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Active Learning Techniques for Librarians: Practical Examples

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# Introduction

There is no doubt that in recent years the role of the librarian has changed. There are a number of factors that have contributed to this transformation, but it is the numerous technological advances, and the rapidly changing information landscape that has caused the most significant changes to our profession (Dodd, 2007). The publication, storage and retrieval of information has altered dramatically in the last 15 years and now relies heavily on the use of technology and technological equipment to manage and access this information.

As librarians we need to keep up to date with these advances and be able to show an understanding and knowledge of these new information mechanisms and technologies, not only to move the service forward, but to enable us to meet the information needs of our users. As a result, librarians are increasingly expected to do more than simply just show individual users how to use these new technologies; many are now expected to teach groups of users how to interact, manipulate and fully exploit these various new resources to find information (Dodd, 2007).

Much of this is done by librarians who have not had any previous teaching experience, or undertaken any type of formal teaching qualifications. Some may get basic in-house training, or even just get to shadow a more experienced member of staff, but rarely are they sent on formal, external courses. Courses which would address the basic principles of teaching and learning, such as educational theories or methods, or other important practical issues such as designing, planning and delivering teaching sessions. Yet, librarians are increasingly being asked to run sessions and teach groups of users as part of their day to day duties without this knowledge or training. Further to this, the majority of teaching in libraries is often done in 'one off' teaching sessions, rather than in weekly or monthly sessions where there is regular contact with learners. Seeing learners regularly tends to be more synonymous with traditional teaching, where knowledge, understanding and learning are built up gradually and assessed over a period of time. The majority of librarians however, have only this one off session to ensure that an individual has not only grasped the new skill or concept, but that they have gained sufficient knowledge to feel competent or able to replicate it independently when needed at a later date.

Whilst librarians and library staff have always had to instruct users how to use a certain amount of resources such as catalogues, bibliographic databases, and show them how to search the shelves, running structured teaching sessions to groups presents a number of challenges and many librarians and library staff are left feeling ill equipped and daunted by the prospect of running such sessions. These challenges are being faced not only by existing library staff who have found themselves having to adapt to this new role, but also to newly employed library staff who may have never embarked upon any type of instruction or teaching before.

Some of the main challenges to library staff are planning, creating and delivering sessions that can hold the attention of the users. In the past it has been noted by many that library inductions (and orientation) and library instruction has elicited more than a few yawns from users on numerous occasions. The view from the users' perspective is that these sessions will be boring, un-interesting and un-engaging and therefore little is gained from them (Todd, 2006). As more and more information becomes available through a variety of mediums and technologies, it is important that we are at the forefront in teaching and showing users how to exploit these resources. It is therefore more crucial than ever that we are able to deliver engaging and participative sessions that enhance knowledge and skills.

This book explores the use of a number of active learning techniques within the context of library instruction and teaching, primarily where librarians and library workers are required to teach one off sessions.

The authors understand that this role as teachers, as well as the type of sessions delivered by librarians at their individual organisations, will vary greatly. Not only in content, delivery and context, but also in expectation of the type of results they want to achieve depending on their library sector. Given this diversity in roles, the activities in this book are designed to be adapted and modified to suit the needs of the relevant sector that is being taught.

Many of the activities and techniques presented in the book have largely been used by the authors in libraries within a higher education setting, but also at some conferences and presentations to other librarians and library staff.

It is a practical resource to be dipped in and out of when needed and aims to appeal to a wide readership within the profession, particularly where teaching is a key part of the role, this includes graduate trainees and also students of Librarianship and/or Information Studies.

The book is split into three sections:

The first section briefly outlines the theory and practice of active learning; what active learning is; the benefits and advantages of using active learning technique; and finally it will look at the importance of using active learning techniques within a library setting.

The second section is the largest section of the book and provides a number of practical activities and tips to help you establish active learning techniques in your library sessions. There are five chapters of 'interactive nuggets' in this section and this is split into categories, beginning with techniques to help with *Starting and Finishing the Session.* This is followed by *In the Middle* which provides general tips and activities that can be used at anytime and at any point during teaching sessions. The next two chapters contain activities and tips specifically for running sessions using *Mobile Phones and other Gadgets* in your sessions and using *Web 2.0 technologies*. The final chapter in this section has activities which are dedicated to running *Inductions*.

Each tip or activity includes the following information to help you with your planning:

- Uses
- Materials required
- Notes
- How to use it
- Variations
- Pitfalls


The third section contains sample Lesson plans as examples of how active learning tips may be used in a complete lesson. They can be used straight out of the book, amended to your own needs or as templates for creating your own. The detailed plans contain all the information you will need to plan and run a one hour library teaching session.

Each plan contains the following information:

- Techniques used from this book
- Target audience
- Maximum class size
- Expected outcomes
- Time

- Handouts required

- Equipment required

- Outline of session (including suggested timings)

## *What is active learning?*

The term active learning has been widely used in the education and teaching world for a number of years and is considered as a constructivist approach to learning (Pritchard, 2008). This approach seeks to involve students in their own learning and for them to actively take part in the learning process themselves, rather than being simply fed information (Chickering and Gamson, 1987; Pritchard, 2007). It is an approach that sees the importance and relevance in their experience and in understanding how the learner arrives at the outcome, not just the outcome itself.

More recently, active learning has transcended beyond just traditional educational circles and is now a method of learning widely used in various types of teaching, training and instruction in a variety of environments and sectors - public, private and commercial.

There are numerous definitions and anecdotal descriptions of the term, but active learning is most commonly described as 'learning by doing' (Gibbs, 1988). The basic principle lies in the theory that people learn more and are more likely to retain that information if they are actively engaged in the learning process. In other words, by being involved in the learning through doing, discussing, questioning and applying, there is more emphasis on learners working it out for themselves and developing a better understanding than if they were just given the information. This then transfers into the knowledge they will need to undertake the task or activity independently at another time.

In order to achieve this, active learning also requires people to draw upon and use their existing knowledge, skills and experiences, to aid their new learning. In doing so it will make learning a more fluid, involved process, that encourages participation, rather than a one way process in which students rely on teachers to give them information and facts (Lorenzen, 2001). There are various other approaches to learning such as collaborative, cooperative, problem-based and student centered learning all of which use activity and interaction as the key to learning and are considered by many as a subset of active learning (Chalmers, 2008).

Delivering lectures has traditionally been a popular method of teaching, and is still used in variety of courses and lessons, including library instruction, but it does not provide the learner with many opportunities to engage or interact in the learning processes themselves. Most commonly the teacher stands at the front and does all the talking, thinking and questioning. It has been argued (Bonwell and Eison, 1991) that lecturing provides very little scope for reflection or analysis of the material being taught as students are often either fed information from the teacher, or just given hand outs which consequently does not help to develop thinking and writing skills. Many learners therefore either do not bother to listen or find themselves in a situation where they can barely make clear, coherent notes from what is being taught, let alone be able to think and reflect upon it.

Lectures also require the undivided attention of the learner which in many cases means listening and concentrating solely on the speaker for anything up to forty minutes or longer. A study by Meyers and Jones (1993) revealed that students are most attentive in the first ten minutes of a lecture, but this then drops dramatically and stays low until the last five or ten minutes before the end. Students therefore are unable to fully absorb or process the necessary information presented to them in order for them to have a full learning experience. Other studies (Middendorf and Kalish, 1996) conclude similar findings that put the attention span of an average adult at anywhere between

six and 20 minutes, although it was noted that this can vary owing to other factors such as the time of day, the heat of the room, the tiredness of the learner. The lecture style of teaching makes it almost impossible for a student to reach their optimal learning level.

In contrast to such passive learning techniques, active learning is about creating an environment where students take can charge of their learning, seeing relevance in it, and engaging in it, instead of having information just delivered to them.

Strategies that promote active learning are said to have a number of common characteristics:

•	Students are involved in more than just listening.

•	Less emphasis is placed on transmitting information and more on developing students' skills.

•	Students are involved in higher-order thinking (analysis, synthesis, and evaluation)

•	Students are engaged in activities (e.g., reading, discussing, writing).

•	Greater expectation is placed on the students' exploration of their attitudes and values.

(Bonwell and Eison, 1991)

Active learning techniques that can be used in teaching can include discussion, games, debate, role-play exercises, group work, case studies, peer teaching (Jensen, 2005) These all help the learner interact and engage with other learners of different ability and who have different experiences and knowledge.

By employing and encouraging active learning techniques and strategies, learners are able to become much more involved and can take more responsibility for their own learning. The teacher therefore is no longer seen as the expert who has all the answers and the sole keeper of all the knowledge (Breslow, 1999), but serves more as a facilitator or coach to help learners realise their own potential and find solutions and answers by using their existing skills and those of others in the group to develop and learn. This in turn will help them develop analytical skills and critical thinking and encourages independent learning (Bonwell and Eison, 1991). This is an important aspect of using active learning techniques, particularly in a library environment where learners are more likely to attend just the one session and may not have the opportunity to attend another session at a later date. Therefore they will need to gain as much knowledge and/or skills as possible in a short time so that they will be able to apply this knowledge in the future probably without assistance.

Another significant aspect of using active learning techniques over passive ones is that it creates the opportunity and the ability for the teacher to provide timely feedback. With active learning, feedback can be incorporated into the activity and can be given at a point where the learner is able to reassess or revaluate and perhaps correct any mistakes and change their mind or their behaviour (Chickering and Gamson, 1987; Jensen, 2005). For example, activities that involve voting or sharing answers enables the teacher to find out much more quickly what the learner knows and doesn't know. The teacher can then either recap or adapt the session to ensure that there is understanding, so that the learner gains the correct knowledge. What is most important here is that the learner is given the opportunity to check whether learning has taken place, whereas with many passive learning techniques these opportunities simply do not exist and learners can leave thinking they have understood something, when in fact they may not have.

Whilst active learning aims to engage the participants and encourage interactivity as an aid to learning and teaching, they are also useful in addressing the different learning capabilities and styles

of the class. It has been well documented that individuals learn in different ways, each person having a set of strengths and weaknesses in the way they learn and process information (Meyers and Jones, 1993; Honey & Mumford 2000). Gardener's (1983) research on multiple intelligences proposed that all individuals can be intelligent in different ways, not just in the traditional academic sense in which intelligence is normally defined, but that people have other kinds of intelligences with which they are just as capable of learning and excelling. For example, learners may have high spatial intelligence where they can relate and transfer information in picture or image form, they learn visually. Others may have high kinaesthetic intelligence where learners can transfer and understand information better if they can handle and feel objects. Each learner is therefore different in the way in which they can take in and understand information. Active learning provides the platform in which to address some of these issues and allows for the teacher to provide learning that can cater to these needs.

There are also a number of other theories that are based on the idea that each person has a preferred way of learning – a style of learning to which they are more suited – by which they are more likely to take in new knowledge or skills. By catering to that preferred style the learner will be more open to receiving and processing information as the information is presented in a way that is compatible to their learning and understanding. One example is Honey and Mumford's (2000) learning styles research, based on the four stages of Kolb's (1984) learning cycle: having an experience (the activist stage); reviewing the experience (reflector stage); concluding from the experience (the theorist stage) and planning the next steps (pragmatist stage). They believed that all four stages of the cycle are necessary for effective learning, but that most people develop a preference for particular stages, and get caught in the cycle, making that stage and style more dominant in their learning (Honey and Mumford 2000). The four learning styles they identified are:

*Activists* - who tend to want to get stuck into things straight away and be engaged in doing things. They like to learn by participating rather than listening for long periods of time;

*Reflectors* - who tend to prefer to sit back, listen and observe before they take any action. They like to learn by researching and being prepared;

*Theorists* - who tend to be logical, rational and objective. They like to know the facts and be able to analyse them before acting;

and *Pragmatists* - who tend to make practical decisions, solve problems and get on with things. They like to try out new things only if they can see how they can be applied in practice.

Honey and Mumford devised a lengthy questionnaire in which each person receives a final score for each of the four styles. Everyone will have an element of each of these styles, but that the styles with higher scores indicate the preference to which each individual is best suited. This diversity in learning styles means that each individual learner will take in and process information differently and their ability to learn can often be determined by the way in which the teaching session is delivered.

Active learning helps to tackle some of these issues as it is highly unlikely when teaching any sized group that, collectively, the whole group will share the same preference for learning. Most individuals will not have undertaken any type of learning analysis and therefore may not be aware of their own preferred learning style, but active learning will enable you to address a variety of learning styles within a teaching session. By selecting certain tasks, alternating and introducing different activities you can cater for, and play to, the strengths of all learners.

Don't be misled into thinking that all active learning must involve high energy, physical tasks, active learning can be reading something then reflecting and reporting on it, having to work something out or problem solve. The key to remember is that it requires the learner to think and question and to interact with, or react to, the learning materials, rather than just read notes or be

lectured at.

## *Importance of active learning in library teaching*

Librarians who teach often end up using the same techniques and styles time and time again, even when these may not work as effectively as they could. Some of this is down to the fact that most have probably not received any training in how to plan or write sessions and can seem daunting. Some of it may also be down to the ease and convenience of using something that is already prepared as writing, planning and designing sessions takes time and many librarians might not always have time available. For us to be able to encourage learning and understanding we as librarians need to look for new ways to teach and new ways in which to effectively engage learners, make the sessions fresh and interesting, and to encourage them to see the importance and relevance in library instruction.

Most forms of library induction or teaching have traditionally been in the form of a lecture style session where the librarian gives a presentation either followed by, or interspersed with, a demonstration of the relevant resources. Even though interspersing the session with a demonstration is a form of interactivity, the learners still do not get the opportunity to try out the task themselves, they can still only watch and take notes. The learners do not fully engage with either the resource or other learners.

Many librarians may already be using some form of active learning in their teaching such as asking for a show of hands or passing library materials around, but how many of us have delivered sessions only to be stared back at with blank faces or learners who look uninterested?

As discussed in the previous section lectures do not provide the right environment for most individuals to take control of their learning, or for them to be able to reach their potential learning ability. Gibbs' (1992) study in higher education showed students who had the highest levels of achievement had all attended courses where active learning was used and where there was interaction with others. In a similar study where learners knowledge and achievement have been measured, there was a notable increase in either marks or outcome when active learning was used (Breslow, 1999).

Librarians typically teach in one off sessions because the information and skills taught tend not to follow any curriculum or formal assessment. This kind of teaching differs from that of traditional teachers where they regularly see their class and can build knowledge and skills over a period of time. In this situation the teacher can pick up and address any learning issues or problems the learner may be having in understanding what is being taught some days or weeks afterwards or after an assignment or examination. However, only seeing the learner once and for a relatively short time, providing this longer, ongoing learning relationship is not possible.

As a consequence our library teaching needs to be focused, meaningful and participative as learners' successes or weaknesses need to be addressed within the session in order to achieve any learning outcomes (Jensen, 2005). The use of active learning can help to address some of these issues.

The use of active learning is important for library teaching as it is learner centred; it encourages participation and the ability for the learner to engage with learning materials and/or other learners. During a traditional lecture style library session we probably spend the majority of the time speaking; presenting information; demonstrating and answering questions. The learners often remain passive, just listening and perhaps writing, but they do not have the opportunity to actively

participate in their learning. The lesson can sometimes become dominated by us and by the presentation whereas if learners are given the opportunity to become involved through activity, the focus of the session then becomes all about them. For example, in getting the group to work in pairs or small groups to work out a problem and asking them to write their feedback on the board, or give verbal feedback to the whole group, makes the learners not only have to engage with their peers, but also to draw upon and use existing knowledge or skills in order to carry out the activity.

We should not spend the majority of the lesson just demonstrating a database or the catalogue, expecting learners to have understood, but allow them the time to put the information into practice. Set your group an activity so that they can use it for themselves, let them make mistakes and then let them try to find their own solutions, before giving them the answers or doing it for them. Using active learning helps shift some of the focus away from the teacher and onto the learner, encouraging learners to think more, apply existing knowledge and take more responsibility for their own learning and development. A lot of library instruction can be very task based, but when we are teaching we should not only be interested in gaining an end result, we need to focus on the experience the learner will have. If this journey is one where interactivity and stimulation takes place, in an environment that encourages thinking, doing, discussing and reflecting then there is more likeliness that the information will be retained and there will be some sense of understanding of the process and therefore enable the leaner to independently replicate what has been learnt. This process that an individual goes through to achieve new knowledge or skills, is where the learning takes place (Pritchard, 2008). It is important for us as librarians to empower learners to use this knowledge and if we encourage good learning techniques then users become self reliant.

One of the most important aspects of active learning in library teaching is that it facilitates both assessment and feedback, both of which can help to focus on the learners needs. In most library sectors librarians run teaching sessions where no formal assignment or assessment is required at the end, it can sometimes be hard to incorporate and more often can be overlooked. However, the instruction, training and information provided in these sessions is essential support to other functions of the wider organisation or service, for example school, university, legal firm, hospital etc. In his research on school librarians and student learning in Ohio, Todd (2006, p36) found that the school librarian role was one that was both 'active and learning centred' and that their role as information experts was essential in working alongside teachers to help students understand how to use and process information effectively to gain knowledge and skills.

By using more practical activities, tasks or problem solving, it enables librarians to assess the level of knowledge and learning at the point of the activity. This in turn provides the opportunity for the librarian to address this and give appropriate feedback or further instruction at the time when it is most useful to the learner, rather than after the session has finished or giving none at all.

Many traditional library sessions that rely on just a lecture or presentation do not allow for this kind of assessment or feedback by librarians, nor do they allow the learners the opportunity to realise they have misunderstood, or not understood at all. They may well leave the session thinking they have a grasp on what was taught, but in reality, they have not and therefore when they try to replicate what was taught they will be unable to. In this instance, the learner has not had a positive learning experience; they have not gained new skills or knowledge and it is unlikely they will have the chance to attend another session to rectify this. Also, feedback alone does not allow the learner to know what they have understood. Sometimes learners might think that they haven't grasped what was being taught, when in fact they understand it quite well.

Whilst most active learning assessment techniques in library teaching are very informal, such as show of hands, voting cards, audience response voting systems, questionnaires, or quizzes etc, they nonetheless provide librarians with the opportunity to provide feedback to the learner there and then at the point of need, where it can be related and corrected accordingly, both of which are important

factors in the learning process. For example, in their pilot project using audience response voting pods to teach information literacy sessions to university students, Jones et al (2007) used the pods - in anonymous mode - to conduct a knowledge check at the start of their session to see how confident the students' felt using library resources. This assessment is twofold as it provided them with information regarding the students' current level of knowledge, as well as allowing the students the opportunity to disclose their feelings towards using library resources. Even though this is a relatively minor form of assessment, it still provides the teacher with some vital information from which, if needed, they can adapt the session to incorporate either more advanced techniques or simplify them, depending on the results.

Designing and planning lessons around what the learner needs to know is an important aspect of teaching any session and ensuring there are clear objectives means that learners have some idea of what they can expect to learn and should have learnt by the end of the session. But active learning provides the platform for librarians to use assessment and feedback more effectively, making sure you have met the objectives of the lesson, by focusing on the needs of the learner.

In addressing the needs of the learner to provide a more focused, relevant and meaningful teaching session we must also take into account the different learning styles and learning intelligences of the class. Active learning, as we explained earlier, helps accommodate different learning styles by enabling us to incorporate a variety of activities into the session that will not only appeal to, but also benefit different types of learners. Providing some variety and alternatives to the bog standard presentation and hand outs, which may only appeal to the visual learners or reflectors in the room, will make the session more engaging for all learners and hopefully gain their interest and enable them to process and retain the information presented more effectively (Bellanca, 1997).

With the recent rise in technological inventions and advancements, active learning also facilitates the use of a variety of technological equipment and technology. Many young users are technology savvy, they are used to using a multitude of electronic gadgets in their daily lives, they have grown up surrounded by them and conduct the majority of their studies, work and social lives through them. If budget allows incorporating active learning techniques through the use of equipment such as mobile phones, hand held gaming units etc can capture the attention and increase interest within a group. As well as utilising the new technological gadgets, the internet and its wealth of resources particularly Web 2.0 technology where users can interact such as social networking sites (e.g. Facebook, Twitter, Ficker etc), blogs, podcasts, wikis, video and audio conferencing, RSS feeds etc, can be a way of stimulating interaction and increased enthusiasm, motivation and interest in the activities (Gooding, 2008). Using these technologies for teaching might be a new and daunting area for many librarians, but they may engage learners more fully in ways that traditional activities are unable to. We are aware that this is a new area for many and we have addressed tips for using these technologies in the second section of the book under their two separate chapters titled Mobile phones and other gadgets and Web 2.0 technologies.

Whilst it is nice to have flashy gadgets and technology etc, environment or budget does not need to be a barrier to active learning (Jones, et al 2007). Active learning encompasses doing and interactivity, it does not necessarily need lots of money to fund it. Simple methods such as using coloured card for voting; paper or online quizzes and questionnaires etc, or using simple props that you may already have or even none at all, but being creative with the space you have. It is about engaging the learner, making them think and interact in the learning process. The majority of the activities in both Starting and Finishing the Session and In the Middle contain a variety of activities that do not need much equipment, money or resources to implement.

We need to provide interesting, engaging sessions that employ active learning techniques and encourage learners to think, question and apply their knowledge to situations and activities in order to gain a greater understanding of what is being taught, and for them to gain the new knowledge

they require. It is important for us to ensure our learners achieve this, as in many libraries one off sessions are taught and it may a learner's one and only chance to attend. Therefore, for us as librarians to be able to provide the maximum learning experience, we need to think about moving away from static lectures and presentations, and adopt a more fluid, two-way strategy for teaching.

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