

The 'Academic' component of WS comprises the following areas:

- 'Intelligence'/ Ability
- Oral language
- Reading
- Reading comprehension
- Writing
- Gaeilge
- Social, Environmental and Scientific Education
- Mathematics

Intelligence/Ability

Profile: Most individuals with WS have an intellectual disability that falls somewhere between borderline and moderate. IQ tests do not suit learners with WS due to the asymmetrical nature of the WS profile. Many teachers are surprised at the level of the learner's 'intelligence' as exhibited in class, compared to what a psychological assessment or standardised test indicates. Teachers report the learner's IQ as being a significant strength, it holds great potential, as many learners are able to ask good questions, to engage in higher-order thinking skills and can periodically work at the level of their peers. Her IQ will impact on her inclusion in many aspects of school life. There are obvious implications for academic subjects but teachers also report that in the latter years in primary school the learner may have difficulty participating in some games in Physical Education (PE) due to being unable to understand the rules of a game. It will also impact on her social interactions. A gap in her interests frequently becomes obvious by the middle years in primary school.

Strategies:

1. Reports will give you a lot of information on what the learner is **unable** to do. That's not very helpful in most cases. To know what the learner's ability is devise your own observational checklists and gather baseline data on what the learner CAN do, push on to what the learner CANNOT do.
2. Build a programme within what Vygotsky calls the 'zone of proximal development', concepts or skills which are one step on from what the learner is able to do independently ... not just in literacy and maths, in all subjects.
3. Record progress on an ongoing basis so you are sure the learner is making progress and you are aware at what stage of development she is. You may need to do some research on developmental stages of

reading or writing to know how to move her onto the next level, particularly if she is at a pre-school level.

4. Many teachers found their expectations of the learner's ability were most accurate when they used previous IEPs and talked to the learner's previous teacher.
5. As with any other learner you teach with a general learning difficulty, you should refer to the NCCA curriculum guidelines for learners with mild or moderate learning difficulties to ensure you can plan appropriate, differentiated programmes of work across the curriculum.
6. In any lesson you teach, share the learning outcomes with the learner so she understands what you will be checking at the end.
7. When discussing progress with parents do not compare the learner to her peers. Focus on the developments in learning for that instructional period.
8. If the child has been assigned a special needs assistant (SNA) in a mainstream context it is imperative that the SNA does not teach new concepts or skills to the learner and does not differentiate work that you are doing with the class. Differentiation requires a high level of skill, it is not about dilution of content but about accurate pitching of content to maximise learning outcomes. It is you, the teacher, who should teach all aspects of the curriculum to the learner and you who should differentiate the curriculum appropriately to meet her individual needs.
9. Similarly it is not the job the learning-support or resource teacher to provide a differentiated curriculum for the learner with WS. The first line of responsibility rests with the class teacher. A clearly worked out programme should certainly be done in conjunction with any support teachers but to plan for a learner with WS in literacy as 'she goes to the support teacher for literacy' is inadequate. It is unlikely the support teacher provides the full literacy programme to the learner.
10. Ensure there are manipulatives and visual aids available to the learner to reinforce the content or to develop particular skills.
11. Keep lessons short and active to maintain the focus of the learner with WS.
12. Ensure there is regular revision of content, this benefits all learners.
13. Consider a strategic timetable to get the most out of the learner e.g. Irish might be followed by music or drama, then maths followed by religion. Some subjects facilitate the use of song or movement which will maintain the attention of the learner better than 'academic' work for a full morning.

Oral language

Profile: There is supposedly a characteristic language profile in WS. In the only research on the learning profile of student with WS in Ireland no characteristic profile emerged!

Some learners have a wide vocabulary, good articulation and speech fluency and are rated by their teacher to be at the same level of their peers or above! Others start school with limited vocabulary or have poor grammatical structure in their speech. Language spurts are common, particularly in the early years. There is a correlation between poor speech and challenging behaviours so language development is hugely important. Interestingly, children with limited speech can usually sing language more effectively than speak it!

Very often the learner has a love of language: certain words and phrases amuse them, particularly old saying and poly-syllabic words, which they use whenever they can, but frequently out of context. This shows an impressive vocabulary can mask comprehension difficulties. They may also sound 'old-fashioned' or imitate the language of adults (which usually involves them being very bossy!) which their peers resent.

Many learners with WS have very good social use of language which they use to maintain positive relationships, particularly with those in authority. They remember details from a conversation and will refer to it again in subsequent engagements, in a way that older children or adults do, such as asking how your mother is since her cold or if your pet dog barked during the night last night and kept you awake! They will also often try to 'charm' their way out of something unpleasant, frequently by giving complements or trying to distract you from reprimanding them!

Strategies:

1. If the learner has limited speech ensure you implement any guidelines from the speech and language therapist (SALT).
2. If oral language is poor and the learner is reluctant to speak the use of finger puppets is very useful.
3. Incorporate the teaching of vocabulary into every lesson ... select key words across the curriculum, check for comprehension. This will usually enhance engagement in the lesson content. Share your expectation that she will remember certain words from the lesson.
4. Ensure recitation of poetry is part of the English programme, particularly poems with strong rhythm and rhyme, as these will be greatly enjoyed by the learner and will enhance her articulation.
5. Teach discrete oral language lessons as part of the English programme. Teach specific vocabulary and oral skills. The learner with WS may be able to model socially appropriate language or skills which may enhance peer-perceptions.
6. Substitute 'old-fashioned' language for the language of her peers during 'mini-lessons' or draw attention to the difference between the language of adults and that of children. Reinforce as necessary to enhance peer acceptance.
7. Use drama and role-play as often as possible as the sense of the dramatic often appeals greatly to the learner with WS.
8. Suggest to parents some oral language games which can be played at home.
9. Almost all learners with WS attend a SALT, particularly at the lower-end of primary school. Clarify with parents who does what. If parents are doing the

SALT's programme at home it may be worth including this on the child's homework list. Children frequently do what teachers want, it's harder when an instruction comes from a parent. Some parents also report they are more likely to strongly support the child's academic development by helping them with homework, some are less diligent with programmes to be implemented at home from the SALT or other therapists.

Reading

Profile: Reading is an area in which parents, in particular, report great progress over time. Phonological awareness programmes in infant classes appeal very strongly to the musicality of the learner with WS and they tend to learning initial letter sounds very successfully due to their strong auditory memory. Programmes with songs and with a kinaesthetic approach are particularly successful for learners with WS.

Irish teachers report difficulties in moving from initial letter sounds to the blending of sounds, although a phonological approach is recommended by both the American and the British WS associations. Irish parents and teachers report the success of the combined approach of phonological training **and** sight word training/whole-word approach. Use of flashcards both as isolated words and in the formation of sentences are used by teachers. Regular assessment of learning is needed and teachers also find that material needs to be very frequently revised. Some learners with WS learn to read in the same way as their peers and at a similar rate, others learn at a slower pace. It is important to get to an 'over-learning' stage with reading; this is where there is clear automaticity in reading skills. Remember success in reading affects the learner's access, engagement, participation and outcomes in all curriculum areas.

Strategies:

1. Ensure the learner is ready to read! ALWAYS carry out a reading-readiness inventory.
2. Assign 'story time' for homework if you find that the learner's parents do not usually read a bedtime story to their child. Books can be sent home from the class library for this purpose.
3. If using a phonological awareness programme that has a CD or downloadable material you should recommend to parents to access these materials so they can reinforce the programme at home (particularly during school holidays when learning is easily forgotten).
4. If the learner is struggling at the blending stage of phonological training supplement her reading skills through sight words. It may help to focus on a specific 'phonic family' e.g. -at words and get the learner to make and sound real and nonsense words which often appeals to their enjoyment of language.

Supplement this type of work with reading phonic-based books focused on the phonic family you are working on.

5. Give reading based on poems or songs already known to build up confidence, check they are 'reading' by asking them to point to specific words.
6. Use a magnetic board with magnetic words already learned by the pupil to construct sentences, asking them to make silly sentences can add to the appeal.
7. Link reading to oral language and personal writing.
8. Language Experience Approach should be used for the learner if she is lacking progress or engagement in the reading process as this is based on the language the learner uses naturally and on her interests.
9. Due to the strength in auditory memory you need to be confident that the learner has not learned the books off by heart! Parallel readers should be used to reinforce core vocabulary. You may need to explain this sensitively to parents.
10. Check that the learner likes the books she is asked to read or better still give her a choice of books to increase motivation.
11. Give a lot of praise for efforts made, praise the reading behaviours she uses e.g. 'I like the way you sounded out the first letter of that word, that helped you guess what the word could be'.
12. If the learner is behind her peers at reading do not assign work from the class reader. Her reading should be assigned from a book at her instructional level. Remember to be at instructional level the learner should be reading with 90% accuracy. To be at independent level she should be reading with 95% accuracy. Frustration level is if she read with less than 90% accuracy. It is essential she can 'read' rather than 'read the reader'. This needs to be explained sensitively to parents. Very valuable time will be lost and hours of frustration by the teacher and parents will be spent if the learner is not reading at an instructional level. Quite simply she will not learn.
13. Buddy reading with a senior pupil is a very powerful strategy for the learner with WS. Approval by adults and older students is important to her. She will more than likely try to impress the older student and, therefore, will have high motivation levels.
14. Ensure over-learning of all words, automaticity is very important. However, if you notice the learner is 'bored' by reading the text, encourage her to use different voices when reading. Individuals with WS tend to like the dramatic and this experimentation with her own voice is frequently motivating. She could also use puppets to 'read' a text so it is the puppet reading and not her, particularly useful if the learner is afraid of making mistakes.
15. Digital text should also be used as this is frequently a motivator for learners.
16. Create real life reading situations where possible. Develop the reading of social signs.
17. In one of the learners I know, she learned to read fluently at age 12 by reading the words of song (karaoke style). Years had been spent on flashcards and phonics and eventually it paid off, but keeping up motivation and harnessing the learner's interests were essential.

Reading Comprehension

Profile: While most learners with WS learn to read successfully, this is often without acquiring good comprehension skills. Both parents and teachers report that comprehension is not a focus of reading instruction in the infant and junior classes. So while the learner appears to read fluently and with expression she may not understand the content to any degree but this may only become noticeable from about second class onwards.

Strategies:

1. From the earliest stages develop comprehension in line with the reading of books, including story time.
2. Words such as who, when, where can cause confusion, don't assume the learner understands these words. They should be taught explicitly. Rephrase these questions with an explanation: **who** went to the train station can be replaced with **what person** went to the train station? Focus on one of these words consistently until you have evidence that she has achieved mastery.
3. It can be useful to send home some sample questions with a book or reader for parents to use as they may not be aware of the level at which they should pitch the questions. Work out a plan for the development of these questions to include wh questions, nouns (what is Holly holding in the picture?), verbs (what was Granny doing when Harry phoned?), adjectives (what kind of house did Anna live in?), prepositions (what is on the kitchen floor?) etc. This is to ensure the learner understands the building blocks to language. She must understand the words in an oral context before she can understand them in a reading context.
4. Comprehension skills at different levels should be developed: literal, inferential and evaluative. See the PDST website for more details. These should be taught explicitly. Don't just focus on literal comprehension strategies because the learner has a general learning difficulty.
5. You should praise the learner when she uses the strategy in answering a question by describing the behaviour e.g. 'well done, you connected that to what Oscar did in the story yesterday'.
6. Comprehension should not be checked by getting the learner to write answers as this is very inefficient. Learners with WS usually have great difficulty with handwriting; according to a sample of learners many of them hate writing and it causes a lot of frustration. Check orally or offer multiple choice so she only has to tick a box. If assigning comprehension questions for homework you could request parents to scribe their child's answers.
7. Making links with the learner's life is a powerful strategy in developing comprehension. If reading material can be related to the learner she is more likely to succeed. It can be helpful to notify the child's parents of 'events' which she will be reading about in the current school term such as a trip to a circus or visiting grandparents. Most parents would be delighted to help in this way.

8. Reading material should be carefully selected to match the learner's level of comprehension rather than reading ability, so use comprehension age rather than reading age for differentiated reading programme. This needs to be sensitively explained to parents.
9. One resource teacher described her process of combining the development of the learner's fine motor skills with the development of her reading comprehension skills. To explain the sequence of a story she would get the child to record parts of the story by making play dough models! Both teacher and student talked through the process describing what was being done and why, based on evidence from the story. This approach used kinaesthetic, visual and auditory channels.
10. Comprehension can be developed through story wheels, see Social, Environmental and Health Education.
11. Edward de Bono's Thinking Hats is a great resource to use to develop comprehension. Actually make the hats and their use is something tangible for the learner. This can be connected to drama which is likely to motivate the learner too.
12. Use finger puppets to act out the story and talk over the sequence of events, possible motivations and emotional experiences.

Writing:

Profile: almost all learners with WS avail of occupational therapy (OT) throughout primary school and many into post-primary and beyond. Handwriting is one of the most significant challenges of learners with WS. This is because of very poor muscle tone, poor visuo-motor skills, poor spatial awareness and also poor stamina. Parents describe handwriting as one of the slowest skills to be developed, many learners describe it as their most disliked school activity and teachers see the challenges in handwriting as impeding the learner's academic inclusion in many curriculum areas, particularly from second class onwards. The learner may not be ready for formal writing for a year or two after commencing primary school. This is not unusual but you should not assume that she will not be able to write.

Parents and teachers report conflicting advice from different professionals: develop handwriting or forget handwriting and develop computer skills? From my experience of both children and adults with WS there is clear evidence that the vast majority of individuals with WS CAN and DO learn to write in a basic but functional way. Letters may remain immature with poor spacing but it serves the purpose of writing birthday cards, messages, form-filling etc. Writing is a life-skill which is still required for independent living. However, skills in information and communication technologies should also be developed. It is important to get a balance.

Strategies:

1. Check with parents if the learner is availing of OT. If not you may wish to suggest a referral if you feel it is needed. If the learner has an OT report you should follow the recommendations as laid out and seek advice at any stage with

regard to fine-motor skills. If a programme has been developed clarify with parents who does what. If parents are doing the OT programme at home it may be worth including this on the child's homework list. Children frequently do what teachers want, it's harder when an instruction comes from a parent.

2. Carry out a writing readiness inventory. If a learner cannot trace and copy shapes or patterns they are usually not ready to write. Become familiar with the developmental sequence of writing. If following a specific phonological awareness programme that recommends the writing of letters as the sounds are introduced the writing readiness of the learner with WS is usually way behind their phonological readiness. Don't force them to write at the same time as they do the initial letter sounds if they are not ready. A differentiated writing programme will, however, be required.
3. During 'writing' time allow the learner to draw, do threading or beads, use playdough or pegs, cutting, shape-sorting, jigsaws etc ... anything to develop hand-eye co-ordination and fine-motor skills if she is unable to write. Alternatively get her to do a few minutes of writing (2-3 minutes) followed by these activities.
4. Due to difficulties with a range of fine-motor skills and an unusual grip of small objects, the learner should be taught how to hold a pencil correctly.
5. Always allow the learner to write on lined pages. Visuo-spatial difficulties in WS make it very difficult to write in any structured sense on unlined paper.
6. If special pencil grips are being used parents should be informed of the need to use them at home for any writing activities. The grips should be on all writing implements used by the learner including their markers or colouring pencils.
7. Use some novelty approaches to encourage the learner to write: window painting, writing on the class white board, a mini-white board, etc.
8. Use her interests to develop writing skills. Photocopy pictures of their special interests, use correction fluid to dot the outline, laminate and get the learner to draw around the edge or start a picture of their choice and give her parts to fill in.
9. Do writing patterns to music or to nursery rhymes to capitalise on the learner's sense of rhythm. This helps with a writing flow and enhances her mood.
10. PRAISE, PRAISE, PRAISE. While most pupils with WS interviewed stated that writing was their most disliked school activity, many also stated that they were good at writing. This is due to the positive feedback they got from parents and teachers.
11. Give small amounts of writing activities often to prevent frustration. A handwriting book may not be the best programme to follow as she will likely need a lot of practice with any one letter. The use of a handwriting copy with wide spaced lines will give her the best success.
12. Use of tablet apps help with basic handwriting skills such as left to right orientation and letter formation.
13. In classes where there are large writing demands give multiple choice questions, allow the SNA to be a scribe or act as scribe yourself. Paired writing activities can

also provide support. Scribing should also be allowed for homework activities once its purpose is explained to parents.

14. Rather than getting the learner to write news, give her frequent opportunities to make cards for different people. The social drive is very strong and will often carry her through the activity without the realisation that it was writing! Just make sure there are lines drawn in for her so she can write with ease! The positive feedback she (should) will get for this will serve as a motivator for her to write again in the future.
15. Similarly, be selective of the writing activities you give her. The intended outcome is that she learns to write. Does she have to answer 10 questions at the end of a story to learn to write?? It might be better to have other writing activities: Get her to write about how she's feeling today, what she's going to do at the weekend, a record of her good behaviour for the principal, an account of what her dog did yesterday, a letter to her Granny etc. Many of these can also link with behaviour support.
16. Keep a folder where she can put in samples of her best writing. Display her writing on the wall and allow her to show her work to another teacher in the school when she makes a special effort.
17. Computer skills should be developed through use of tablets and PCs. This connects with the development of life skills.

Gaeilge

Profile: There is now evidence that learners with WS can successfully learn Irish and other languages, both from incidental exposure to the language and from discrete teaching. Many are also able to use Irish in other contexts e.g. at home. Pupils' oral language skills in Irish often develop at a similar pace to those of her peers in the infant classes showing that the use of songs, rhymes, language games, drama and other activity-based learning activities are powerful approaches. The gap tends to widen over time. Reading and writing in Irish tend to cause difficulties. This causes a dilemma for parents and teachers: entitlement to an Irish exemption versus the learner's right to learn Irish. Many teachers report that, even with an Irish exemption, the learner continues to participate in certain Irish activities primarily songs and drama.

From knowing adults with WS, it is clear they have an ability to throw in cúpla focal randomly into conversation, whether they learned Irish at school or not. Some have picked it up themselves from home or from the television. The same is true of other languages. One boy with WS at age 8 began using German during number activities in maths with 100% accuracy. His teacher assumed he had German relations or visitors to the house. It emerged that he had learned the numbers incidentally from a German car website!

Strategies:

1. Expect the learner to be able to learn Irish!
2. Differentiate Irish as you differentiate learning in other curriculum areas.

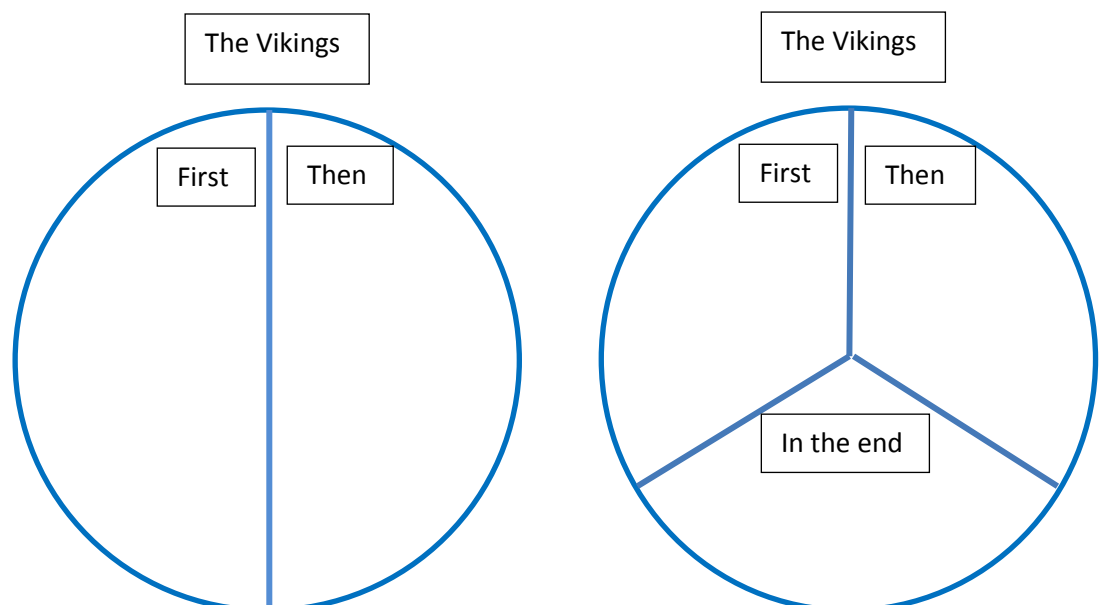
3. Use Irish incidentally throughout the school day.
4. Reading in Irish should be based on the learner's current vocabulary and comprehension. A Language Experience Approach would be very appropriate.
5. Use Irish songs and rhymes during transitions between lessons.
6. Allow regular pair work in Irish with regular changing of partners. The learner with WS should not be paired with an SNA.
7. For writing activities in Irish reduce the amount of writing to be done or allow scribing.

Social, Environmental and Scientific Education (SESE): History, Geography and Science.

Profile: Some parents and teachers report that the learner with WS in mainstream placements will frequently simply sit and listen to content in SESE (ie she is physically included) but is not expected to learn any of the content, skills or concepts. So as the learner progresses through the primary school her learning becomes focused on literacy and maths almost exclusively. This is obviously unacceptable and is not reported in special settings. The learner with WS, regardless of placement or ability, is entitled to a broad and balanced curriculum, this includes learning in SESE. Her learning will be dependent on her literacy levels and on her cognitive ability.

Strategies:

1. Plan for differentiated outcomes in each of the SESE subjects. The spiral nature of the curriculum facilitates this. You can also refer to the NCCA curricula for mild or moderate general learning difficulties.
2. The use of a story wheel is very effective, particularly for history, to record what the learner knows about a topic. This can then serve as a tool for homework to allow her to revise the topic and reinforce the content. The story wheel can start off with the learner being asked to sequence two pieces of information: first ... (the Vikings came in their longboats), then ... (they stole gold from the churches). Extend to first, then and in the end ...



This can also be presented in a linear way, which makes it easier for when the learner is able to manage four facts per topic or more ... you can just add more boxes:

The Vikings			
First	Then	Later	In the end

3. Where written work is done by peers to consolidate learning, the learner with WS could make a play dough model, work with a partner, or you or the SNA could scribe for her.
4. Teach language explicitly in each of the SESE subjects.
5. The learner's interests can be harnessed in these areas: if she likes music she may be allowed to experiment with certain materials (e.g. stones for the Stone Age) and show how music can be made, or she may research songs in the countries you are studying for Geography. She may also be very good at remembering greetings and basic conversation in the languages of the countries being studied.
6. Be aware of the anxiety of the learner. If you are talking about the devastation of hurricanes in Geography or the effects of smoking in Science she is likely to become upset and/or to worry excessively, even years after the lesson. Anxiety around these kinds of things are very **VERY** common in WS. You will need to be very sensitive to this.
7. Encourage parents to use a calendar and a 'timeline' of photos etc. from the school year to develop the learner's sense of time and chronology.
8. Inform parents of the topics you intend to cover so they may be able to bring their child to e.g. Newgrange or to Dublin to see certain buildings etc. Again, wherever material can be linked to the learner's experience her learning will be more successful.
9. Use drama, roll play and puppets to reinforce learning in SESE.
10. If taking field trips be very aware of the high levels of distractibility. Flight risk due to distractibility is a very real hazard.

Mathematics

Profile: Learners with WS are usually very good with counting, number recognition and number sequence but, overall, have difficulty with mathematical concepts. Many parents indicated that maths was their child's greatest academic challenge. Similarly, teachers found learners with WS to have difficulty with maths but felt there wasn't a 'normal' line of development in her mathematical learning. Sometimes there can be difficulty with addition of small numbers but then the learner is able to count groups of objects (in effect they are multiplying). This skills seems to link to the musical ear and auditory memory.

Strategies:

1. Ensure you are aware at what level the learner is in maths and prepare a programme based on this level. A high level of differentiation is usually required, even in special settings.
2. Relate any content to the learner's interests. Count how many tractors or babies or microphones! Parents, in particular, find this helps their child to learn better due to increased engagement. Teachers are less likely to harness the learner's interests to motivate her in maths.
3. Link numbers and shapes to characters to increase interest.
4. Use music and rhythm for learning. Songs about learning the time for example can really speed the learning of this concept.
5. Use large concrete materials to support her learning, small resources like pegs are often difficult for her to manipulate due to visual-spatial difficulties and poor fine-motor skills.
6. Get her to talk through her maths processes, this verbal mediation consolidates the sequence of a process and can eventually be done silently.
7. Use real life materials where possible e.g. when teaching money or time. This will generalise the information more quickly.
8. Ensure life skills in maths are developed. This means a significant emphasis on such strands as number and measurement. This will require very frequent revision.
9. Assign homework that relates to real life tasks. Give parents ideas on how to develop maths skills incidentally at home. Giving pocket money, going shopping, reading timetables, sorting cutlery etc. will all help to consolidate mathematical concepts.