Notes from the Editor
by Arthur Jones, EdD, RRT

Sleep, noble sleep, which knits the raveled sleeve of care.
– William Shakespeare

Program directors who are concerned that declining enrollments threaten their programs will want to read our feature article this issue by David Lucas, RC program director at Cuyahoga Community College. David describes his experience in developing a college-based polysomnography program, a move that could augment enrollment for many directors while providing an important service to the community. In other words, the concept of “added value” applies to instructional programs as well as professionals in practice.

However, David’s article raises a number of issues. Assuming that such programs are needed (and I think they are), one must wonder how many are needed? What is the projection of need for polysomnography/electroneurodiagnostic personnel? Perhaps we should anticipate moderate turnover, simply because a polysomnographer is banished to the night shift.

Another issue is the lack of teaching materials that exists in this area. David identifies one textbook, Principles and Practice of Sleep Medicine, by Meir H. Kryger, Thomas Roth, and William C. Dement (Saunders, 1994). I have perused the book and found the readability level to be beyond most college freshmen and sophomores. Perhaps some individuals from our readership can share information on teaching materials on this topic.

In his article, David also mentions that polysomnographers largely learn their professional practices on the job, primarily due to a paucity of formal educational programs. I’ve included a list of schools here that I obtained from the American Society of Electroneurodiagnostics Technologist web site (http://www.aset.org/electroneurodiagnostics.html). Electroneurodiagnostic schools that are accredited by the Commission on Accreditation of Allied Health Education Programs include:

California
Orange Coast College
Costa Mesa, CA
22 months, AA degree

Florida
Erwin Technical College
Tampa, FL
12 months, Certificate

Illinois
St. John’s Hospital
Springfield, IL
21 months, AA Degree

Iowa
Kirkwood Community College
Cedar Rapids, IA
21 months, AAS Degree
Scott Community College
Bettenford, IA
22 months, AAS Degree

Maryland
Naval School of Health Sciences
Bethesda, MD
6 months, Certificate
Accepts Military Only

Massachusetts
Children’s Hospital Medical Center
Boston, MA
12 months, Certificate
Labouré College
Boston, MA
20 months, AS Degree

“Notes” continued on page 2
Notes from the Chair

by David W. Chang, EdD, RRT

Of all happiness, the most charming is that of a firm and gentle friendship. It sweetens all our cares, dispels our sorrows, and counsels us in all extremities. — Seneca

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Pennsylvania
Crozer-Chester Medical Center
Upland, PA
15 months, Certificate
Wisconsin
Western Wisconsin Technical College
LaCrosse, WI
24 months, AAS Degree

The 1999 Summer Forum in Phoenix, AZ (July 16-18) will again provide many useful and practical presentations for educators. The tentative presentations for educators include:

- Improving Learning Outcomes through Effective Feedback
- The ABCs of Authoring Test Questions
- Developing Autonomous Learners
- Adding Pizzazz to Your Lectures
- Trends and Issues in Recruitment of Qualified Students
- Writing an Outline of a Formal Written Public Relations/Recruitment Plan
- Computer Technology-New Paradigm in Education
- Application of “Inspiration”—A Computerized Cognitive Model
- Accreditation Y2K

In addition to the aforementioned presentations, the traditional Open Forum research and poster presentations have been assigned a morning slot this year, complete with a complimentary breakfast. The breakfast is being sponsored by F.A. Davis Company, Delmar Publishers, Mosby & W.B. Saunders, and Prentice Hall. We are hopeful that this collaboration between the publishers and the AARC will become a tradition. It promises to be a great way to learn about what your colleagues are doing in terms of educational research and implementation of new ideas.

As a bonus, these four publishers will display their newest publications during the free hours at the Forum. This will be an excellent opportunity for educators – particularly those who will not be able to attend the International Respiratory Congress in December – to review the current RT books. The display area for textbooks will also be an ideal place to network with colleagues and to meet with the acquisitions editors. Who knows, maybe your new book will be on display in the not-so-distant future!

As a reminder, we need to continue with our membership recruitment efforts. The Education Section is very close to attaining the membership needed to qualify for a seat on the Board of Directors (1,000 active members). Almost all the other specialty sections have reached the membership requirement, and the Education Section certainly does not want to be the exception. Please ask your program and clinical colleagues to join the section. They can do so by calling the membership department at the AARC, (972) 243-2272. You may want to mention that membership in the Education Section can be added any time – before, during, or after the anniversary renewal date of the person’s AARC membership. (For more “selling points” on AARC membership, see Bob Fluck’s article in this issue.)

I look forward to seeing many of you at the Summer Forum. As always, please call or e-mail us with your suggestions and comments. (Our phone numbers and e-mail addresses appear in the box on page 2.) Thank you for your support of the Education Section.

Talk Shop Online in Real Time...
Visit AARC Online’s Chat Room!

Don’t miss out on this great new feature:
http://www.aarc.org/members_area/chat
Developing a College-Based Polysomnography Program

by David A. Lucas, MS, RRT, program manager, respiratory care/polysomnography, Cuyahoga Community College

The number of employment advertisements for polysomnography technologists in respiratory-related publications prompted me to investigate the possibility of establishing a college-based polysomnography program at my institution. As part of the investigation, I registered for a three-day training seminar to see what the training involved.

The curriculum covered a wide range of topics, including respiratory anatomy and physiology, proper electroencephalographic (EEG) electrode placement, and patient setup. The class also dissected a sleep montage, noting the stages of sleep and the underlying cause of the sleep disorder. The seminar was quite intense, further convincing me of the need to start a formal education program for future technologists.

Next, we conducted an informal needs assessment survey in the local polysomnography community. The overall return rate on the survey was 75%. The following represents a breakdown of the survey results. Although these data cannot be generalized to every community, we found them applicable to our circumstances.

**Type of facility responding to the survey:**
- 50% Sleep center
- 50% Sleep lab

**Belief that there is a definite need for formal education in the field of polysomnography:**
- 100% Yes
- 0% No

**Level of education you consider appropriate for the job description of a Registered Polysomnography Technician (RPGST):**
- 50% One year college certificate in polysomnography
- 50% Two-year associate degree with a science major

**Perception of the NATIONAL job outlook for polysomnography in the next five years:**
- 100% Better than other health care professions
- 0% Fair
- 0% Poor

**Perception of job outlook for polysomnography in NORTHEAST OHIO in the next five years:**
- 75% Better than other health care professions
- 25% Fair

**Perception of the combined need for polysomnography courses:**
- 100% Yes

**Perception of the combined need for polysomnography courses:**
- 100% Yes

**Top annual salary for an RPGST:**
- $36,400 - $44,000 (range)

**Top salary for employees without RPGST credentials:**
- $28,000 - $32,000 (range)

**Overall interest in serving as a clinical affiliate for the polysomnography program:**
- 100% Yes
- 0% No

**Number of technicians you believe your center/lab will employ in the next two years:**
- 11 Full-time technicians
- 01 Part-time technicians

**Program:**
- 100% Better than other health care professions
- 0% Fair
- 0% Poor

**Total number of technicians employed at your respective center/lab:**
- 08 Part-time technicians
- 22 Full-time technicians

Of the technicians employed, list their credentials:
- 04 No credentials
- 04 Certified Respiratory Therapy Technician (CRTT)
- 03 Registered Respiratory Therapist (RRT)
- 08 Registered Polysomnography Technician (RPGST)
- 07 Associate degree
- 02 Registered EEG Technologist (REEGT)
- 05 Baccalaureate degree
- 02 Emergency Medical Technician (EMT)

**Educational backgrounds of the technicians employed:**
- 15 High school graduate only
- 13 Some college; no degree
- 07 Associate degree
- 02 Emergency Medical Technician (EMT)

**Number of technicians you believe your center/lab will employ in the next two years:**
- 11 Full-time technicians
- 01 Part-time technicians

**Top annual salary for an RPGST:**
- $36,400 - $44,000 (range)

**Top salary for employees without RPGST credentials:**
- $28,000 - $32,000 (range)

**Overall interest in serving as a clinical affiliate for the polysomnography program:**
- 100% Yes
- 0% No

After deciding to proceed with program development we assembled an advisory committee to guide curriculum development. The advisory committee designed a one-year program with six core polysomnography courses accompanied by cardiopulmonary physiology, chemistry, general anatomy and physiology, English, and algebra. The core courses are comprised of lectures, labs, and clinical experiences. We currently have five clinical sites under contract with two forthcoming. The sites are comprised of large teaching and community hospitals and free-standing sleep centers. The clinical times for the students vary per site, but most start at 8 p.m. and end at 2 a.m.

To equip the program, Cuyahoga College purchased a $30,000 digital polysomnograph, and the Cleveland Clinic Foundation donated an analog polysomnograph. Therefore, our students are trained in the lab on both types of polysomnographs.

Our target number of students per class is 16. Applications for the first class, which began last fall, totaled 40. From these, we accepted 16. Currently, ten students remain in the class. The attrition was largely a result of students who enrolled in RC and polysomnography simultaneously. The instructors for the polysomnography courses are Registered Polysomnography Technologists. Myself and my staff occasionally lecture on respiratory care devices.

Students who are presently in the program are doing very well, primarily because of superlative teaching efforts on the part of our technologists. This applies to both the classroom and the clinics.

The clinical instructors have been enthusiastic about the program and welcome the students. There are 1-2 students per site and the clinical time is three days per week, approximately 8 p.m. to 2 a.m.

Because of state regulations, the program graduates receive what we call an “Internal Award” upon completion of the course work rather than a certificate. The Ohio Board of Regents, which sets the criteria for a certificate, has ruled that a certificate must be 1/2 of an existing associate’s degree. We do not currently have a degree that this one year program can be “plugged” into. An Internal Award is a loose certificate which can be awarded by the college but does not meet the Board of Regents’ criteria for certificate. Knowing that the current training is, for the most part, “on the job,” the Board has decided that the formal educational courses taken by the students are above and beyond the training they receive at the bedside.

Entrance to the credentialing examination, which is under the auspices of the Association of Polysomnographic Technology (APT), requires 18 months employment in the profession, with no specification of formal college coursework. We are asking the APT to decide
our students' educational experiences in substitute for one year of the 18 months.

Given the success of our polysomnography program, I am currently surveying the community about establishing a formal, college-based electoneurodiagnostic (END) program. This would incorporate EEG, evoked potentials (EP), and nerve conduction studies. As is the case with polysomnography, college-based END programs are few and far between, relying mostly on-the-job training.

Although there remains much left to learn about developing programs for polysomnography, so far I have learned enough to generate the following guidelines for those who would undertake such a task:

**Develop the curriculum using the input of your advisory committee and the Board of Registered Polysomnographic Technologists.**

**Detailed Content Outline:** The advisory committee and I attempted to develop course outlines from textbook and advisory committee input, but we experienced much difficulty finding educational resource materials. This is due to the fact that very few college-based programs are available as resources. Most educational programs are hospital-based and less than one week in length. A good resource to use is the Association of Polysomnographic Technologists (APTO) web page. The APT offers contacts and information at: http://www.aptweb.org/

**Identify clinical affiliates as soon as possible:** Speak with potential clinical sites as you are creating the course outlines. Clinical contracts must be reviewed by the college and the clinical facility. Numerous clinical preceptors must be identified, as each site may only manage 1-2 students per term.

**Prepare for a paucity of formal instructional materials:** Browse the Internet for formal texts and their costs (i.e., Principles and Practice of Sleep Medicine costs over $140). Although expensive, one comprehensive text should cover the entire program and can be supplemented with pertinent articles. Many books on sleep disorders are written for the lay public.

**Teach your polysomnography instructors to teach:** Bloom's Taxonomy can be a place to start regarding the formation of cognitive objectives. Teach them the basics of PowerPoint, which offers the ability to produce lesson plans, handouts, and lecture presentations. Use examples from your current program for development of lab competencies and clinical proficiencies.

**Project your first year budget to be the largest in a three-year plan:** A comprehensive laboratory should have both digital and analog polysomnographs for the students to train on. Ask area sleep centers to donate an analog machine. Jackboxes, cables, electrodes, etc., are very expensive but will last for years.

**Students should not enroll in RC and polysomnography programs simultaneously:** Unfortunately, our program and several students learned this the hard way.

The author acknowledges the following individuals for their time and effort in the development of the program:

- Michael Perry, RPSGT, REEGT, Cleveland Clinic Foundation
- Belinda Gray, RPSGT, formerly of the Pulmonary Associates/Sleep Disorders Center
- Sophia Born, RPSGT, Ohio Sleep Disorders Center
- David Dye, RPSGT, Marymount Hospital

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### Update on Acquisitions Editors

**Editor’s Note:** In the last issue of the Bulletin we featured a comprehensive listing of acquisition editors. Since that time, information for the following publishers has changed, and we provide this update for your perusal.

**F.A. Davis Company**  
1915 Arch Street  
Philadelphia, PA 19103  
http://www.fadavis.com  
lbc@fadavis.com

**Lynn Borders Caldwell**  
(215) 568-2270  
(800) 523-4049, ext. 19103  
FAX (215) 568-5272

**Mosby-Saunders**  
Mosby: 11830 Westline Ind. Dr.  
St. Louis, MO 63146  
Saunders: The Curtis Center  
Independence Square West  
Philadelphia, PA 19106-3399

**Janet Russell**  
(800) 325-4177 ext. 4471  
FAX (314) 432-1380  
janet.russell@mosby.com

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### Favorite Web Sites

*David W. Chang, EdD, RRT*

**or Work:** [www.freetutorials.com](http://www.freetutorials.com)

This web site provides online tutorials for many popular programs. It divides the tutorials into seven categories: Applications, General Programming, Graphics, Internet, Operating Systems, Web Design, and Web Programming. You may select any of these categories for a list of available tutorials. For example, by clicking on the Application category, four different Microsoft applications are available: Access, Word, Excel, and PowerPoint.

Of course, the available online tutorials are not meant to replace the manual or an instructor. But they are useful in helping a person get started on using those programs. (If they aren’t currently meeting your expectations, just remember how much you paid for them.)

**For Fun:** [www.thefreesites.com](http://www.thefreesites.com)

This web site provides links to literally hundreds of freebies in 20+ categories. Some of the more interesting categories are: Free Samples, Free Graphics, Free Games, Free Web Spaces, and Prank Freebies. In the Free Samples category, for example, you may request free samples by filling out

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“Web Sites” continued on page 5
Join the AARC? Make Me!

by Robert R. Fluck, Jr., MS, RRT, EMT-P, SUNY Health Science Center, Syracuse, NY

Editor’s Note: The AARC Board of Directors recently voted to add a member to the Board from each specialty section with at least 1,000 active members. Our section currently falls short of that mark. Therefore, it’s up to us to recruit more members from among our colleagues. The following article, Bob Fluck outlines some of the arguments we can use, not just to get current AARC members to join the section, but also to encourage non-members to sign on as well.

Join the AARC? Make Me! This seems to be the attitude of the 75% or more of respiratory therapists who are not members of the AARC. Perhaps this is why some still have difficulty seeing respiratory care as a profession. Anyhow, once you get past the initial negativity, people most often ask, “What do I get when I join?” The following list of AARC membership benefits should provide you with enough arrows in your quiver to convince even the most skeptical:

- **Flexibility in membership** – You can pay with a credit card, sign up for a three-year membership, and/or choose to receive only one of the journals (Respiratory Care or AARC Times) to save money. There is also a higher level of membership that provides more benefits and services.

- **Respiratory Care Journal** – The only peer-reviewed journal devoted specifically to respiratory care research.

- **AARC Times** – Provides news of the field and important information from agencies that impact our profession (such as the Health Care Financing Administration).

- **Professional liability insurance** – Available at very reasonable rates through the Association.

- **Credit card** – Also offering reasonable rates.

- **Specialty sections** – The ability to network with others in your area of specialization (such as education, for example). They also provide access to people who have already “been there and done that” so you don’t have to reinvent the wheel every time you want to implement a new program or idea.

- **Representation in Washington DC** – The continued existence of the field of respiratory care and the expanding job market are due in large part to the efforts of the AARC to educate those in our nation’s capital about the importance of the job we do.

- **State government affairs liaison** – Provides information from other states that have already walked the path you’re contemplating, again so you don’t have to reinvent the wheel.

- **Educational opportunities** – Through agreements that the AARC has with educational institutions, you can earn a BS or even an MS.

- **A single professional organization** – The greater the numbers, the louder and more effective our voice.

Possible Scheduling Change for Summer Forum 2000

In 2000, the AARC International Respiratory Congress will be held the first week of October in Cincinnati, OH. The AARC Summer Forum is usually presented in July; however, we recognize that this might cause some conflicts as it is so close to the Congress in October. In an effort to avoid as many problems as possible, the AARC is considering holding Summer Forum 2000 in either May or June.

Please take a few moments to cast your vote on when to schedule the Summer Forum in the year 2000: May, June, or July?

Deadline for submission: December 1. Papers should be approximately six to ten pages in length and should follow the guidelines in th Publication Manual of the American Psychological Association, 4th Edition. Abstracts should not exceed 12 words. Submissions should be mailed to AARC Education Annual, 1103 Ables Lane, Dallas, TX 75229-4593.

Respiratory Care Education Annual: Call for Papers

The Education Section of the AARC will publish Volume 9 of the Respiratory Care Education Annual in the spring of 2000. The annual is a refereed journal committed to providing a forum for research and theory in respiratory care education and is listed in the Cumulative Index to Nursing and Allied Health Literature.

The section invites educators to submit papers for consideration. Preference will be given to papers that emphasize original research, applied research, or evaluation of an educational method. Other topics that may be considered include interpretative reviews of literature, educational case studies, and point-of-view essays. Submissions will be reviewed based on originality, significance and contribution, soundness of scholarship (design, instrumentation, data analysis), generalizability to the education community, and overall quality of the paper.

Deadline for submission: December 1. Papers should be approximately six to ten pages in length and should follow the guidelines in the Publication Manual of the American Psychological Association, 4th Edition. Abstracts should not exceed 12 words. Submissions should be mailed to AARC Education Annual, 1103 Ables Lane, Dallas, TX 75229-4593.

Just a warning: you may end up wasting a lot of time exploring links on this website. My advice is to look at it on a rainy Saturday afternoon when you have absolutely nothing to do (or when no one wants to do anything with you).
Specialty Practitioner of the Year

Don’t forget to make your nomination for the 1999 Education Specialty Practitioner of the Year. This honor is given to an outstanding practitioner from this section each year at the AARC’s International Congress.

The recipient of this award will be determined by a selection committee appointed by the chair. Each nominee must be a member of the AARC and a member of the Education Section.

Mail or FAX a short paragraph outlining why you think your nominee is deserving of this award, along with his/her name and contact information and your name and contact information, to: Terry S. LeGrand, PhD, RRT, director of clinical education, department of respiratory care, The University of Texas Health Science Center at San Antonio, 7703 Floyd Curl Drive, San Antonio, TX 78284, FAX (210) 567-8852.

Submission Guidelines for Bulletin Articles

All section members are encouraged to share information about their programs through articles in the Bulletin. Here are our guidelines for submission:

Article length: Bulletin articles may be between 500 and 1,000 words.

Format: In addition to a paper copy, all articles should be submitted on a 3½ inch floppy disk saved in Microsoft Word or TEXT ONLY (ASCII) formats, or e-mailed to the editor in one of those formats.

Deadlines: All articles must be submitted to the editor according to the following schedule of deadlines:
- Jan.-Feb.: December 1
- Mar.-April: February 1
- May-June: April 1
- July-Aug.: June 1
- Sept.-Oct.: August 1
- Nov.-Dec.: October 1

Article Review: All authors may review a copy of their article before it goes to press. If you would like to review a copy of your article, please include a FAX number when you submit it to the editor. It is the responsibility of the author to 1) request the opportunity to review the article before it goes to press and 2) contact the editor by the stated deadline if any changes need to be made before the article goes to press.

FYI ...

Pay me now or pay me later

If the federal government wants to decrease the number poor and frail older Americans in the next millennium, it will have to significantly increase the resources available for research and prevention of the diseases of aging, says Edward L. Schneider, MD, dean of the Ethel Percy Andrus Gerontology Center at the University of California. Although health care for seniors accounts for a third of the more than one trillion dollars spent on health annually, the federal government currently spends only about a billion dollars a year on aging research. “No corporation that spent a mere 0.3 percent of its revenues on research would last long in a competitive marketplace,” says Schneider.

Aging baby boomers and continuing increases in life expectancy will swell the number of Americans aged 65 or older to 35 million in 2000 and 78 million in 2050, says Schneider. Middle estimates from the U.S. Census Bureau project about 18 million people 85 or older by 2050, but many demographers believe the bureau’s higher projections of 31 million very old Americans are more likely to come true. (Science, 2/5/99)

New OSA guidelines issued

Noting that about 40% of obstructive sleep apnea patients have difficulty using CPAP for long periods of time and that BiPAPs often better tolerated, researchers have published new guidelines on the various forms of positive airway pressure (PAP) available for the treatment of OSA. The guidelines, which appeared in the March issue of Chest, offer advice on:
- Which patients should undergo diagnostic techniques such as polysomnography.
- What criteria should be met to appropriately define apnea and hypoxia.
- What conditions warrant treatment with which PAP therapy.
- What efforts should be undertaken to help patients adhere to their treatment.

The guidelines were based on peer-reviewed studies and widely accepted clinical practices and should serve as an interim guide until results from research such as the Sleep Heart Health Study and various other evidence outcome studies can provide the data upon which to develop more formal consensus recommendations.

The AARC International Respiratory Congress: Now a Selling Show!

Top manufacturers in the industry will fill the Congress Exhibit Hall ready to teach you about – and now, sell you – the latest in respiratory technology.

Make plans now to attend the December meeting in Las Vegas and take advantage of special show discounts – this could be the most cost-effective meeting you’ve ever attended!

Don’t Miss It!