

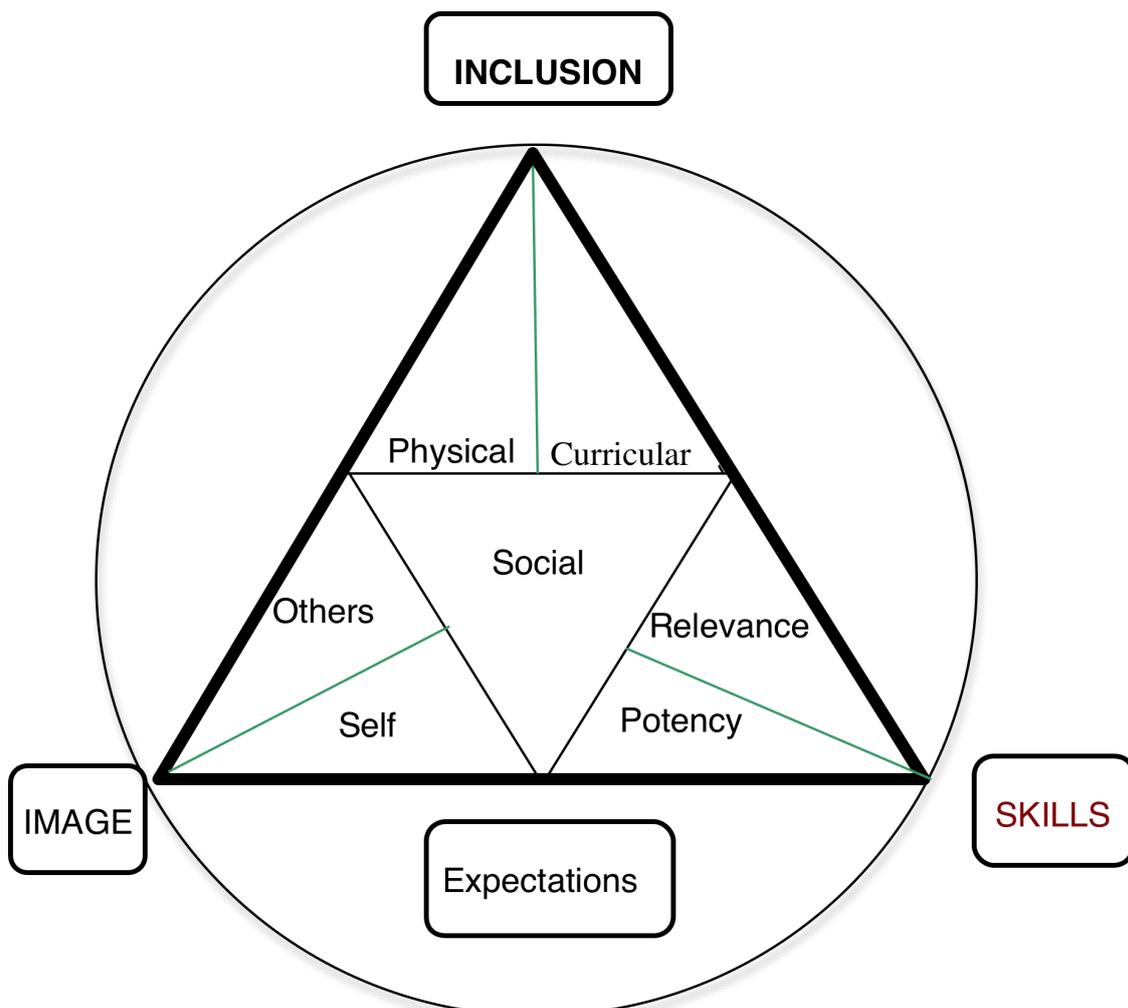
Building Belonging in the Curriculum

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Inclusion in the Curriculum

In 1996 Darrell Wills and I published an article "Inclusion: much more than being there" (Wills & Jackson, 1996), which was designed to come up with a definition of school inclusion that would cover all children in all situations to try to ward off many of the perversities of defining anything as inclusion. The article was also an attempt to define the key characteristics of inclusion based around the ideas of Wolfensberger that we had learned over many years of contact with his workshops and writings. Hence we defined Inclusion being a situation where the child was included in the same activities and rooms as the other students for the same periods of time (physical inclusion or physical presence); to be socially belonging (social inclusion); to be involved in the SAME curriculum as all the other children in the class (curricular inclusion); and to be included in the school and class rules (part of social inclusion). If we look at the diagram that we published at that time, the links to SRV are obvious.



Apart from the physical, social and curricular inclusion mentioned above, we saw key elements as the learning being relevant and powerfully delivered, the students' image in their own eyes and the eyes of others as being critical, and finally, the importance of high expectations based on the notion of self fulfilling prophecies. Darrell and I have been working with teachers, families and schools continually since then and have found no reason to adjust this basic formulation as embodying the central elements of school inclusion. In this situation we saw the key valued role as one of a student like all the other children, so we did not spell out valued roles separately (even though we might also try to use valued roles to build image and skills).

We have seen over time that in Western Australia at least, there is basic acceptance that the law allows parents to choose full inclusion and there has been some excellent work done by some schools on building social connections. If schools have the WILL to include, they are generally not too bad at arranging full presence (physical inclusion) and building relationships with other students (social inclusion) as well as reacting strongly to any bullying or teasing. However, where we find the difficulty is with curricular inclusion.

Our argument is that if you are not included in the same class processes as the other students (that is, the curriculum), you are not really included. However inclusion in the curriculum is often avoided by teachers, who may prefer to use material developed by an aide or therapist. If we go back to the original definition of inclusion, it means inclusion in the SAME curriculum as other children. It does not mean a different task or therapy to the other children; it doesn't mean a version of the same material so watered down as to be a drastically different example; it doesn't mean doing level 1 while everyone else is doing level 5 material. In all of these examples the material is so different from what the other children are required to do that it is obvious to everyone, including the child with an impairment, that a different curriculum is effectively in operation.

It needs to be noted that being included in the curriculum does not mean that all students will 'pass' the course requirements, although with better teaching as outlined below the probability of normative success is increased. The reality is that national and international data over decades demonstrates that large numbers of unlabeled students do not achieve 'passing' levels, but they are included in the general curriculum without question.

Adapt teaching to each child's level

1. Getting back to basics: Starting with the answer

One of the major lessons from Dr Wolfensberger that has always been a guide for me is look to valued people for the models of how to do things rather than 'specialist' approaches. When we first start to teach a baby to, say, clap hands, think of how we do it. We may try modeling but in the initial stages this will not work as the baby will not have developed the skill of motor imitation as a learning tool. So we say "Clap hands" as we clap the child's hands for her, whereupon we congratulate loudly and effusively with "Clever girl" many times over. Note that the child has not done anything. What we have done however is demonstrate the sequence of Instruction-response-reward quickly so the link between all three is short and more easily learned. With a baby, we may have to repeat this several times over to establish the sequence, whereupon we will give the instruction ("Clap hands") followed by a demonstration of clapping hands (model) or a

touch to the back of the child's hand (faded prompt). If the child does complete the action we will be extremely effusive in our praise.

If we think of what we have done, we have started by giving the child the answer and repeated this, gradually decreasing the amount of help by modeling or prompting until the child can successfully do this by herself. Once it is established we will extend the learning by testing the next day (testing for memory and whether the skill is starting to be 'fixed' into long term memory) and extend the skill into a new area such as "Touch your nose". Within a few days we can often have a child able to remember a range of body parts and point them out on request. So let's consider what are the essential components of this:

- If the child cannot do it, we do it for her in the first instance.
- The sequence of instruction-action-reward is short to make it more easily recalled.
- We start to reduce the amount of support from the second attempt, always aiming to have the child do the maximum herself without our support. We will however increase the help (and even go back to step 1) if learning is failing.
- We have high expectations that the child will succeed.
- Our teaching is active with the child involved.
- We know that the more time we spend on it the greater the speed of her learning the skills
- It is always at her level.
- It is made reinforcing for the child, both by praise and making the learning fun.
- It is relevant to her world

Now in almost all cases in the general classroom, this is a strategy that can be used. We can ask the class generally for an answer, which will be particularly pushing the brighter students to their capacity. When one of these students comes up with the answer, we can ask the **same** question immediately to several other children based on their attention level, need for processing time or difficulty with keeping track of what is happening. Hence the student with a major impairment might be asked the question after 4 other students have given the same correct answer, and would be both pushed to their capacity as well as getting success at class level.

Taking this analysis of the valued student a bit further, we need to look for examples of multi level teaching occurring in the regular society. We commonly have a range of skills due to age differences in the normal family growing up and siblings know that if they are going to be able to play together they will have to make allowances for the younger, less capable child. Similarly, if parents join in a game of backyard cricket, the level of difficulty is tailored to the child with slower bowling, easy catches and lots of praise – but with high expectations maintained. This means that we are all accustomed to teaching at different levels simultaneously but can lose this skill when we become fixated on grading in the normal classroom. However the reality is that if we group children by age then due to the normal spread of individual differences there will be a wide range of skills and capacity in ALL classrooms that must be incorporated in teaching strategies if we are to be successful. The child with an impairment just highlights what is a reality anyway.

To apply this approach in the classroom we just follow the same essential components. For example, if the child does not know the answer (even if the rest of the class does), we can give the answer to the child and then immediately ask the same question again. "Mary, 5x3 is 15... What is 5x3?" If that is at the child's level, to come back with the answer will be quite a challenge as the child has to remember the sequence of words and in particular the answer to repeat it back on request. We could also come back 15 seconds later and ask the question again without the

answer – which is testing short-term memory. Again *if* that is at the child’s level it will push her to her limit. For some other children of course it will be either too easy or too hard which comes down to the skill of the teacher in knowing the level of all her children.

For children with even more significant impairments (e.g. non vocal, or significant physical disabilities) the situation will need to be even further adapted but the same approach is possible. A correct answer may be given by eye pointing with lots of stimulation over at the side where the correct answer is (say) on a flash card. Again, the child may just be responding to the stimulation in the early stages but the difficulty level can be gradually increased as it can for all of the other children.

Note that the child is engaged in the SAME curriculum material as the others, but the response required is adapted to the child’s level – as we do with our own children as they grow up.

In order to do this, the overarching principle is Universal Design. We are aware of this concept in other areas, where for example buildings can be constructed that are accessible to all people with or without disabilities. A ramp to the beach works for people in a wheelchair as well as someone taking a stroll, whereas stairs would block out large numbers or people who are elderly or have children in a pram. In learning the terminology is usually Universal Design for Learning or UDL.

2. Universal Design for Learning¹

Universal design for learning is based on the notion that all learners are different and learn best in individual ways. The approach proposes three core aspects of learning corresponding to different brain areas: *Representation* which corresponds to sensory areas concerned with the ‘what’ of learning (knowledge); *Action and Expression* associated with the frontal lobes which are concerned with skills and strategies; and *Engagement* associated with the emotional centres, and concerned with the ‘why’ of learning. Another way of looking at this is that students need to gain knowledge, skills and enthusiasm for learning.

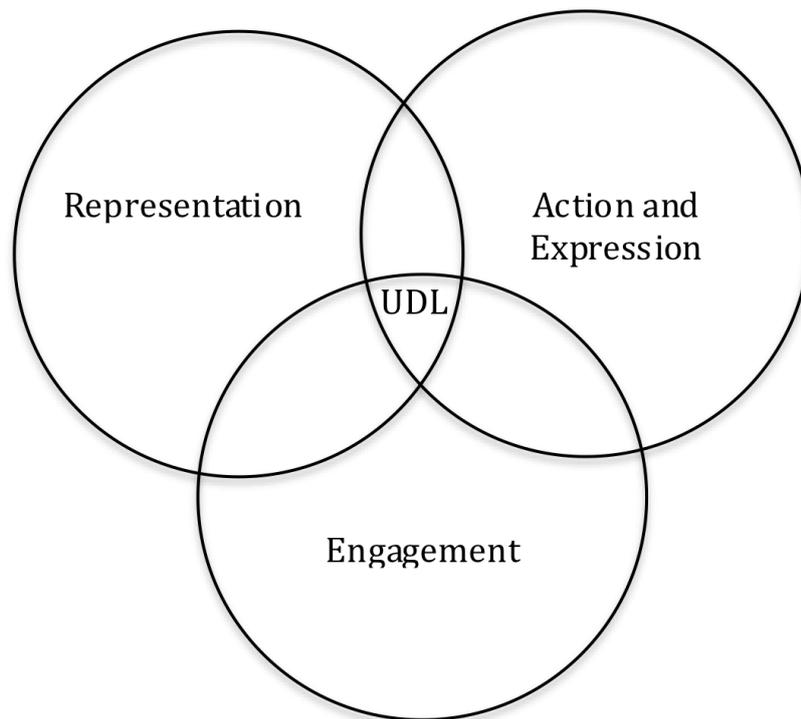
We need to set the goal for the lesson, theme, term year etc. and then look at what barriers might apply to individual students achieving that goal. Then we look at the range of possible ways of **representing** the information. For example it could be in written, audio, graphic, video, drama experiment etc. If there are multiple possible representations then it is more likely that all students will gain the knowledge.

Then we can come up with a range of ways that students can demonstrate that they have gained the knowledge and engage with the tasks. That is, provide a range of possible **actions and expressions**. It is extremely rare for broad curriculum documents to set out specific means for a student’s knowledge to be assessed (such as by a 1000 word essay) although teachers may often have such a requirement. The reality is that the curriculum requirements could be met in multiple ways such as by audio, video, drama, or experiments, and this means that effectively all students can find a way to fairly demonstrate what they know.

Finally, we need to have multiple ways of **engaging** students so that motivation to learn is maximized. Some students prefer to independently read and write answers; others might be

¹ CAST (2011). *Universal Design for Learning Guidelines version 2.0*. Wakefield, MA.

totally alienated by having to write an essay but be captivated by making a film. Some work best independently, others in small groups, others blossom when put into the role of a peer tutor.



Steps in Universal design for learning

a) Setting Goals – the big ideas.

In schools and universities, a block of material is presented within each subject area each year, term or semester, which the students are expected to know and understand. Within that material however, some of the information is descriptive and illustrative whilst other material is core to the understanding of the topic being studied. Indeed within any block of material, there are normally 3 or 4 central concepts that it is essential that all students know and understand in order for the material to make sense. Another way of thinking about this concept is to think “What is it essential that all students know at the end of term/year in this particular subject to ensure that they have gained the core knowledge?” Again, careful analysis of this question normally yields just a few core concepts around which the course is built. It does not mean that this is all that is needed to understand the subject, but it does mean that with these core concepts all students will have a fundamental grasp of the topic under consideration.

Of course if we have just a few core concepts as the fundamental area of knowledge, this then becomes accessible to all students. The majority of students will be able to expand on the detail and illustrative examples of the core concepts, and the most capable students will be able to take the concepts far by research and individual analysis. Thus all students can gain the core information of the subject whilst all can be simultaneously challenged at their individual level. The alternative of working through a body of material in a systematic fashion depends totally on the skills of the teacher to differentiate for individuals, which is putting undue pressure on an already difficult job.

To give some examples:

- For writing we will need to distinguish between secretarial skills and author skills. For secretarial skills we might have core concepts such as constructing a sentence, constructing a paragraph and constructing a story. For author skills there will be a small range of core concepts such as introduction, character development, plot, challenge, resolution etc.
- For algebra, there is a sequence for problem solving consistently used. This sequence can be taught, even if the capacity to solve detailed and complex problems may be beyond many individuals. Hence to solve the problem $x^2 = 2xy - 16$ where $x = 4$, the sequence is to
 - Substitute 4 for x ($16 = 8y - 16$)
 - Bring all the numbers to one side opposite the letters, changing sign when they go over ($16 + 16 = 8y$)
 - Divide both sides by the number in front of the letter (hence $8y/8 = 32/8$, so $y = 4$).
- For physics, for the table of elements lessons, the core concepts are the meaning of the rows and columns and the relationship of the position in the table to the atomic number - the number of protons in the nucleus.
- In geology, there are three basic types of rocks: Sedimentary, Igneous and Metamorphic, with each coming into existence through different processes.
- In literary analysis, the first stage is to summarise the story with key plot elements and characters.

Now each of these big ideas can be sequentially broken down to challenge individual students at their level at a year, term, week and lesson level. Hence we can have goals related to a week or a curriculum theme, and of course goal(s) for each lesson. Note that this approach is directly supported by research on the most effective ways to teach all children (Hattie, 2009). They need high expectations, constant feedback on performance and material presented at their level. An important consideration in setting goals is not to have the means as not part of the goal. For example, if the goal is to “write a 1000 word essay on the plot of Hamlet”, then the means of achieving the goal (writing) is included and so will deny participation to a number of students. An alternative would be “to demonstrate an understanding of the plot of Macbeth”, which could be done in numerous ways (including by the writing of a 1000 word essay).

b) Look for barriers to individual students being able to reach the set goals.

Once the goals are clear, generally it is fairly easy to discern the likely barriers to individual students achieving the goals. A student’s impairment may mean that they will find it difficult to understand the material or instructions; to actively contribute; or be able to demonstrate their level of knowledge in the normal way. Once this is determined, we can work out ways of overcoming the barriers and have the student engage with the lesson along with her peers. For some students it might mean a lack of English is the barrier; for others it might be a chronic lack of motivation for school work generally; for others the material might be too easy and found to be boring as a result.

A key aspect here is to look at the overall curriculum and classroom processes for the barriers rather than individual students. The underpinning assumption is that the problem is with students' access to the curriculum, not the students. With this assumption, the focus comes to where it is going to be most effective – altering the processes so that all students can become involved in the curriculum.

c) Representation of the material

The material to be taught can be represented in multiple ways, with individual students tending to prefer one method over another. For example, the material could be presented as a topic for a brainstorm; by video or audio; by written instructions (simplified or enlarged if necessary); by a group task; by graphics; by drama; by computer; by text book.

d) Action and expression

A student who cannot read may well be able to interact with the curriculum if the material is in audio or visual form, and their response could also be through action (taped responses, drawings, drama, experiment). Even without many of the technical aides now available, in the regular teacher's repertoire there is normally a range of alternative ways of presenting the information and requiring a response. The more options that are available to student to interact with the material, the more likely it is that students will select a method that allows them to demonstrate their knowledge. Some examples of varied actions and expression are using concrete objects (3D models, blocks, normative equipment such as balloons in science or maths tasks which allow practice at home); computer based approaches (Google searches, on-line groups, on-line games such as language games, discussion forums, web page design, social media); stories, comic books, storyboards, poems, visual art or sculpture.

Goals

An important consideration here is to try to engage the executive functions of the brain as much as possible. This can be achieved by asking the students to plan a task (which could be in multiple ways as described above), and provide basic material for them if the capacity of the student is limited by poor memory or lack of basic skills. Hence it would be possible to provide a list of the tasks to be completed (removing the need for memory) and requiring the student to decide the correct sequence for accomplishment and having to justify their choices. Again, this could be done in writing, by storyboard, through sequencing of pictures or other alternatives. All of these approaches can be scaffolded as necessary (checklists for goal setting, limiting choices in goals to 2 or 3 initially, provide the list of goals for the student to refer to when they have decided on them etc.). This will help to ensure the student develops the skill of planning. It is not necessary to provide the goals for students as this will miss an important skill.

Planning and strategies

Once the goal(s) have been set, students will need to work out how to reach the goal(s). This can be scaffolded by breaking the task down with a series of questions to be asked before moving on; planning templates or checklists; using mentors to ask key questions; or building in review times for students to stop and check their work. A range of action alternatives can also be used here.

Providing feedback.

It is essential that students receive regular feedback on their progress. This is best achieved if students provide their own assessments so that the executive functions of the brain are involved. This can be facilitated by a series of prompts at various points in the exercise; requiring demonstration of progress (before and after drawings, photographs, video, tape recordings etc.; short answer tests, written responses).

Engagement

Choice

To maximise the probability of all students engaging with the material and being motivated to learn, choice is essential so students can employ their own preferred learning styles. For example, if students have some option to choose their own level of challenge with expectations on selecting a more challenging option, students with low self esteem or a history of failure are more likely to engage, and advanced students will not feel limited by the median class expectations. We could have students set their own time limits for class completion with more flexibility to complete tasks outside of class. If they have a choice of ways to receive task instructions (written, audio, graphic); actively or at desk for those students who find it difficult to remain still for extended periods; with adequate time to process instructions for those with processing limitations; with broken down instructions for those with memory difficulties. Different means of providing reward or feedback for success should be available. Students do not respond in the same way to any individual reward with some preferring internal rewards (satisfaction at completion and permission to go on independently) and others preferring external rewards such as praise, merit rewards and good marks.

Relevance to their world

If students can see the relevance of the material to their own lives, engagement is more likely. This might mean making it culturally relevant; age appropriate; contextualized in their lives and socially relevant. For example, experimentation and exploration of real situations; asking students to reflect on the relevance to their lives; using processes that are relevant to them such as social media and games; and fostering activities involving imagination to solve novel problems.

Building self regulation and sustaining effort

Ultimately, a key component of engagement is the student's own self-regulation and sustaining effort, even when the process is difficult and long term. For example, to learn a musical instrument involves extensive dedication at an 'incompetent' stage before a level is reached which will be viewed as competent by others. It is important to explicitly target the development of these skills through both reorganizing the learning environment (in music it might be by setting up a small band or orchestra, recording examples over time so that progress can be demonstrated to the student when none seems apparent) and giving students opportunity to develop their own self-regulatory skills. For example, working with students on developing their own timetables for engagement and self assessment; or linking in to others directly or electronically so that they can motivate each other (on-line competitions can often be highly motivating for some students, learning games on a computer may be used when alternative methods are unmotivating.)

Achievable and relevant goals

Asking the student to restate the goal in their own terms so that it is directly relevant to them; allowing some choice of goals; breaking goals down to more achievable sub-goals; using scheduling tools (from a diary to a computer based time management program); assisting students to visualize the goals; discussing with the students what would constitute excellence; discussing with students the cultural relevance of the goals and its connection to them.

Emphasising process

The more that we can individualise the process, the more likely it is that we will be able to maximise the learning outcomes for individuals, even though they might not meet 'passing level'. If we can expand the extent of what is acceptable and emphasise effort and individual improvement rather than direct comparison to others or an external standard, the more likely it is that students will remain engaged and motivated to learn. The main objective is to have all students engaged and being challenged at their level, which allows for some students to have considerable scaffolding and tools, and others to have minimal or none.

Maximising expectations of engagement

Many students build up a pattern of behaviour where they respond aggressively or in other maladaptive ways to school or class expectations. Traditionally the response has been to apply consequences to this emotional behaviour, which often means that it continues to operate from an emotional part of the brain. An alternative is to negotiate with the students a range of possible actions with respective consequences, and then to respond (or remind) the student on the basis of whether their action was a 'good choice' or 'bad choice', which has or will result in the agreed consequences. This is then pushing the student behaviour into the frontal or executive areas of the brain and helping the student to develop self-regulatory skills by making 'good choices'. We can also provide mentors or coaches to assist the student; gradually increase time on task or level of distraction; build on student strengths; and encourage the student to set their own goals on behaviour.

Building self regulation skills

Some students may need some personal attention to increasing the ability to tolerate frustration, distractions, failure, or more specific problems such as phobias or dysfunctional family backgrounds. This may be by building external emotional supports; gradually increasing the level of pressure using role-play, imagination or real life exercises; cognitive restructuring approaches where alternative actions are taught in response to pressure or threat; or building a vision of a desired outcome for the student (such as a vision beyond school) and then working on strategies with the student on how to develop this into a reality.

Self assessment

A subset of self regulating skills is self assessment skills. A key to maintaining motivation and engagement is awareness that one is making progress towards goals such as independence or greater competence. We can build awareness of this progress by helping the student through charts on her behaviour, which ultimately she can self manage. For many students this will be need to be quite concrete and simply structured so that the link between particular actions of the

student and the outcomes is very clear. Broad statements such as 'doing much better' with little direct information about what behaviours are better are unlikely to be effective, whereas a direct concrete link between student actions and 'stars on a chart' is more likely to be effective.

Peer tutoring

A key underpinning strategy that is widely supported in the literature on inclusion is peer tutoring. This has been shown to improve the academic outcomes of both the tutor and the student being tutored as well as increasing the social inclusion of the student with impairments. Similarly, the careful use of groups where there is a majority of more competent with a minority of less competent students will maximise the probability of the less capable students improving due to good models as well as help from the more competent.

Lesson Preparation

In addition to the direct principles of Universal Design for Learning, there are a range of ways that teachers can prepare to maximise the probability of ALL students being involved in the class curriculum and learning to be improved.²

In terms of preparation, we can:

- ***Prime background knowledge.*** To accomplish any task there will be skills and knowledge required to complete the task. Clarifying these and making sure that they are 'refreshed' before starting the new material, or alternatively, providing ways for them to be provided if beyond the capacity of individual students, can considerably increase the probability of successful inclusion in the lesson. For example, refreshing addition before moving on to multiplication; providing pre-requisites in a list for particular students; provide the student with the pre-requisites already completed, ready to move onto the next task.
- ***Strategic integration.*** If the material to be covered can be linked into other material currently or previously taught then it is much more likely to be 'built into their world and retained outside of the lesson. Hence in mathematics problems can be presented as stories to convert into figures; Physics can be linked to outings for Society and Environment; in English the stories can be about material being covered in other courses.
- ***Conspicuous strategies.*** Most of us can remember rules taught to us in primary school such as the spelling rule 'I before E except after C'. If you are like most of us, this is a very useful strategy even though it is not always effective (viz 'weird' and 'science'). Similarly, in mathematics we may have learned strategies to solve complex mathematical problems mentally, or sequences to go through such as BOMDAS (Brackets, Of, Multiplication, Division, Addition, Subtraction). Strategies can be thought of as road maps. We can teach a range of alternative routes to a destination and students can discover new ways on their own. Different routes might work better in different situations and some routes may suit some students more than others. If we highlight the main route on the map with a highlighter, all students can find their way. As they become more confident we highlight alternative routes and allow them to choose the ones that fit them best. This is an area where teachers can collaborate and share strategies and new teachers can be greatly

² This is developed in Coyne, Kame'enui & Carnine (2006)

assisted by more experienced teachers directly passing on strategies. It is likely that as a result previously inaccessible material will become accessible to a wider range of students.

- **Judicious review.** As we all forget things, it is important to consider before the lesson how the material is going to be reviewed. In the initial stages of learning review might need to be very frequent, with the frequency decreasing over time. By some prior planning, we may be able to incorporate review of skills in one area to be checked in another, such as checking mathematical skills when a student solves physics problems, or checking comprehension when students try to solve maths problems written in sentences.
- **Determining a fall back position.** It is likely that teachers will find situations where the full inclusion of all students in a particular activity is too difficult at a particular time due to a lack of resources or ideas. For example, a student with cerebral palsy in a wheelchair will be difficult to include in the basketball lesson. The ultimate might be a wheelchair basketball competition where all students have to play in a wheelchair, but this would involve considerable resources that might not be available. The teacher will need to have a fall back position of how to include the student. For example, it might be by setting out a range of roles for all students (coach, scorer, player, equipment organiser, disciplinary review panel member, referee, statistics collector), some of which could be held by the person in a wheelchair. By having a range of roles, students with little interest or skill in sport could also be involved in a more meaningful way and the person with a disability is not highlighted as particularly different. If there is a need for students to independently write an answer, the student with no literacy skills will be difficult to include. They could be involved in other ways such as presenting the work in graphical or auditory form or having the class in groups where different groups are working on different aspects at different times, with the student with a disability always involved in the non-writing groups. In all cases it is worthwhile considering this fall back position early as students totally left out of inclusion in the main activity are likely to be aware of this and may react negatively.

In summary, Universal Design for Learning proposes:

- Setting goals
- Looking at barriers to those goals being achieved
- Representing material in multiple ways
- Maximising action and expression
- Actively seeking ways to increase engagement

In addition, with preparation on some key facilitators of learning and using strategies known to be effective such as peer tutoring, the inclusion of all students in the mainstream curriculum can be a reality. It is interesting that some of the most challenging work is being done through the inclusion of people with severe impairments into university and other post secondary education. It shows that with the will, what used to seem impossible is now within the capacity of the mainstream teacher.

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Resources:

<http://www.udlcenter.org>

<http://www.cast.org/>



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