

I'm different; not dumb

Modes of presentation (V.A.R.K.) in the tertiary classroom

Neil D Fleming
Lincoln University

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A questionnaire developed and used at Lincoln University identifies the preferences of students for particular modes of information presentation. Used with students, it can provide a focus for developing strategies that are tailored for individuals. In so doing it helps overcome the predisposition of many educators to treat all students in a similar way. Used with teachers, the questionnaire can motivate them to move from their preferred mode(s) to using others. In so doing, they reach more students because of the better match between teacher and learner styles. Some case studies of students and teachers, empowered by the questionnaire, are provided.

Introduction

Do you find it easy to read maps, or find your way around a new city, or back to a place previously visited? Can you visualise the kitchen area from a builder's plan for a new house? If you can, you may be able to improve your strategies for learning by using visual techniques. If not, you may be using inappropriate visual techniques of study (e.g., mind maps). You may also be harming your chances of academic success.

Some students learn while others have tuned out or are having difficulty. In observing the best of teachers apparently there is no single best way to teach but teachers who cater for the different needs of students by using a variety of teaching approaches are rewarded with improved learning.

We have known for a long time that people learn in different ways and there is no shortage of books on study skills. The traditional approach to study for tertiary students involves offering a variety of strategies for getting the message into the long term memory and then getting it out again at the appropriate exam or test time. In our systems, the predominant method for demonstrating learning is the written word but there is no reason why this has to be the way in which information is taken in by students nor stored in a student's long term memory. Output methods need not determine input modes. Research indicates that students may have preferences for the ways in which they receive information. This paper is not about that research but about strategies to encourage students and teachers to identify, consider and use their different preferences.

The questionnaire developed at Lincoln University provides teachers and students with a stimulus for reflection and a change in their methods for taking in information (students) and in their methods of presentation (teachers). It avoids diagnostic labelling but provides a basis for selecting practical strategies that students and teachers can use. It is easy to use, neither copyrighted nor franchised, and comes with a helpful set of strategies for both teachers and students. It was not devised to overcome a shortage of questionnaires about various aspects of learning. It was developed to help students and teachers with some answers to the question 'I'm a XXXX So what!'. Even the deep and surface research seems to be without practical strategies for students to make changes. At Lincoln University we have students voluntarily saying, 'thank you' for the benefits they have gained from discussing the question 'How Do I Learn Best?'.

The Modes - V, A, R and K

The most common mode for information exchange in our society is speech and this arrives to the learner's ear and is therefore coded as aural (A) by the questionnaire. For students with an aural preference an attachment to the questionnaire provides a set of strategies for 'learning by ear'.

The results for other respondents may reveal a preference for accessing information from printed words. These people are coded read/writers (R) or "R and W" because they use reading and writing as their first preferences for taking in information.

The third group are not well served by present day methods of teaching in a university. They are the visuals (V). This does not mean that they are restricted merely to picture information or enhancements using colour and layout. They like information to arrive in the form of graphs, charts, and flow diagrams. Sometimes they will draw maps of their learning sequences or create patterns of information. They are sensitive to different or changing spatial arrangements and can work easily with symbols.

The last group in the four part typology is the group who like to experience their learning by using all their senses, including touch, hearing, smell, taste and sight. This group is regularly described in the literature as kinesthetics (K). They want concrete, multi-sensory experiences in their learning. Although learning by doing matches their needs they can easily learn conceptual and abstract material provided it arrives with suitable analogies, real life examples, or metaphors. They learn theory through its application.

In a tertiary education system we should feel sorry for the kinesthetics, who prefer their teachers to use field trips, experiments, role plays, games and experiential learning because those hands-on methods are seldom used. Problem-based teaching is also rare in tertiary education though it would help because it uses a rich array of modes.

Left Brain, Right Brain, N.L.P. and Accelerated Learning

Extensive research on modal preferences has been conducted but a full literature review is not appropriate in this paper. Those skilled in using neuro-linguistic programming (N.L.P.) and left-brain, right brain theorists have been claiming that the visual, aural, kinesthetic preferences (V,A,K) follow through into creativity, spatial abilities and even vocabulary usage. They suggest that students who are visually strong may say "Now look here?" Kinesthetically strong students may use "How does that grab you" or "Get a handle on this." HERDSA conference presenters may prefer "The literature states (or says)..." rather than, "The literature illustrates (or shows) ...". What Lincoln students are getting is not N.L.P. or accelerated learning or left brain/right brain exercises but a set of strategies for taking in information matched to their sensory mode preferences.

We differ from others because...

In addition, to the usual three part modal divisions (visual, kinesthetic and aural) a fourth category; the read-writers, has been added for our questionnaire. Our results continue to show that although diagrams and written words are both sensed visually, there is a distinction between the ability of some students to work with symbolic or graphic material compared with those who work easily with text material. Certainly students with preferences for R and V information use their eyes to 'take in the world' but they have preferences within that sensory mode. Some like text. Others want diagrammatic or iconic material - information that is symbolically displayed. To put them into one mode is to confuse these distinctions.

Multi-Modes - the lucky ones?

Of course no student or teacher is restricted to only one mode for intake but, even so, it is noteworthy that there are some dominant preferences (high scores on a preference) and some voids (zero scores on a preference) among different students. Some Lincoln students exhibit not only a strong preference for one particular mode but also a relative weakness for some other modes. Other students may have a balanced set of preferences that means that they prefer information to arrive in a variety of modes. These students may adjust to the different teaching styles faced in a day or they may opt in and out of alternative strategies; being visual in Economics and read/write in Philosophy.

Preferences are often blurred. It is not uncommon to have the questionnaire suggest there are dual or triple preferences for an individual teacher or student. A student who recently sought our help had both visual and aural preferences and was weak in the read/write mode. Little wonder that she needed assistance with

note taking in lectures. The notes seemed superfluous when she clearly understood the speaker! Two other students who were multi modal added another interesting observation. Both said that they required input from at least two modes to get a 'full understanding' whereas those with a strong preference usually comment that one mode is enough.

What is a strong preference and what is a void?

A strong preference would usually be identified by a score for that preference that was four or five points ahead of any other. A difference of one or two points between preferences is not enough. A void, or a score of 1 on a mode would suggest that the student or teacher might reflect on whether they see themselves as being weak in using that mode. Care needs to be taken, because even though users can choose multiple answers to the same question in the VARK questionnaire, the overall effect of a strength in one mode will automatically force another mode to be relatively weaker. The strongest position to take is to leave the analysis to the user. Seldom are they lost for explanations of their own results. When we talk with students after they have completed the questionnaire we ask them to talk about their own perceptions of their preferences and also to talk about the 'degree of fit' that they see between their preference(s) and other aspects of their life.

Because the questionnaire does not attempt to be diagnostic, it is a catalyst for the teachers and students to reflect on their own preferences. Occasionally a student will claim that the questionnaire is inaccurate. Even then the process has been beneficial to the student by having them reflect on their strategies for learning. Most have not done that in any systematic way. Many are intrigued to find that they may be different rather than dumb; that past failure may not have been all their fault and that a change might bring improvements.

About textbooks - and advertisements

Students are advantaged or disadvantaged by the textbooks recommended by teachers. Some books are clearly more visual but most are ideally suited to R students. The text is aligned to the left margin, often with bullet points repeated on every page, no relief from blocks of text and little white space. (An academic journal and this paper are examples.) Some more recent texts have wide margins with comments or excerpts, boxed summaries, colour photographs and coloured text and plenty of whitespace. One teacher at Lincoln deliberately chose a visual text to complement the read/write style of his handouts and his teaching.

Text book writers and teachers could learn from studying advertising material. Those who prepare such materials know that in the market place, there are different preferences for information intake. Marketing materials cater for the visual (V) population with whitespace, font changes, challenging layout, colour.... Some advertisements get into story mode (K) by quoting examples of satisfied consumers or they enhance the hype with smells or sound or visual pyrotechnics. Effective television commercials regularly pan a comprehensive range of modes. To cater for only one segment of the market would be financially ruinous.

Note taking and making

The notes students take in lectures provide further evidence for us of their preference, with Rs having the best (near verbatim) sets of notes and aurals (As), the worst. Students who have a strong aural preference may become so engrossed in listening that their notes are scrappy and difficult to follow. That is why students at Lincoln who miss lectures are advised to borrow notes only from those students who are strong Rs because they usually catch every word from their teachers. And, the Rs never miss out on handouts and references. Those with a strong kinesthetic preference are advised to try and record in their notes the examples, analogies, stories and cases because they may miss the more abstract principles and concepts.

To develop new modes or enhance present preferences?

Is it appropriate to advantage the students' strengths by using their preferences rather than improving their deficiencies through exercising their weaker modes? The latter is an attractive possibility for their future but the students at Lincoln have said that they are much more interested in using their present strengths because of the pressure of essays, tests and exams. This means that, unlike traditional study advice, techniques that lie outside their preferences or are only weakly represented are dropped from their strategies. It may take a course in accelerated learning, or concept mapping (concept maps, mental maps) to give students enough confidence to add something to their repertoire or to switch modes midstream. Merely suggesting a strategy does not allow for its effective use. And, tertiary study is not the place to experiment.

The strategies for change - I'm an aural! So what?

Once students have completed the questionnaire and there has been a discussion about the results, they are given a list of strategies suitable for their use and matched to their preferences. A similar list for teachers is under preparation. Some students choose to use the strategies. Others who are more risk averse may stay with alternative strategies used in previous years. One student, who was assessed as being strongly visual decided to switch his study techniques to visual strategies for only one of his four subjects. He was a C+ student. He was thrilled to get his first A grade at Lincoln University in the subject in which he used visual strategies. This year he will use the new techniques for all of his subjects. His lecture and swot notes look like an artwork folder.

The suggestions offered to students may mean excluding some of the "tried and true" techniques found in study skills books. For example, it is of little use to suggest mnemonics to a student who does not have a preference for an R/W approach. They tell me that they don't remember the mnemonic, or if they do, they cannot connect the initial letters to the right words! The emphasis on words and letter patterns in mnemonics does not make it any easier for those who are strongly aural or kinesthetic. The idea that all students should draw diagrams of the main points in a learning task or topic (mental or concept maps) is also rejected for all but those who are visually strong, at least until the exams are over! The amount of read/write material in most examples of mind maps seems to outweigh the visual content so it is difficult to know whether mind maps are advantaging read/write or visual students. In many cases the spatial elements of these maps are stressed more than the visual ones.

Case Studies

We have collected a number of extreme examples of differences between students. These are three of them. The most striking examples of student success come from those who have a zero score or a markedly high score on a mode or modes and who have switched to their stronger preferences.

Nick is a student who had a strong preference for aural information. He liked listening in lectures. As a consequence, he took poor notes from them, but he liked to test his ideas in discussion with other people. His short term aural memory fooled him into thinking that he understood the lecturer and didn't need notes. When he explained things to others he found that he learnt more than they did. In examinations he could lift his eyes from the paper and hear his law lecturer speaking. If he could tune into the correct part he could wait for that lecturer's voice to give him the answer. Rather than writing out his notes in condensed form he read his condensed notes onto cassette tape. These notes were learned, wandering the campus with headphones on - listening to his own summaries.

Jim used the VARK questionnaire and agreed with the preference for read-write approaches to studying. He found lectures confusing and asked to be excused from attending them. Instead, he met with the teacher on a regular basis and kept track of the topics being covered. He used the library to read about the subject and claimed that he learnt more. The text book was sufficient for a good grade (B+) in a marketing subject.

Mary was so weak on the visual dimension that in Introductory Economics, which has a strongly visual presentation through the teachers use of graphs, she drew the graphs as minuscule diagrams (one line in height and two centimetres long) but wrote a full explanation of what the graph indicated underneath the graph either from her text or from 'catching' the teacher's talk in words. Her scores on the questionnaire

indicated a strong preference for R information and a void on the visual dimension. Clearly, she did not value the visual presentation though she knew she would have to use it later.

Preferences- Going in or coming out?

Preferences for taking information in are not necessarily the same as preferences for expressing information to others though we have a shrewd hunch that they are linked. Students who prefer to read, will probably prefer to write their ideas for their teachers. Students who prefer to listen and discuss would probably prefer to speak about what they know and have learned. At Lincoln we are experimenting with oral examinations which had almost disappeared from the University. It is unfortunate for some students in our formal education system that, apart from the first stages of schooling, we do not always allow or encourage them to use a variety of assessment methods to express their learning, yet much informal learning uses a rich array of modes (V, A, R, and K).

So what are the teachers' preferences?

What would one expect? The teachers at Lincoln University are often read-writers (Rs) because society rewards read-writers in our school and tertiary systems. The instruction the textbooks and the assessment programmes are usually in print. We suspect that many tertiary teachers are clones of the read-write teachers who taught them. Some, replicate the conditions for their previous and successful learning.

Unanswered Questions?

There may be a cultural dimension to the idea of different preferences for taking in information. Before European contact, many Pacific cultures had no written language but were strongly oral (Maori) or visual (Aboriginal) in their traditions and culture. Maybe their under-representation in our tertiary institutions would be improved if we allowed more opportunities for them to learn and be assessed using oral or kinesthetic or visual means.

Are the Asian students entering our Australasian tertiary institutions selected on the basis of read/write methods of teaching, learning and assessment? Are they suited to the same methods in our systems? Some of the selection processes (TOEFL and IELTS) test mainly read-write skills so those who enrol may be a biased sample when they arrive in our classrooms. Do they reject or have difficulties with V, K and A teaching and learning methods? From a TESOL viewpoint an Australasian teacher with only a strong aural presentation may create difficulties for these students.

Does our written questionnaire favour read writers? Should we design an aural, visual and kinesthetic version of the questionnaire? Do preferences change? Are preferences reinforced by jobs, or family, or lifestyles or socio-economic background? Who learns most from correspondence lessons? Who will learn best from the use of multimedia in education?

Among academics, do conferences attract those with an aural preference? Do journals attract read/writers and, who prefers poster papers...?

So what?

Each presentation in another mode gathers in another group of students who might otherwise have missed the point or have been forced to rote learn some formulas and definitions suited to the R students. The workload for the teacher is greater but the learning for the students is better. This does not mean that everything has to be comprehensively taught but it does mean that teachers have to be aware that any one presentation of new material may be understood by only some students. Clearly, repetition of the concepts and ideas in another mode is a key to effective learning.

This is not the same as repetition of the same point. An example to illustrate this can be seen when a teacher is faced with a student who has not understood the last teaching point. The best teachers will realise that another strategy needs to be employed not merely a repetition of the last. Some teachers, faced with a learner who does not understand, will raise their voice a few decibels and repeat their previous instructions, often more slowly - not realising that the learner may be asking for a different sequence of words or even a different mode of presentation.

Conclusion

There seems little doubt that tertiary students have preferences for sensory input and that their preferences may not be catered for by some teachers. The corollary is that some teachers may be reinforcing their own preferences rather than catering for those with different needs. In either case, there is a role for a straightforward, easily administered questionnaire to get both groups thinking about the fact that they may be different. The current emphasis on reflection as one of the precursors for learning could be assisted with something that stimulates students and teachers to reflect on their preferences for exchanging information.

The help sheets for teachers and students and a copy of the questionnaire are attached. There is no fee for their use but we welcome a response to add to our understanding of how people learn. Probably only the Read/Writers will respond to this plea!

Neil D Fleming
Director
Education Centre
PO Box 84, Lincoln University,
Canterbury, New Zealand

Email: FlemingN@lincoln.ac.nz

Fax: (64) (3) 325 3605

Inter-class differences varied, and gender differences were not significant. The distribution of dental student scores shows a preference for instructors who use strong visual presentations and facilitate note-taking during lectures. Dental educators should be aware of these differences in order to explore opportunities for making the educational experience more productive and enjoyable. Fleming ND. "Different, not dumb: modes of presentation (VARK) in the tertiary classroom. In: Zelmer A, ed. Research and development in higher education: proceedings of the 1995 Annual Conference of the Higher Education and Research Development Society of Australasia (HERDSA), 1995:308-313.