all felt much less stress.

Reducing stress, students seemed to have benefited from increasing energy levels as Lalvani (1996) claims. As I stated in the Findings section, there was a big difference in energy levels. Students said they certainly felt more relaxed and had more energy to study. The number of students who felt more energy to be active in class gradually increased. In the reflection notes, students had more questions, requests, and suggestions later in the course. It seems that they became more serious and enthusiastic.

All of the quizzes, questionnaires, and reflection notes revealed that memory improved thanks to yoga and meditation as Hirsch (1998), Lama (2005), Maharishi (2001), and McCall (2005) advocate. The number of students who practiced yoga at home increased and many of them said that doing yoga might have helped them memorize new words. One of the high scorers (4.53 - 4.47 -4.24) (8.90) wrote in her comments on her reflection notes that she felt fresh doing yoga, because she felt that oxygen went around in her brain. One of the average scorers (3.76 - 3.76 – 3.71) (8.20) also expressed satisfaction in the results of a quiz (She got 10 for the ninth and tenth quizzes) saying that yoga might have helped her to get high scores. Positive results were achieved as McCall (2005) claims that regular yoga practice improves memory and even IQ scores.

Belief in yoga and meditation reduced anxiety and stress and increased memory and concentration. This is consistent with a study's finding that expectancy for improvement and belief in treatment rationale were associated with significant reduction in anxiety (Kirsch & Henry, 1979). Hirschi (1998) concludes "it is not the length of the practice time that's decisive, but the intensity and regularity and the inner attitude" (p.28). Those who scored high, both in questionnaires and quizzes, tended to give positive comments. It implies that students could improve or get high scores in both questionnaires and quizzes if they had positive attitudes towards yoga and meditation.

Therefore, it may be possible to say that yoga and meditation could be of use in improving language learning. Student C said, "We can kill two birds with one stone, because we can learn about health in English." Above all, we were delighted to know that students felt comfortable in using English after yoga and meditation, as we could not expect this result at first. In addition, we were satisfied with the fact that English became a favorite subject for many of the students by the end of the study. In the early stages, many students commented that they had not liked English and wanted to become good at speaking English by observing me speaking English. However, they say they like English now. They also say they felt that yoga made them become better learners of English.

Lastly, we would like to mention one of yoga's teachings, "study of the self." Study of the self is to remember the true nature of self and seek balance between oneself and the external environment as mentioned in the Literature Review. When one student cheated in the first quiz, we had a long discussion concerning who was responsible. We believe that students have the ability to be responsible for their own learning (Benson, 2001; Holec, 1981; Wakui, 2005, 2006) and to make decisions between right and wrong without "external

authority" (Kohonen, 1992, p. 18), which is "a shift away from the traditional dominance of the teacher to a situation in which the teacher acted as the supervisor of self-directed learning" (Armanet & Obese-Jecty, 1981, p. 26). Also, students retain better than "if the teacher simply presented the same information without prompting from the learner" (Williams, 2001, p. 327). We simply hoped that students learned this important element of yoga by remembering the true nature of themselves and reflecting on their actions.

It was great to know that many students were willing to practice yoga at home on their own even after this course.

We appreciate the students and audience who participated in our workshop and gave comments that meditation and yoga using music would be possible to explore. Also, we believe that further research on the effect of positive attitudes in student minds is possible.

References

- Agawa, T., & Wakui, Y. (2006). TOEICテストで730点を目指そう [Let's aim at 730 for the TOEIC TEST]. Tokyo: Gijutsuhyoronsha.
- Armanet, C. M., & Obese-Jecty, K. (1981). Towards student autonomy in learning English as a second language at university level. *ELT Journal*, *36*(1), 24-28.
- Arnold, J. (1999). *Affect in language learning*. Cambridge: Cambridge University Press.
- Beleu, S. (2001). *Yoga asanas for the relief and prevention of carpal tunnel syndrome*. Oklahoma: Oklahoma State Dept. of Libraries. (ERIC Document Reproduction Service No. ED 459162)

- Benson, P. (2001). *Teaching and researching: Autonomy in language learning*. London: Longman.
- Cauk, N. (1994). Comparing teacher and student responses to written work. *TESOL Quarterly*, 28(1), 181-187.
- Cotterall, S. (1995). Developing a course strategy for learner autonomy. *ELT Journal*, 49(3), 219-227.
- Coulter, H. D. (2001). *Anatomy of Hatha yoga: A manual for students, teachers and practitioners*. Honesdale, Pennsylvania: Body & Breath.
- Epps, S. (1976). Hatha Yoga as a school activity. *British Journal of Physical Education*, 7(4), 171.
- Gardner, H. (1993). Multiple intelligences. New York: Basic Books.
- Gazette, C. P., & Hukill, M. A. (1976). Humanizing physical education. *The Physical Educator*, 33(2), 71-73.
- Hirschi, G. (1998). *Basic yoga for everybody*. Boston: Weiser Books.
- Holec, H. (1981). *Autonomy and foreign language learning*. Oxford: Pergamon Press.
- H.H. the Dalai Lama, (2005). *How to expand love* (Hopkins, J, Trans. and Ed.). New York: Atria Books.
- Inlander, & Moran. (1996). *Stress: 63 ways to relieve the tension and stay healthy.* New York: St. Martin's paperbacks.
- Iyengar, K. S. (1966). *Light on yoga*. New York: Schacken Books.

- Janowiak, J. J. (1993). Theoretical foundations of yoga meditation: A contribution to self-actualization and stress management. (ERIC Document Reproduction Service No. ED 364786)
- Kirkland, K., & Hollandsworth, Jr., J. G. (1980). Effective test taking: Skills-acquisition versus anxiety-reduction techniques. *Journal of Consulting and Clinical Psychology*, 48(4), 431-439.
- Kirsch, I., & Henry, D. (1979). Self-desensitization and meditation in the reduction of public speaking anxiety. *Journal of Consulting and Clinical Psychology*, 47(3), 536-541.
- Kohonen, V. (1992). Experiential language learning: second language learning as cooperative learner education. In D. Nunan (Ed.), *Collaborative language learning and teaching*. (pp. 14- 39) Cambridge: Cambridge University Press.
- Lalvani, V. (1996). Classic yoga. London: Hamlyn.
- Lasater, J. (2007). Cultivate your connections: Bring classical yoga's lessons off the mat and meditation cushion and into your relationships. *Yoga Journal*. Retrieved on 6th May 2007 from www.yogajournal.com/wisdom/455_1.cfm?ctsrc=nlv255.
- Leki, I. (1991). The preferences of ESL students for error correction in college-level writing classes. *Foreign Language Annals*, 24(3), 203-218.
- Lightbown, P. M., & Spada, N. (1993). *How languages are learned*. Oxford: Oxford University Press.
- Mahesh Yogi, Maharishi (2001). Science of being and art of living. New York: Plume.

- McCall, T. (2005). Count on yoga: 38 ways yoga keeps you fit. *Yoga Journal*, 186, pp. 96-103, 157-159.
- Menechella, D. (2006). *The benefit of yoga*. Retrieved on 11th April 2007 from <ezinearticles.com/?The-Benefit-of-Yoga&id=27952>._
- Oman, D., Hedberg, J., & Thoresen, C. E. (2006). Passage meditation reduces perceived stress in health professionals: A randomized, controlled trial. *Journal of Consulting and Clinical Psychology*, 74(4), 714-719.
- Rama, S., Ballentine, R., & Hymes, A. (1979). *Science of breath: A practical guide*. Honesdale, Pennsylvania: Himalayan Institute Press.
- Rausch, S. M., Gramling, S. E., & Auerbach, S. M. (2006). Effects of a single session of large-group meditation and progressive muscle relaxation training on stress reduction, reactivity, and recovery. *International Journal of Stress Management*, 13(3), 273-290.
- Stevick, E. (1990). *Humanism in language teaching*. Oxford: Oxford University Press.
- Wakui, Y. (2005). Developing successful presentation skills: Using self and peer evaluations. In K. Bradford-Watts, C. Ikeguchi, & M. Swanson (Eds.) *JALT2005 Conference Proceedings*. (pp.218-226) Tokyo: JALT.
- Wakui, Y. (2006). Developed autonomy through self- and peer-assessment and reflection: Awareness and success in students' presentation skills. In E. Skier, & M. Kohyama (Eds.), *Learner and teacher autonomy in Japan 2: More autonomy you ask!* (pp. 63-74). Tokyo: JALT.

Walsh, R., & Shapiro, S. L. (2006). The meeting of meditative disciplines and western psychology: A mutually enriching dialogue. *American Psychologist*, 61(3), 227-239.

Williams, J. (2001). The effectiveness of spontaneous attention to form. *System*, 29, 325-340.

Yuille, J. C., & Sereda, L. (1980). Positive effects of meditation: A limited generalization? *Journal of Applied Psychology*, 65(3), 333-340.

Appendix

Questionnaire: Yoga and Meditation

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Yog	a and Meditation ヨガと瞑想			
Thi	s is not a test and the result will not influence y	our grade. Pl	ease	
	wer honestly.			
これ	はテストではないので、成績には関係ありません。正直に名	答えて下さい。		
Circ	ele Yes or No and fill in the blanks.			
Yes	かNoに丸をつけ、Yesの場合は空欄を埋めて下さい。			
1	Have you ever had an experience of doing	Yes. How	years	
	Yoga and meditation?	long?		
	ヨガと瞑想の経験がありますか?	No.		
	Circle the number that matches you.	Not at all	very mucl	
	当てはまる答えに丸を付けましょう。	全然	とても	
2	I can concentrate on Yoga and meditation	1 2 2	4 5	
	comfortably in class.	1 2 3		
	教室でヨガと瞑想に集中出来ます。			
3	I can concentrate more on studying after	1 2 3	. 1 5	
	Yoga and meditation.	1 2 3	7 3	
	ヨガと瞑想後、より勉強に集中出来ます。			
4	I feel relaxed while I am doing Yoga and	1 2 3	1 5	
	meditation.	1 2 3	, , ,	
	ヨガと瞑想中、リラックス出来ます。			
5	I get rid of stress after Yoga and meditation.	1 2 3	4 5	

	ヨガと瞑想後、ストレスが少なくなった気がします。					
6	I can relax after Yoga and meditation.	1	2.	3	4	5
	ヨガと瞑想後、リラックス出来ます。	-	_			
7	I feel fresh after Yoga and meditation.	1	2	3	4	5
ŕ	ヨガと瞑想後、眠気が取れすっきりします。		_			
	I have more energy after Yoga and			3	4	_
8	meditation.	1	2			5
	ヨガと瞑想後、元気が出た気がします。					
9	I feel comfortable in using English after		_			
	Yoga and meditation.	1	2	3	4	5
	ヨガと瞑想後、英語を気楽に使える気がします。					
10	I can memorize vocabulary faster after	1	_	3	4	5
10	Yoga and meditation.	1	2			
	ヨガと瞑想後、より早く英単語を覚えられる気がします。					
11	I have better memory after Yoga and	1	_		4	_
11	meditation.	1	2	3	4	2
	ヨガと瞑想で、記憶力がよくなるような感じがします。					
12	I think Yoga and meditation activate my	1	2	2	4	_
12	brain.	1		3	4	3
	ヨガと瞑想は頭脳を活性化すると思います。					
13	I was not good at English, but now, I like it.	1	2	3	4	5
	英語は苦手でしたが、今は好きです。					
14	I think Yoga and meditation is good for	1	2	3	1	5
17	health.	1				
	ヨガと瞑想は健康に良いと思います。					
15	I like Yoga and meditation.	1	2	3	4	5
	ヨガと瞑想が好きです。					
16	I think it is a good idea to do Yoga and	1	2	3	4	5
10	meditation in class.	1				
	教室でヨガと瞑想をする事は良い考えだと思います。					
17	I would like to do Yoga and meditation	1	2	3	4	5
1,	at home.				•	
	自宅でヨガと瞑想をやりたいです。					
18	I am thinking of taking lessons of Yoga	1	2	3	4	5
10	and meditation in the future.				•	
	将来、ヨガと瞑想のクラスを取りたいと思っています。					
Any comments?						
何かこ	何かコメントは?					