

Making Voice Dictation Work

There are **human**, **equipment**, and **situational factors** essential to the success of voice dictation.

Human factors

- **Acceptable Articulation**
The user must be able to produce speech clearly and consistently. Voice software can adjust to non-standard pronunciation but this requires additional training.
- **Ability to dictate**
ATSS staff has observed that the single most common reason for failure using voice dictation is a user's inability to produce coherent text. Writing and dictating are related but different processes. When asked to dictate most people experience trouble producing and organizing sentences. They also tend to interject “ums” and “ahs” which the voice engine interprets as words.
- **Ability to use a keyboard and mouse**
It possible to operate a computer by voice alone but it is highly desirable and vastly more efficient to use dictation in conjunction with traditional techniques. Individuals who are unable to use a mouse and/or keyboard may require programmable voice software (e.g., Dragon NatSpeaking Professional) and specialist services for setting up the software or a discrete voice system like Dragon Dictate. (See **Selection of Appropriate Software** below.)
- **Mastery of the voice dictation software**
It is essential that the user be completely familiar with the software. This involves knowing methods for selecting and correcting text, managing and backing up voice files, designing macros, adding new vocabulary and so on. The ATSS routinely advises that potential voice dictation users receive formal training. There are several local vendor/trainers that offer instruction in the user's home or office setting. The standard course length is five hours but can vary depending on the user's skill.
- **Strong commitment to making voice work**
Successful users become actively involved with the software. They spend the time necessary to develop and maintain an excellent voice profile. They become involved with voice list servers and websites and keep up with development in the field.

Equipment Factors

- **Selection of Appropriate Software**

There are two long-term major players in the current voice dictation world – IBM and Nuance, (formerly ScanSoft)

- **Nuance** (www.nuance.com) is the current owner of **Dragon Systems**. Dragon products include several editions of **Naturally Speaking**. These include a bare bones Essential Edition (\$60), a Preferred Edition (\$200), a Professional Edition (\$700), Legal and Medical Editions (\$1000). All editions are for Windows 98 or higher operating systems and include microphones.

The choice of edition for a particular user depends on the programme(s) the individual intends to operate by voice. Lower end editions accommodate users who only need to dictate text into a word processor or email. **ATSS generally recommends the Preferred Edition for people who mainly need to word process.**

Users who wish to dictate into programmes other than word processors will likely require the Professional edition. This is true also for individuals who need hands-free operation. Additionally such users will probably require the services of a vendor/trainer consultant to set-up and program the Professional edition to meet their individual requirements.

A second type of voice product, **Dictate**, is the original voice dictation software produced by Dragon. It is a **discrete** voice system. It requires the user to speak one word at a time (as opposed to NatSpeaking which expects a natural language flow). It can be more appropriate than its counterpart for some users. Dictate has not been upgraded for several years and does not work on modern operating systems, but can apparently still be purchased.

- **IBM** (www-3.ibm.com/software/speech) makes ViaVoice; which, like Dragon, has been on the market in various forms for many years. ViaVoice offers Personal (\$30), Standard (\$50), Advanced (\$80), and a ProUSB (\$190) editions.

ATSS worked with ViaVoice in varying forms over the years. Although ViaVoice products are certainly acceptable and offer recognition comparable to that of Dragon software, we have come to prefer Dragon products. Dragon products traditionally fare better with reviewers than its IBM counterparts. On voice list servers, Dragon always predominates. ViaVoice offers products in both Window's and MAC OS platforms. All editions ship with microphones.

- **Selection of Appropriate Hardware**

- **The Computer**

Optimal performance from voice dictation software demands a speedy processor, lots of RAM, and a good sound card. Nuance lists the **minimum** machine as follows: Intel® Pentium® III / 500 MHz processor (or equivalent AMD® processor) 256 MB RAM

500 MB free hard disk space; Microsoft® Windows® XP (SP1 or higher) Home and Professional, Millennium, 2000 (SP4 or higher); Creative® Sound Blaster® 16 or equivalent sound card supporting 16-bit recording; Microsoft® Internet Explorer 5 or higher (free download available at www.microsoft.com); CD-ROM drive (required for installation);

Nuance-approved noise-canceling headset microphone (included)

Speakers (required for playback of recorded speech and text-to-speech features)

A Web connection is required for activation. (From February 17, 2005)

ATSS recommends a more powerful computer for optimum recognition. We advise a Pentium® IV 1.6 GHz or better with 1G of RAM. Additional RAM is required if several programs will be used simultaneously with Dragon NaturallySpeaking. If Windows Vista will be the operating system, then Nuance recommends a minimum of 2 GB of RAM.

Voice dictation can be operated on notebook computers. Voice dictation is more accurate on some notebooks than others even though the notebook computer specifications may appear very similar. We encourage individuals who wish to use a notebook to consult with local dealers of voice dictation systems before choosing a model.

One common problem with notebook computers is that it is difficult to gauge the appropriateness of the sound card in any particular unit. We advise users to purchase a USB microphone as it incorporates a sound pod and thus bypasses the built in sound card.

- **Appropriate Microphone**

Both Dragon and ViaVoice products ship with microphones. These microphones are certainly adequate for getting started with voice but will generally not provide optimum recognition.

A major portion of communication and discussion on voice list servers is concerned with microphones. A higher end microphone can deliver improved recognition. It may make the difference between achieving 97% and 99% accuracy. Over the course of a thousand words this is 20 fewer recognition errors - which is substantial.

There are numerous microphones on the market. Most are head mounted but we are seeing a recent proliferation of wireless and telephony microphones. Our local vendors are a useful source of current information about microphones.

Situational Factors

- ***Appropriate task to be accomplished***
Modern voice dictation is mainly appropriate for word processing. It is possible to use voice for operating spreadsheets, accounting programmes, data bases, internet navigation etc. but applications beyond word processing will often require more robust software (i.e., Professional) as well as the services of a programmer specializing in voice applications to tailor the software to an individual's specific computing needs.
- ***Support from the employer***
Integration of a voice input user within a company may require significant co-operation from management, and the computer systems department.
- ***Appropriate work area***
Although voice dictation does not require the user to speak loudly it can be obtrusive to other employees or students working close by. A noisy environment – especially one with significant variation in loudness – can detract from the accuracy of voice input. Ideally a voice user works in a private office.

For more information about using voice recognition software, please go to www.assistive-technology.ca. Visit the “links” section for several sites devoted to aspects of voice dictation.