



# Sonocent User Research - 2015

*Assessing the user experience of students,  
trainers and educators*

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## Executive summary

In May 2015, we conducted a survey into the perceptions and user habits of students, educators, and experts in assistive technology who use or recommend Sonocent Audio Notetaker.

Our goal was to understand how students use our software and whether it helps them study more effectively.

We posed a range of questions designed to discover:

- *how students use Audio Notetaker*
- *whether students find the software easy to use*
- *the impact of the software on learning outcomes*
- *the perceptions of educators on the benefits of the software*

Our findings provided evidence of:

- *a move towards recording and annotating live on laptops*
- *a rise in the use of Audio Notetaker for a broader range of study tasks than note taking*
- *the intuitive nature of the software's new user interface*
- *minimal permission issues with taking lecture recordings*

If you have any questions about the survey results or our methodology, please email [survey2015@sonocent.com](mailto:survey2015@sonocent.com)

*“Our goal was to understand how students use our software and whether it helps them study more effectively”*



A Sonocent White Paper  
[www.sonocent.com](http://www.sonocent.com)

Published October 2015

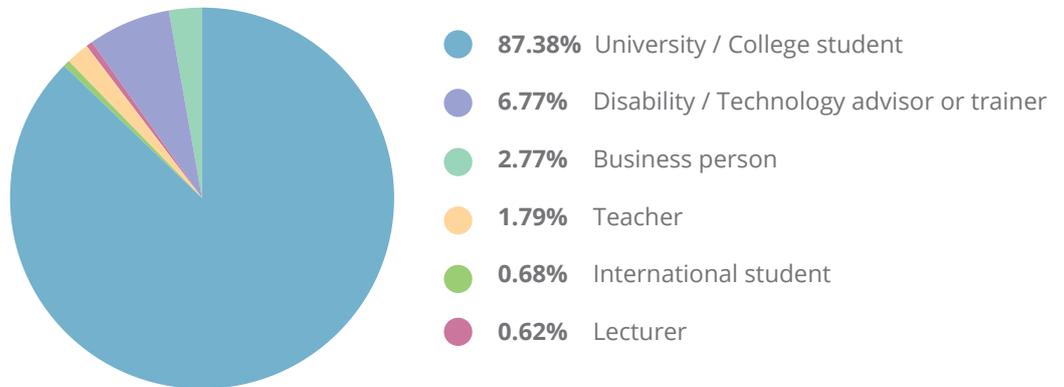
# Who did we survey?

1,624 users with Sonocent Audio Notetaker licences completed the survey, the majority of whom were students.

## Who responded?

Figure 1:

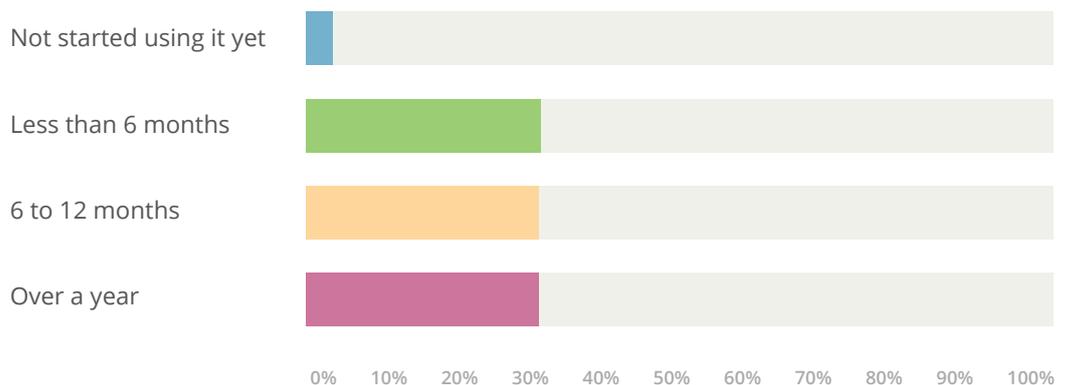
The majority of the users surveyed were students in higher education who use the software to take notes for tasks such as revision and essay composition.



## How long had they been using Audio Notetaker?

Figure 2:

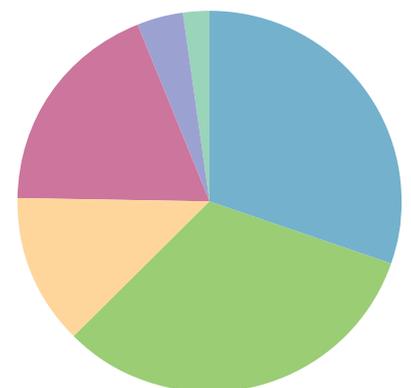
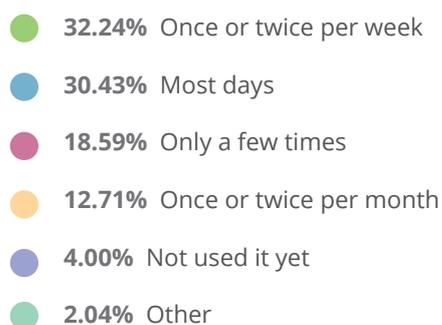
Respondents were evenly split as to the length of time they had been using Audio Notetaker. 64% had been using the software for over 6 months, so it can be assumed that the majority of the sample have integrated the use of Audio Notetaker into their regular work or study practice.



## How often do they use it?

Figure 3:

For the purpose of analysis, we have defined those respondents who use the software just "only a few times" as infrequent users. See page 10 for reflections on how regularity of usage impacts study outcomes.



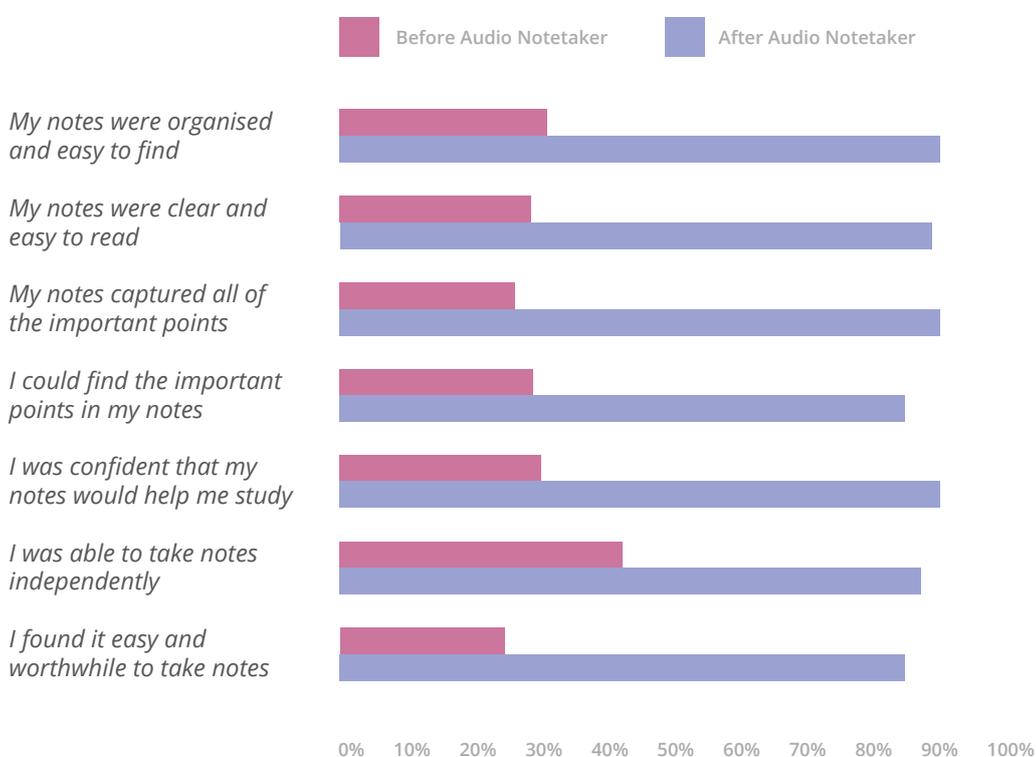
# Student usage: our key findings

## 1) What impact does the software have?

Good notes lead to improved learning outcomes<sup>1</sup>. Unfortunately, many students lack the skills and opportunity to properly capture and synthesise the information imparted during their lectures, seminars, practicals and group-work sessions.

Our intention when developing Audio Notetaker and our free companion app Sonocent Recorder was to enable students to capture spoken instruction as an audio recording, annotating key parts, before revisiting to summarise the content. By breaking the note-taking process down into stages, students can achieve more than when struggling to take comprehensive notes while trying to listen and engage.

To determine the effectiveness of this approach, we used the survey to ask students how they felt about their notes before and after using the software.



*“...90% of regular student users said that they were confident that their notes would help them study...”*

Figure 4:

Regular student users' perceptions of their notes and note-taking practice, before and after using Audio Notetaker.

### 1.1) Students who use Sonocent are happier with their notes

The survey clearly demonstrated the improvement that Audio Notetaker makes both to the practice of note taking and the quality of students' notes (see figure 4). Since adopting the software, 90% of regular student users said that they were confident that their notes would help them study, a jump of 60% from before they used it.

### 1.2) Students who use Sonocent find note taking simpler

For many students, trying to capture all the important points in fast-moving lectures is exceptionally difficult. And for students with disabilities such as dyslexia, it is often impossible.

But with Audio Notetaker, 86% of regular student users said that they found it easier and more worthwhile to make notes. This was a leap of 62% from before they started using the software.

*“...with Sonocent software, students have a complete record of everything that has been said in the form of editable audio...”*

### 1.3) Students who use Sonocent are better organised

Many of the students who currently use Audio Notetaker have disabilities which affect their working memory and organisational skills. This impacts on their ability to take clearly structured notes and to file those notes for easy retrieval.

To provide a solution, we have made it easy for users to structure their recordings by inserting section breaks and highlighting key information with shortcut keys or a click of the mouse. Users can also type brief text notes alongside their audio to provide additional context. After recording, they can save the project by Title, Topic and Speaker for efficient file management.

Our survey demonstrated that these features measurably improve organisation for regular student users. 91% said that their notes were well organised and easy to find with Audio Notetaker, a jump of 59% from prior to using the software.

### 1.4) Students who use Sonocent can find the key information in their notes

Students who make live annotations on their laptop with Audio Notetaker can use custom colour keys to quickly highlight the chunks of audio that they know they will want to revisit. This audio could feature terminology that they don't understand or instruction concerning assignments and exams.

The difference these features make when a student reviews their recording was highlighted by the survey, with 86% of regular student users agreeing that they could now find the important points in their notes, a rise of 58% from before they used Audio Notetaker.

### 1.5) Students who use Sonocent have clearer notes

The time pressure of taking notes by hand can often result in illegibility. This is a particular issue for students with disabilities that affect their handwriting.

Consequently, just 29% of regular student users said that their notes were clear before they adopted Audio Notetaker. But after using the software that figure had jumped to 89%.

### 1.6) Students who use Sonocent have more comprehensive notes

When taking notes, students often don't know that they are hearing something important until it has been said, by which time the speaker has moved on. For this reason, they often fail to capture key information in lectures, seminars, practicals and group-work sessions.

But with Sonocent software, students have a complete record of everything that has been said in the form of editable audio. Consequently, 90% of regular student users agreed that notes taken with Audio Notetaker captured all the important points, a rise of 64% from prior to using the software.

### 1.7) Students who use Sonocent can take notes independently

Students with disabilities may previously have had to rely on notes taken by a scribe or a coursemate. But with Audio Notetaker, 88% of regular student users said that they could now take notes independently. This compares to just 43% who could do so prior to using the software.

## 1.8) Using Sonocent reduces anxiety

When asked why they use Audio Notetaker, 52% of the students sampled said that it reduces their stress and anxiety when studying. This reflects the fact that students with certain disabilities find the process of taking notes by hand a source of great anxiety.

### Why do students use Audio Notetaker?

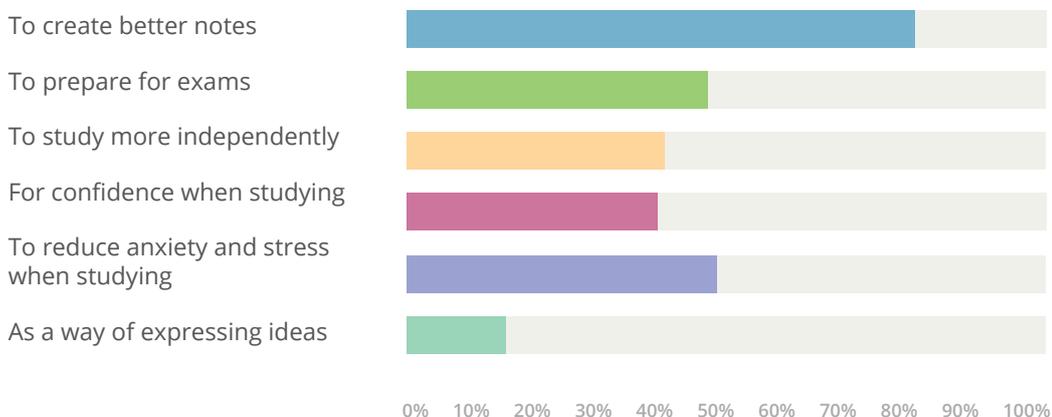


Figure 5:

Student users give their reasons for using Audio Notetaker. Respondents could tick as many fields as applicable.

## 2) How do educators think the software benefits students?

The survey also included positive feedback from lecturers and teachers on the learning outcomes delivered by Audio Notetaker. 97.9% of the educators surveyed agreed that the software would be beneficial for student note taking, while 80.77% agreed that the software could raise student attainment.

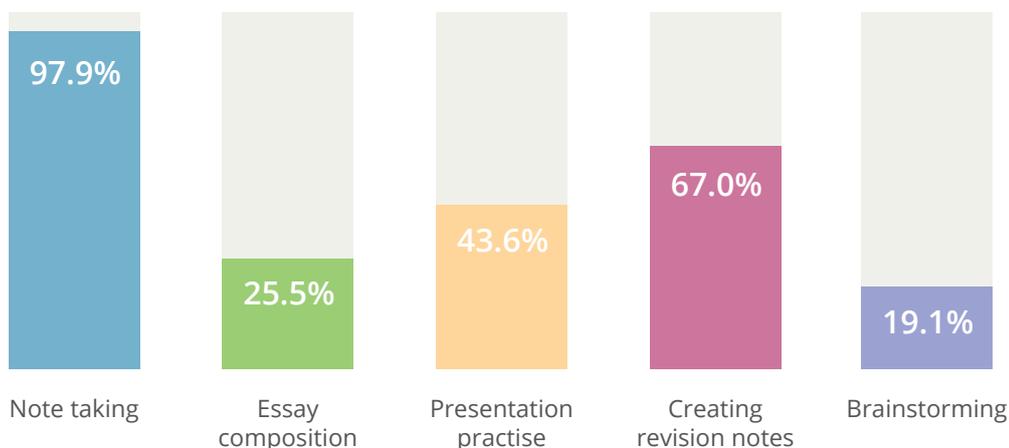


Figure 6:

Teachers and lecturers on the areas in which they think Audio Notetaker can benefit students. Respondents could tick as many fields as applicable.

### Educators on whether Sonocent raises student attainment



Figure 7:

Just 3.85% of educators answered 'no' when asked whether Audio Notetaker could raise student attainment.

### 3) How are students using Audio Notetaker?

In addition to note taking, Sonocent training in Audio Notetaker can include strategies for planning and composing written work, practising presentations, compiling research, capturing and refining ideas, and working with online study resources.

We were interested to find out how many students use the software in these ways. To highlight emerging trends, we have compared these results to those from the previous year's survey.

Usages	2014	2015	Trends
<i>During my lectures, classes and meetings</i>	75.8%	78.5%	+2.7%
<i>After my lectures, classes and meetings</i>	53.4%	55.3%	+1.9%
<i>When I am studying for exams</i>	45.1%	49.3%	+4.2%
<i>When I am researching and planning</i>	31.4%	31.6%	+0.2%
<i>For capturing ideas and composing written work</i>	27.4%	26.0%	-1.4%
<i>When I am looking for materials for assignments</i>	24.4%	22.4%	-2.0%
<i>During group work</i>	18.4%	22.5%	+4.1%
<i>To capture videos, webinars and internet calls</i>	5.5%	7.4%	+1.9%

Figure 8:

Data on how regular student users apply the software, as compared to the 2014 survey. Respondents could tick as many fields as applicable.

#### 3.1) There has been an increase in the breadth of applications

Although using Audio Notetaker in lectures, classes, and meetings remains by far and away the most common application for the software, there would seem to be a trend towards accessing its features in a wider range of study scenarios, with a rising percentage of students using it to work with recordings of group work sessions.

#### 3.2) Many students don't revisit their projects after the lecture

Only 55.3% of students surveyed said that they used Audio Notetaker after their lectures, classes and meetings.

This is disappointing because we believe that the most effective application of our software is for students to break the process of note taking down into two achievable steps:

1. Listening, capturing and annotating
2. Reviewing, outlining and summarising

By following these steps, students can quickly and easily capture all the information and then access and utilise the key parts efficiently, leading to better notes, better participation and better study outcomes.

But, according to the survey results, nearly half of student users only follow step one of the process. That would seem contradictory in view of the significant benefits that the majority of students say they enjoy when using the software (see Figure 4). One wonders how they use their Audio Notetaker projects if not for review during essay composition or revision! Perhaps they export the audio, text notes and slides from these projects for review in other formats, such as a Word document or iTunes album.

***"...a rising percentage of students using it to work with recordings of group work sessions."***

## 4) How do students take recordings?

We set out to determine how students take the recordings they work with in Audio Notetaker. To track emerging trends, we contrasted the answers of our 2015 respondents with those of our 2014 survey.

At Sonocent, we recommend that users record into Audio Notetaker on a laptop or with our app and make annotations live as they listen. This is a process of active engagement that creates connections with existing knowledge, aiding long-term memory.

By highlighting information that they will want to revisit, and inserting slides, images and brief text summaries alongside their audio, the user will also be more productive when reviewing their Audio Notetaker projects to create their notes.

Recording device	2014	2015	Trends
With a digital recorder	81.0%	66.5%	-14.5%
Using Audio Notetaker on a computer	43.1%	57.1%	+14%
With the Sonocent Recorder app	N/A	12.8%	N/A
With a smartphone/tablet (not using the Recorder app)	7.0%	8.8%	+1.8%
Download audio from another source	4.7%	5.1%	+0.4%
Other	1.1%	0.9%	-0.2%

Figure 9:

Types of audio file worked with in Audio Notetaker compared with 2014 data. Respondents could tick as many fields as applicable.

### 4.1) Digital recorder use is falling; laptop recording is on the rise

Our findings showed a significant drop-off in the use of digital recorders in the last 12 months, although this remains the most popular method of taking recordings.

The fall in use of digital recorders was almost precisely compensated for by the increase in recording into Audio Notetaker on a laptop.

### 4.2) Healthy levels of adoption for the new Sonocent Recorder app

Despite only being released in the summer of 2014, 12.8% of the student users surveyed were taking recordings with our companion app for iOS. Shortly after we conducted the survey, we released an Android version of the app, so next year's survey will provide a fuller picture of adoption levels.

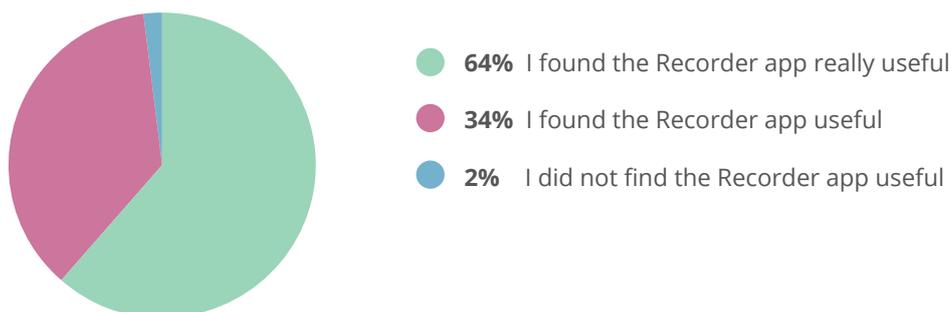


Figure 10:

98% of Sonocent Recorder users agreed that the app was 'useful'.

## 5) Do students have problems securing permission to record lectures?

There is growing concern that students are being denied permission to take recordings in lectures due to rights issues, resistance to the practice from lecturers or the policies of institutions that forbid the practice.

This was highlighted by the response of educators to our survey. But, in light of student responses, it would seem their fears are misplaced.

### 5.1) Educators think students struggle

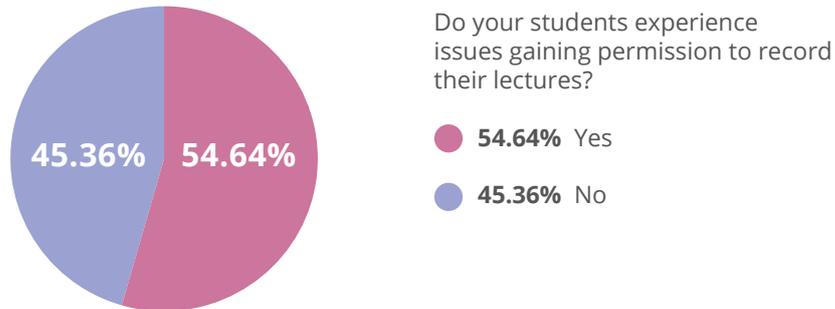
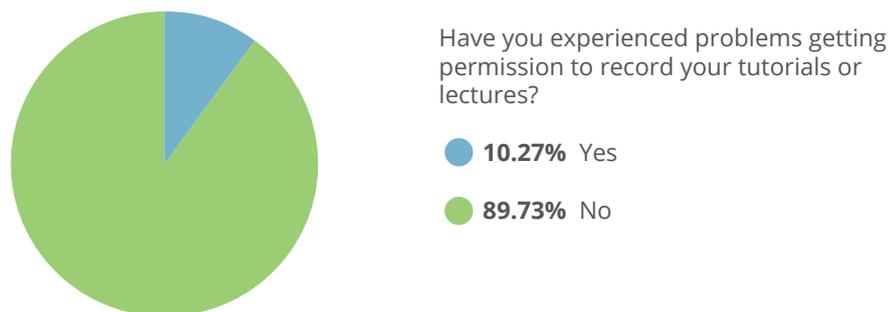


Figure 11:

There was a significant disparity in the percentage of educators who said their students had experienced problems securing permission to record and the percentage of students who had problems.

### 5.2) Few students report facing difficulties



## 6) Perceptions surrounding training

With each software update, we strive to include additional features that enable users to work more productively with their recordings. But we are also careful to ensure that Audio Notetaker remains easy to use for people of all ages and levels of IT competence.

The month before we conducted our survey, we released Version 4 of the software. The new version includes additional features, such as integration with the speech-to-text software Dragon NaturallySpeaking. Alongside these features, we redesigned the user interface and developed a new Home Tab featuring easy access to useful resources and simple project creation.

To determine whether the redesigned interface has simplified the experience of using Audio Notetaker, we used the survey to find out how much training students and educators thought was required before using the software (see Figure 12).

*“...Audio Notetaker remains easy to use for people of all ages and levels of IT competence.”*

## 6.1) Most students say that 15-minutes or less training is necessary

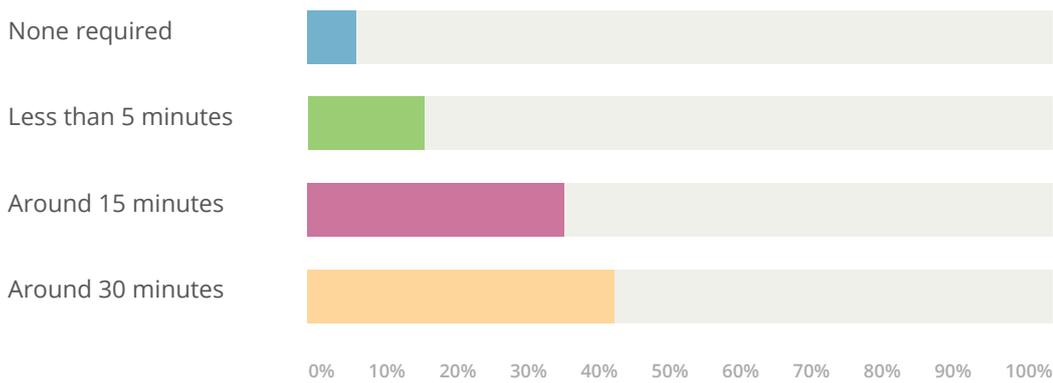


Figure 12:

Student users on how much training they thought was required before they could start using Audio Notetaker effectively.

## 6.2) Half of educators say no training is necessary

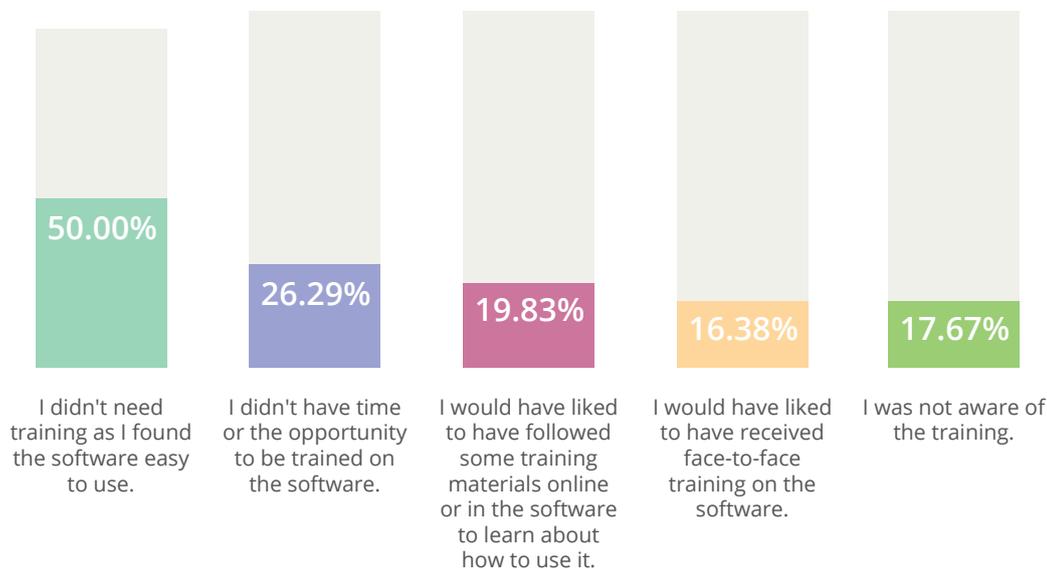


Figure 13:

Educators who hadn't received training on whether they would have liked to have done so.

*"It makes taking notes in lectures **a lot less stressful and more efficient...** it saves me time when coursework deadlines or exams are coming up, because my notes... capture all the information."*

Source: 2015 Sonocent survey participant

# Further analysis

## What insights can be drawn from the responses of regular and infrequent student users?

As we outlined in the opening section of our key findings (see Figure 4), students who use Sonocent software regularly report significant improvements in both the practice of taking notes and the quality of the notes they can create.

We purposely excluded the responses of infrequent users from this data as their experience of taking notes differed so substantially from the larger sample.

However, it is instructive to compare the responses of regular and infrequent users when considering why the software delivers greater benefits for some students than for others.

	Regular before	Infrequent before	Regular after	Infrequent after
<i>My notes are organised and easy to find</i>	32%	43%	91%	71.7%
<i>My notes are clear and easy to read</i>	29%	40%	89%	72.1%
<i>My notes captured all the important points</i>	26%	38%	90%	73.5%
<i>I could find all the important points in my notes</i>	28%	36%	86%	69.5%
<i>I was confident that my notes would help me study</i>	30%	37%	90%	72.2%
<i>I was able to take notes independently</i>	43%	56%	88%	70%
<i>I found it easy and worthwhile to make notes</i>	24%	37%	86%	69.1%

Figure 14:

Contrasting the perceptions of regular and infrequent student users.

## Infrequent student users less likely to view note taking as an issue

We found that infrequent student users were more confident about their ability to take good notes before using the software. For example, 37% of infrequent users said that they found it easy and worthwhile to make notes before using Audio Notetaker, compared with only 24% of regular users.

However, there was still considerable room for improvement with their note taking, with just 37% saying that they were confident that their notes would help them study before using Audio Notetaker.

## Infrequent student users are less confident with the notes taken using Audio Notetaker

After using Audio Notetaker, the data had shifted dramatically, with infrequent student users reporting that they were far less confident with their notes than regular users. For example, just 73.5% said that their notes captured all the important points, compared to 90% of regular users.

However, there was still a significant improvement across all categories for infrequent users, which is surprising given that they report using the software “just a few times” a term. This begs the question of how they are benefitting from using the software.

## Infrequent student users are less likely to use Audio Notetaker for live annotation

One explanation for why infrequent student users failed to integrate Audio Notetaker into their daily study practice was that they were less likely to use the software in a lecture than regular student users (55% compared to 85%). They were also less likely to record using a computer than regular users (43% compared to 59.8%), and less likely to annotate live with Audio Notetaker (28.3% compared to 40.8%).

## Why is the Sonocent approach to live annotation effective?

Research shows that capturing information is only one aspect of effective note taking. Truly effective learning is active learning<sup>2</sup>, and this applies to note taking as much as to any other study strategy.

Synthesising lecture material is the beneficial aspect of note taking. Engaging with the lecture content and summarising it in note form creates connections in the brain, which aids with understanding and recall.

However, the process of synthesis is difficult to perform when simultaneously trying to take comprehensive handwritten notes, especially for students with disabilities that affect their working memory, handwriting and organisation skills. Studies show that this involves a greater cognitive burden than playing chess<sup>3</sup>.

This knowledge informs the Cornell Note-taking system, where students take brief text summaries during the lecture, formulate questions based on these notes after the lecture to clarify meanings and strengthen memories, before reciting, reflecting upon and reviewing the material at their own pace.

Live annotation with Audio Notetaker is compatible with Cornell note-taking. But it has the additional advantage of enabling a student to capture everything from a lecture, seminar or group-work session, while engaging with that content by highlighting key information with meaningful colours and typing brief contextual notes alongside the relevant audio. This level of annotation can be performed with a few clicks of the mouse or use of keyboard shortcuts - while focussing on understanding the content under discussion.

After the lecture, the student can revisit their project as they would with the Cornell Note-taking system (but with the additional benefit of accessing a full recording of the content), synthesising the material, taking written summaries, adding reference material and bringing in text notes and audio from related Audio Notetaker projects.

In a white paper on the effectiveness of using audio-centric software to take notes, the assistive technology specialist Scott Ritter wrote, “Hadwin, Kirby and Woodhouse<sup>4</sup> found that when lecture material is complex or challenging, the simple act of listening results in higher achievement than taking notes. Use of this software would provide the student with a complete record of the class, allowing them to go back after class and review the audio. Thus, a student can create interactive, meaningful connections.”<sup>5</sup>

*“...live annotation is by far the most effective way for students to use the software...”*

## Trainers recognise the importance of live annotation

Given the benefits of live annotation, it's positive news that 98% of the disability / technology advisors and trainers surveyed recommend that students take live recordings and annotate with Sonocent software, either through their laptop or using the Sonocent Recorder app. However, further progress needs to be made in bringing trainers up to speed on the benefits that students can realise by using the Sonocent Recorder app.

### Which of the following recording methods do you recommend or train on?

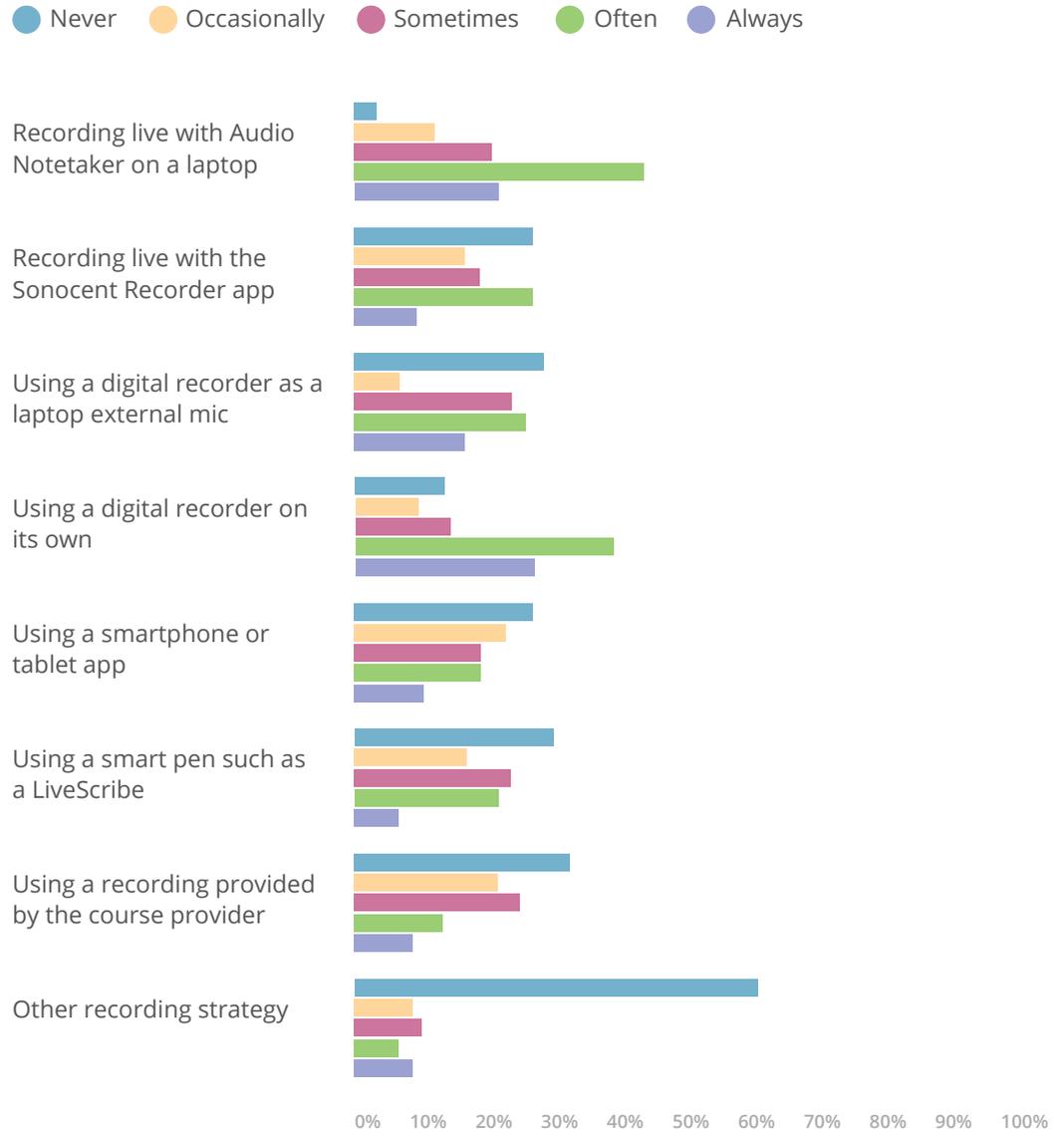


Figure 15:

Data showed that 98% of disability / technology advisors and trainers at least occasionally recommend that students record live with Audio Notetaker.

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1 Titsworth, B. S., & Kiewra, K, *Organizational lecture cues and notetaking facilitate student information processing. Contemporary Educational Psychology, 2004*

2 Department of Chemical Engineering Bucknell University White Paper, *Does Active Learning Work? A Review of the Research, 2004*

3 Piolat, Olive, Kellogg, *Cognitive effort during note taking, 2005*

4 Hadwin, A. F., Kirby, J. R., & Woodhouse, R. A. (1999). *Individual differences in note-taking, summarisation, and learning from lectures. Alberta Journal of Educational Research, 45(1), 1-17.*

5 Scott Ritter White Paper Commissioned by Sonocent, *Impact of Audio Note-Taking Software on the Student Experience, 2013*

# Conclusion

Our survey demonstrates the range of benefits that students can experience by integrating Audio Notetaker into their regular study practice. These aren't limited to the taking of notes, and more students are beginning to see the potential of the software for tasks such as revision and group work.

What's clear from our findings on the note-taking practices of regular and infrequent student users is that for students to get the most from the software it's important that they begin by recording and making annotations live, a process that improves learning outcomes. Therefore, the move away from recording with digital voice recorders towards recording on laptops is a reason for optimism.

Given the trend towards live annotating, it's also positive that few students are currently being prevented from recording their lectures, although this should be monitored.

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# Acknowledgements

Sonocent would like to thank the individuals and institutions who responded to the survey and the researchers who analysed the data.

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# About Sonocent

Founded in 2007 by speech technologist Roger Tucker, Sonocent is an edtech firm specialising in helping students and professionals alike harness the power of the spoken word to transform the way they work. Originally created to aid those less able to write, its flagship software solution Audio Notetaker, an innovative speech-recording and multimedia productivity tool, is now used by over 100,000 people worldwide from a wide variety of sectors and backgrounds, enabling them to work with audio the way you would with text – from highlighting and annotating to editing and reorganising. Sonocent's approach to productivity involves breaking up complex writing tasks - such as note taking - into manageable stages, through the use of a simple visual audio display. The company, with offices in Leeds and Chepstow, is currently headed up by Roger and his son, Dave Tucker, and has a mission to revolutionise how we utilise speech to equip people to reach their full potential.

*"It has already helped almost a hundred thousand people work more effectively..."*

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# Further Information

For more information about Sonocent visit:

[www.sonocent.com](http://www.sonocent.com)

To access Sonocent resources visit:

[www.sonocent.com/resources](http://www.sonocent.com/resources)

Email your questions to us at:

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