



Rudolf Steiner Schools of Australia

An Association

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INQUIRY INTO TEACHER EDUCATION

The following perspectives, while strongly embedded in the Steiner Education Method, are aspects which we feel are most easily and universally integrated and understood. They are widely applicable and where helpful, are linked to relevant scholarship. They have also stood the test of time having been the basis of reflective practice on the part of Steiner educators for over 80 years. Many have of course also become part of mainstream practice over the years and when we find a common language there is indeed much to share in rich and fruitful interaction.

SUBMISSION RELATED TO THE TERMS OF REFERENCE FROM THE RUDOLF STEINER SCHOOLS OF AUSTRALIA

1. CRITERIA FOR SELECTING STUDENTS-

The following would be recommended-

- All teachers would ideally have adequate background studies in the full range of English Language and **Literature**, Mathematics, Sciences and Social Sciences as well as the **Creative Arts necessary for the broadly based, integrated curriculum** in the primary school and the thematic approach recommended in the high school as outlined in section 8. below. In addition primary teachers would have **deepened skills in drama, singing, visual arts and a musical instrument which would allow the implementation of a fully arts integrated curriculum.** The opportunity to achieve some of these could otherwise be given in a **year of foundation studies** during the first year of the teacher education course.(See Appendix 1 with a sample description of a Foundation year)
- **An interview or personal statement** written during the application process, showing a connection to the vocation of teaching, a love of children and an awareness of the responsibility inherent in such a task is suggested. Also comment on the role of education in the future social, emotional, mental and physical well-being of the child could be requested.
- **A character reference from their school or equivalent** with regard to the sense of responsibility, integrity and interpersonal skills of the student.

2. ATTRACTING DIVERSE HIGH QUALITY STUDENTS

- Steiner courses, through offering an opportunity to find **meaningful and fulfilling life's work**, attract students who are capable of deep learning; have a

strong ability for self reflection and a preparedness to enter a path of ongoing professional development. Encouragingly an increasing emphasis in mainstream teaching on the ongoing **social/emotional/spiritual development** of the child as well as the intellectual, will attract students who wish to find a **true vocation**.

- High quality students will be attracted to **innovative, creative and professionally respected courses and fields of work**. Continuing to redefine the nature of teaching to emphasise the depth of learning, creative impulse, quality of human interaction and teacher as a role model will achieve this.
- **Indigenous students** are attracted to methods which are most suitable to their people. Experiential learning/narrative method/arts based learning are not only universally beneficial but are particularly applicable to indigenous communities.

3. ATTRITION RATES FROM COURSES

- Feedback from university students we have interviewed suggests that attrition may be in part due to the **intellectual/theoretical approach of learning** and to **the lack of classroom experience and practical skills in the early stages of mainstream training**. There may be advantage in extending the internship system as outlined in 8. below.

4. SELECTING AND REWARDING FACULTY MEMBERS

Our thoughts in this area relate to the emphasis on recent teaching experience in Faculty members so that their work is filled with living examples and insights from the classroom. A second point relates to their continued professional development in the inner reflective process that integrates deep learning.

- In the creative arts faculty members ideally have at least 5 years **teaching experience** and ongoing part-time teaching or involvement in their own artistic/creative field at a professional level.
- Faculty members in Education/Curriculum areas ideally have at least 5-10 years **teaching experience** and ongoing part-time teaching or periods in which they return to the classroom.
- All faculty members are involved in ongoing professional development in their own subject. This not only engages in **integrating** the academic literature and research base but also focuses their own inner development in **reflective practice and discussions with expert teachers in the field**. Study in Higher Education Teaching and Learning Methods is included.
- Courses are coordinated by a core group of academic staff who are not removed from the actual teaching in organisational/administrative positions only, but are also lecturing and actively researching as well as having a connection to the classroom. They develop and hold the picture of the research framework which underpins teaching. The key to this research framework is to deepen and integrate with what has gone before. Most importantly they are mindful of the child development base of curriculum so that new methods and insights are applied in **appropriate ways at each age** rather than across the board.

5. UNDERPINNING EDUCATIONAL PHILOSOPHY AND RESEARCH

- The research base facilitates necessary progress but can be characterised by rapidly changing frameworks for each curriculum area, as well as overall education principles. As each major research study informs a new approach, much is dispensed with and a new specific application is trialled and then taught at universities only to be often discarded not long after graduates begin to teach. A period of **deepening and integration of pedagogical frameworks** as new studies come in, could provide stability and the opportunity for teachers to reflect on their teaching experiences over time.
- Intellectually derived knowledge could be more balanced with **knowledge gained from practice and inner reflection**. Qualitative research and the overcoming of isolation of academics from teaching practice would address this.
- University teaching on education would ideally not be highly specific eg NSW curriculum outcomes-based but rather more **generic and based primarily on the child development framework. Diversity would be respected.**
- More reflection on how one **educates for character, for morality, for trust and for compassion is required**. In early childhood the imitative quality of the young child and the teacher as role model is worthy of further study. **The role of mythological and biographical stories** later in the primary years could be more deeply explored as well as the value in the high school of **challenge or threshold experiences and the meaningful contribution to society through the freedom to explore and enact their ideals**. (See Appendix 2- Idealism and Adolescence)
- The greater accountability in our society and openness is of value, however balance needs to be sought between, on the one hand the amount of assessment reporting and outcomes and indicators focus, and on the other hand the **creative process of teaching** and autonomy of the teacher. The **limitations and drawbacks of basic skills testing** could be recognised as outlined in studies such as Amrein and Berliner (2002). As a balance, **increased training in child observation** and child development for teachers could inform their assessment practice.
- The study of child development would ideally be the underpinning of the curriculum. In this respect, for example, an understanding of **optimal times for different learning approaches and development of different skills would be found and be applied across the curriculum. One example would be the reflective and analytical components of the constructivist approach finding their place in the hypothetico-deductive reasoning stage after 11 or 12 years rather than in young children analysing how meaning is created in the structure of a story read to them.**
- **Integration of the Arts-** current research increasingly supports arts integration on a whole school level. Furthermore recent studies show the importance of multi-modality or **cross-domain** encoding of information which leads to transfer and deep learning. (See Appendix 3-Arts Integration)
- **The role of Storytelling or narrative as a central part of teaching method in the primary years** finds support in the work of imagination in learning by Kieran Eagan in Canada (as outlined by Jack Yantis 2004) with his phases of somatic, mythical and romantic which precede the philosophic and ironic.

- The research on the **decrease of the senses** in human neuro-physiology is an area little mentioned but of importance. If the processing of information from the senses is, through bombardment, changing in such a way that it is little integrated, then educators need to understand this and help to protect the senses of the child. (See Appendix 4 The Deterioration of the Senses)
- The research in the last two decades in the science realm has **changed our world view**, while at the same time social change has seen the search for spiritual meaning intensify. The need for curriculum changes to meet these factors is suggested by Smith and Lovat (2003).(Appendix 5- The Changing World View)

6. RELATIONSHIP BETWEEN EDUCATION AND OTHER FACULTIES

- Foundation units in the first year could be taught by staff of other faculties who have a real interest in education. (see Appendix 1 units in creative arts, sciences, humanities)

7. TEACHER PREPARATION

- Literacy and Numeracy- students could look deeply at the **optimal time for the beginning of formal learning and age appropriate staging**. The study of experiential, concrete, visual and rhythmic methods in Mathematics teaching is a priority.
- Vocational Education- high school teachers, if they have a broad and practical education themselves, will be able to integrate studies with a thematic approach that incorporates the arts, crafts, technical skills and other vocational areas in cooperation with teachers from other subject areas where appropriate. This is to the benefit of all students.
- Classroom Management- training could focus on the ongoing role of the reflective practice and **inner development** of the teacher to strengthen their equanimity, openness, insight and positive approach to students. Also the role of **training in the Arts as teaching method will continue to impact positively in this area as lively, image –filled and creative teaching is brought full of stories, gesture, music and beautiful artwork**.
- Information Technology- We would encourage strongly the review of the necessity of computer education in the primary school age (which will certainly be superseded by the time they need it). There is a growing awareness of the ability of students to reach highly developed skill levels in a short time in High School. We would recommend the study of **the limitation of IT as a teaching method** as this as outlined in the latest report from the Alliance for Childhood. http://www.allianceforchildhood.net/projects/computers/pdf_files/tech_tonic.pdf
- Disruptive Students and Special Needs and Disabilities- these are indeed areas of **high priority**. There are of course many children with disabilities who can be easily and fruitfully be integrated into the classroom (perhaps with an aide) to the enrichment of all. There are also children with very high learning needs and disruptive behaviour who require a **high degree of one to one attention**. Provision of adequate study of child development and psychology in teacher training courses will help. However, paramount is the resources to train and

provide **more specialised learning support teachers** to allow adequate withdrawal time for small group or individual work for children with special needs or in some cases the formation of special classes. The balance needs to be found between our wish to help the individual child with special needs and or disruptive behaviour and the needs of the 25 or so other pupils. These other children of course also have a right to a peaceful, creatively functioning classroom. Training and provision of more teacher's aides is part of the answer.

- Accreditation- Students need to be prepared not only for the minimum standard to begin teaching, but also to enter a pathway of lifelong learning and professional growth as already mentioned.
- Human Communication – This can be begun through special courses with training in the roles and responsibilities of various school organisational structures and more importantly through **training in social/communication/interpersonal skills** through group work, role plays and development of journal work and the reflective process.

8. INPUT OF SCHOOLS AND STAFF

- The emphasis on faculty with recent teaching experience has been outlined This would allow 'teachers' to be involved in units of preparation for practice teaching and in sharing pictures of the classroom in the early teaching and learning units and in curriculum subjects. **Ideally, in smaller institutions ,the Education faculty and even the physical location is integrated with a school campus.** This allows staff to move between both areas and also allows students to experience the dynamic of a school community.
- An extension of the internship system with greater **ongoing early experience as an assistant** to a teacher would also be recommended.

9. PRIMARY/SECONDARY SPLIT

- The both broad and deep role of the class teacher in **primary school requires a multi-disciplinary training with focus on creative arts as well as curriculum.** This could be extended into the High School with a bridging year of a partnership of **2 multi disciplinary guardian teachers taking morning thematic approaches in Year 7** and these thematic approaches being continued by specialists in Years 8-12.ie integrated and thematic learning blocks plus specialist lessons in the remainder of the day. This would require that High School teachers, while continuing to have their own specialization, would be **trained in thematic approaches and have a broad general education in both the humanities and sciences to support this.**
- The other split is in the Preschool/Kindergarten/Infants area. Where do the 4 and 5 year olds belong? Steiner-researched child development frameworks suggest that the age of 6+ is an optimal time for the beginning of formal learning. Prior to this a creative play-based learning environment with opportunities for creative arts enhances learning. This has been supported through the recent study of education by the Organization of Economic Cooperation and Development in September 2003 which found that Finland, where children begin school at 7 years

of age, topped the international survey in literacy and was placed in the top five in mathematics and science. This approach to the young child requires a different focus in teacher education.

10. ONGOING PROFESSIONAL LEARNING

- One priority would be a **deepening of inner development in reflective practice, and meditative work** to strengthen the equanimity, openness, insight and positive approach of teachers. This supports their classroom management as well as communication with parents and colleagues.
- Weekly ongoing **development of creative skills**, such as artistic painting, blackboard drawing and singing, result in an inspiring classroom for the children as well as refreshing and enlivening the teacher at the end of the day.
- Time spent **deepening the picture of the child** through studying and working with psychologists and therapists in this field would be of enormous benefit if included in yearly conferences.

NB The way adopted by some Steiner Schools is for a 3-4 day school conference to begin the year and inspire teachers. This is followed by weekly meetings which include artistic training sessions (3/4 hour) and pedagogical/child study (3/4 hour) in addition to the staff business and planning meeting (1 hour). Mid year, a regional conference of 4-6 days focuses on a theme such as child development or curriculum and brings inspiring lectures as well as artistic work on the theme.

11. FUNDING OF TEACHER TRAINING COURSES

- Students are restricted from entering the full depth of the study if they have to work much more than perhaps 2 evenings or 1 day a week. Students enrolled in non-university private Higher Education providers are currently able to access AUSTUDY but the institutions do not receive funding. Perhaps where such institutions are providing recognised training for teacher education they could receive some per capita benefit.

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3. Alvarez,A (2004) *Educators Flocking to Finland*. In the New York Times(Section A4)April 9th, 2004
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APPENDIX 1

SAMPLE OVERVIEW OF A FOUNDATION YEAR IN TEACHER EDUCATION
(adapted as an example only from a Steiner Teacher Training Foundation Year)

CORE UNITS 24 credit points

- Introduction to Philosophy/Psychology 3 cp
- Language Studies- 3 cp
- Science, Maths and Cosmology-3 cp
- Health and Biodynamics-3cp
- Human Being and Society-3cp
- Historical Stud-Evol and Destiny-3cp
- Inner Dvpt- 3cp
- Intro. To Child Development and Education-3cp

CREATIVE ARTS-24 credit points

- Music -4cp
- Visual Arts-4cp
- Speech and Drama-4cp
- Craft and Puppetry-4cp
- Eurythmy-4cp
- Sculpture and Architecture-4cp

MODULES

1. Introduction to Human –Centered Philosophy and Psychology- This unit, through examining the faculties of thinking ,feeling and will, as well as the experience of the world through the capacities of perception, sensation and mental picturing begins to build a picture of the nature of the human being, human development and transformation.
2. Language Studies- Approaches to Literature and Creative Writing- academic, biographical and poetic/dramatic styles are explored and a study examines the history of literature.
3. Science , Mathematics and Cosmology
Modern approaches to Science - through such diverse areas as consideration of the interaction of phenomenological and conceptual approaches to science and comparison of varying theories of evolution of the species, as well as the notion of Euclidian space and counterspace, students are challenged to develop an integrated, modern and fully conscious approach to Science which will prepare them for this curriculum area in the second year.
Mathematics- This background to mathematics both revisits fundamental arithmetic , algebraic and geometric laws and explores geometric representations of the notions of duality, polarity, symmetry, transformation and inversion. The history of mathematics, projective geometry and chaos and fractal theory are also studied
Human Being and Cosmology-Astronomy forms the core of this module which looks at the astronomical laws of the solar system and the geocentric and

heliocentric views of planetary movement. As well as astrophysics and human morphology.

4. Health and Nutrition/ Health and Healing-A consideration of nutrition, immune diseases, embryology, child health, adolescence and addiction all form a background for the later curriculum work in the Health and Personal Development Module in the curriculum.
Organic Farming/Biodynamics- a consideration of the ecology of the earth and practical experience of organic/biodynamic farming is brought as well as a consideration of related nutritional issues.
5. Human Being and Society
Life phases- Biographical Studies- Human development throughout the lifespan is considered at the physical, psychological and spiritual level. This forms an introduction to later work in child development and also in professional studies of Adult Learning so that students have begun the process of journal work and reflection on their own life learning styles and blockages.
Social Forms for Working in Community – this module lays the groundwork for later School Management and Teacher Responsibilities Units by outlining how a model of cooperation can be built on understanding of community, one which in particular considers the rights of the individuals, financial cooperation and cultural and spiritual freedom
Female/Male Studies- The differentiation between the feminine and masculine characteristics in history, mythology and modern contexts is explored as is the nature of love.
6. Historical Studies- The Evolution of Human Consciousness- this study of the forces underlying the external facts of history prepares the students for curriculum work in the HSIE strand the following year. This begins with the mythological sources of ancient times and continues through to Modern History. It focuses particularly on the inner development of the human being and cultural, social and religious trends. This module prepares students to begin the curriculum development work of creative planning of the history main lessons presented through narrative and arts integration with a focus on experiences of the consciousness of the peoples of that time.
Destiny – this module explores the meaning of diverse human experiences in relation to our developing human consciousness and the opportunities that are presented for human growth through “favourable” opportunities and challenging life situations. It provides a background to history, to child study components of Pedagogy and Special Education and to the continued professional development of the teacher.
7. Studies in Inner Development- This module explores the nature of preparation for a balanced inner life through clarity of thought, mastery of the will, equanimity of the feelings, positivity and openmindedness .The nature of contemplation, prayer, meditation and associative thinking are also considered.

8. Introduction to Child Development and Education - This unit offers an introduction to an integrated view of child development and individual differences as well as an overview of the aims and methods of education. Students analyse the relationship between child development and optimal curriculum development. They reflected on the diverse aims of schooling from their own childhood experiences and their current ideals.
- Work Experience- Students are required to participate in a school situation for 2 weeks to observe facets of teaching and learning and to experience themselves as part of a professional school environment. This is both a background to the further education studies and specifically a preparation for the Practicum components to follow.

CREATIVE ARTS

9. Music- This introduction to music theory, singing, and recorder playing builds basic skills and delineates the stages of evolution of music such as the pentatonic as a preparation for the study of the music curriculum of the primary school .
10. Sculpture and Architecture- form observation and analysis and a study of movement and gesture as well as practical exercises in the form language of the mineral, plant, animal and human kingdoms provide an in depth background to science studies as a 3 dimensional sculptural understanding is possible.
11. Eurythmy- This art of movement explores the spatial forms such as the spiral, lemniscate, pentagram and the movement which expresses both speech and musical tones and intervals. In later years this develops into the creation of classroom learning experiences for geometry, social awareness and dexterity as well as speech and music.
12. Painting and Drawing- this exploration of colour, gesture, harmony, polarity and line forms an introduction to the Visual Arts work and develops the teachers' own skills for artistic lesson presentation. Art History is also studied.
13. Speech and Drama – epic, lyric and dramatic styles, metaphor, sound qualities and role play and improvisation are all explored and culminate in a major dramatic production.
14. Craft- weaving, braiding, basketry, wood work, carding and spinning, crotchet, felting and knitting are some of the many skills developed. Design principles, aesthetics and historical techniques are covered.
- Puppetry- the art of puppetry, including the craftsmanship of puppet making and staging, is explored and culminates in a performance for schoolchildren.

APPENDIX 2 Idealism in Adolescence

Of importance in High School education is the young person's experience of themselves as growing in autonomy, able to contribute to the world and to find ideals and live them.

The observations of Andrew Fuller(1996) are relevant here. Fuller, a clinical psychologist, lecturer at La Trobe University and mental health worker , believes that the level of risk-taking behaviour in society is linked to the absence of rituals , rites of passage and initiation experiences .The process of separation from aspects of past identity, the undergoing of some form of transition and the return as an adult member of society is not available to many young people today . Fuller notes that the process of being inducted into a morally-coherent group is often absent and that society does not provide the opportunity for young people to find a life path that “integrates and utilizes their ideals.”

“It is time when people need to believe in absolute values, absolutely. In defiance of the mediocre, compromised adult world young people need a “scale of gods” which will encapsulate their ideals and dreams.”

Without this they are “vulnerable to diluted forms of this experience such as drugs, gangs, cults and abuse.”

What, within the high school environment , can provide these experiences ?

- adult mentors who recognize and strengthen the individuality of each young person and the many facets of their being so that they do not fall into stereotypical behavior .
- curriculum material which examines the world and humanity in all its depth
- enthusiastic teachers who are still themselves filled with ideals .
- opportunity to experience growing autonomy in meaningful social work and community development projects that are linked to their ideals and which show that they can make a difference to the world and its people.
- Experiential learning and practical projects which allow them to master the simpler crafts and technologies on which our civilization is based and which are linked to their studies and which will enhance their understanding.
- Rites of passage such as physical challenges, bush experiences, solos, journeys away from home and family to other cultures eg. Aboriginal .
- The opportunity to plan and implement an original major 12-month project with research, creative and practical components.

Reference

Fuller, A. (1996) Therapeutic Conversations with Adolescents : Risk Taking as a Healing Process. In The Mind Body Connection. The Gawler Foundation, Yarra Junction.

APPENDIX 3- INTEGRATION OF THE ARTS

1. An arts integrated lesson sequence
2. Results from arts-integration programs and both correlative and causal research
3. Implications for teacher training

1. An Arts Integrated Lesson Sequence

In Steiner Education the teachers have always been trained to integrate the arts in a day by day, lesson by lesson manner.

Mathematical concepts such as the vertical algorithm

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have been prepared by a story such as one involving a particularly tidy storekeeper who gathers the kingdom's jewels or produce and stores them in little bags of ten and when there are too many of those, bigger bags with 10 small ones. Many adventures later the jewels or apples have been counted, distributed, recounted and recorded.

After the first episode of the story is recalled on the second day of a 3-4 week maths main lesson sequence, a range of concrete activities begin for all the children - with a large wooden 3 storey house and bags to be filled and shared or added as well as their own smaller sets of bags to use at their desks

Each session also continues to deeply imprint addition facts, multiplication tables and rhythmic counting sequences by multi-faceted activities-which involve reciting, clapping, stamping and moving along patterns.

Beautiful illustrations of the storekeeper at his tasks, which the teacher has begun on the board, are made in the children's books and little 'pictures' of each sum are drawn in concrete representation before the algorithm is written. Poems and songs are made up of processes in the story in which the key aspects of the procedures are embedded.

Storytelling, drama, poetry, visual arts, music and movement are integrated into, not only mathematics, but reading, history, spelling and each other area of the curriculum. Arts enrichment does not happen primarily on a weekly basis with specialist teachers or community arts-partners but each moment in the classroom with the class teacher.

2. Results from Arts Integration Programs and both correlative and causal research. As indicated in the article by Eric Oddleifson (Chairman of the Center for the Arts in the Basic Curriculum) on *Boston Public Schools as Arts-Integrated Learning Organizations* work such as Gardiner's Theory of Multiple Intelligences has helped extend the arts

integration programs in many schools. His thoughts provide an overview of this rapidly growing area of educational reform.

“Stanford's Elliot Eisner suggests that our difficulty in recognizing the benefits of the arts comes through our own fundamental misunderstandings about the very nature of mind, knowledge, and intelligence. Besides believing that language is required for thought, we think that logic is necessary to express intelligence. Not true. Poetry, which employs language, is not only not necessarily logical, but considered by many to be the highest form of thought. We believe that the senses are mere receptors of stimuli, to be mediated and "made sense of" by intellect. Not true. Both the cognitive psychologists and neurologists ... now know that the senses are direct forms of cognition, and understanding.”

He also mentions the work of Robert Root -Bernstein

“Robert Root-Bernstein, a biologist and cellist, suggests that we need what he terms "tools of thought" to give meaning to facts and to facilitate creative or transformational thinking. These tools, most of which are embodied in the arts include the use of analogy and metaphor, pattern forming and recognition, visual and kinesthetic thinking, modeling, playacting, manual manipulation, and aesthetics. He believes that the mind and senses alike must be trained equally and in tandem to perceive and to imagine, and points out that few, if any, of these tools of thought are in our standard science curricula. Without these tools of thought kids have difficulty in "connecting," or constructing meaning from an assembly of facts or bits of information.”

Surveying some results from 5 arts integrated schools he outlines the highly positive results;

In South Carolina there is a waiting list of 1200 parents wishing to enroll their children at the arts-based Ashley River School, including those as yet unborn! Ashley River, which accepts everybody on a first come, first served basis, has the second highest academic standing in the city and county, exceeded only by a high school for the academically gifted- even though one third of the students have learning disabilities and the school is located in one of the city's poorest areas. Ashley River's test scores are 40 - 50 percent higher than county and state averages

The Key School, an arts-integrated school in Indianapolis, and the subject of an ABC Special called "Common Miracles," is viewed as possibly the best elementary school in the country by the National Education Association. It was started by an arts teacher who became fed up with the status quo, and wanted to offer quality education for all children.

At the John Eliot School in Needham, fourth graders when tested for critical thinking skills last year, were first in the entire state.

High schoolers at the FACE school in Montreal achieve at a rate 20 - 25 percent higher on average in hard academic subjects than their counterparts in other Montreal high schools, even though one reason they enroll at FACE is because they are weak academically to start (Figure 3).

Citing Waldorf or Steiner Schools as examples of arts integrated schools, Oddleifson mentions their success in exam scores in Germany.

In Germany students entering university are allowed to skip their freshman year, if their entrance exam scores are sufficiently high. Forty percent of over 1,000 Waldorf school students interviewed were found to have qualified, compared to a national average of only six percent. Leading educators have a high regard for Waldorf education. Ernest Boyer remarked,

One of the strengths of the Waldorf curriculum is its emphasis on the arts and the rich use of the spoken word through poetry and storytelling. The way the lessons integrate traditional subject matter is, to my knowledge, unparalleled. Those in the public school reform movement have some important things to learn from what Waldorf educators have been doing for many years. It is an enormously impressive effort toward quality education.

Thomas Armstrong, author of Multiple Intelligences in the Classroom, said,

Waldorf education embodies in a truly organic sense all of Howard Gardner's seven intelligences. Rudolph Steiner's vision is a whole one, not simply an amalgam of the seven intelligences. Many schools are currently attempting to construct curricula based on Gardner's model simply through an additive process (what can we add to what we have already got?). Steiner's approach, however, was to begin with a deep inner vision of the child and the child's needs and build a curriculum around that vision.

Steiner educators are themselves interested in the more comprehensive research studies into transfer (James Cattrell (2002) and the Critical Links study) as well as insights provided by the Champions of Change studies which are overwhelmingly positive in their assessment of programs in which arts are fully integrated.

Multi-modality, cross domain and multi-literacies research has much to offer our understanding of the efficacy of what we implement.

3. Implications for Teacher Training.

Much of the research focuses on projects with specialist arts teachers or partners. However, in Steiner Schools while this occurs, it is also considered the domain of every lesson and therefore of the class teacher. The thematic approach of the 3-4 week integrated Main Lesson is an example of this.

What does this require? Are all teachers, gifted musicians and artists before they begin? In a Steiner Teacher Training Course even students who have little experience or skill are guided to discover their artistic and musical side and to develop this in an ongoing way, rather than for just one semester. It can be a source of great joy and renewal of energies to paint in water colours, sing, play an instrument and draw beautifully with pastels or crayons. Once teachers are in the classroom the daily opportunities for practice and the overwhelming enthusiasm of the students, who can't wait to come in and see the artwork on the board that day, encourages enrichment of these skills. Soon visitors are commenting on the how lucky the children are to have a teacher who is an accomplished artist or musician!

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APPENDIX 4 - THE DETERIORATION OF THE SENSES

As Michael Kniessle reported some years ago, the research in relation to the deterioration of the senses began many decades ago at the Rational Psychology Association in Munich, but it was not until some years later in the seventies, that scientists discovered that the senses of taste and smell had degenerated significantly with previously recognised sensations now not being accepted.

Then as Michael Kniessle goes on to outline this development

“However, at the beginning of the eighties, there was a dramatic development. Henner Ertel expressed his amazement in this way: “Suddenly all of the senses were impaired. The brain refused to take any action on a significant proportion of the stimuli. It was getting more and more difficult to stimulate the corresponding centers in the cerebral cortex.

The researchers were now alarmed. The organization of the brain had apparently changed. In order to get a reaction now, they had to use barrages of action potential which only a few years before would have caused a shock.

Since then, the trend has accelerated. Our sensitivity, to stimuli is decreasing at a rate of about 1% per year. Delicate sensations are simply being filtered out of our consciousness. This makes room for a multitude of brutal “thrills,” as the especially strong stimuli are called.

At the same time, the brain seems to have made significant alterations to its internal strategy. “There are many indications that these new brutal stimuli are being processed in a different way than before,” says the psycho-physiologist Dr. Harald Rau of the Institute of Medical Psychology at the University of Tübingen. This institute is among the most well-respected research bodies in the world for behavioral neuro-biology. Harald Rau says, “It is apparent that the cross-linkages (networks) have been reduced, and that the capacity has been enormously increased using direct stimulus carriers working parallel to each other.”

Ertel explains this, “Previously. an optical stimulus would be directed through various brain centers and would also activate the olfactory center, for example. Today it appears entire brain areas are being skipped over. The optical stimulus goes directly and exclusively to the visual center.”

Kniessle points out that the disadvantage is that the stimulus is not, or is only inadequately, networked and enhanced with emotions

It uses parallel switching to take up and store different stimuli concurrently and independently of each other, as opposed to the “older” brain models. This creates an

enhanced tolerance of dissonance. Dissonance means a discord in process that otherwise would proceed in a harmonious fashion. "The young people," according to Henner Ertel, "have grown up with contradictions and they can handle them." Years ago you would have called this capacity a split or division of consciousness. Today, it is the norm.

Hearing, for example: 15 years ago, Germans could distinguish 300,000 sounds. Today on average, they only, make it to 180,000.

The brain loses its standards and degenerates into a kind of dialectic processing of sense impressions: it only tries to process the storming waves of sensation. Without any checking/control, it stores opposing and contradictory information without creating a synthesis.

The brain, up until now, has only changed its organization, not its structure. But the neurophysiologists have already discovered a new phenomenon. They call it plasticity: the brain installs a series of new interfaces and new processing programs. Professor H. Waessle of the Max-Planck-Institute for Brain Research in Frankfurt confirms that different information is processed at different places in the cortex, that the rhythmic patterns are changing, and that the way it is stored is changing. At the same time, the so-called party-effect is getting stronger: that's what makes it possible for you to concentrate

on a single conversation partner, while all around you there is tremendous noise and confusion. All other sounds are simply filtered out.

This work on the senses is highlighted in this submission because it is felt that the senses are our way of actually experiencing this world. If we follow through the current reported trends we face a disturbing scenario.

If this deterioration of the senses has arisen in part due to the bombardment of the senses through media and computers and over stimulation through our over programmed lives, then it may be that schools could focus on natural experiences and those which unfold over time -

- Eg Planting and looking after a vegetable garden, observation of plant growth
- Building a small structure in the school
- Crafting natural knitted, felted and crocheted projects
- Using acoustic musical instruments
- Observation of the sky phenomena over extended lunar and solar cycles

Schools might also need to find a way to focus on a healthy integration through cross-curricular learning experiences which will synthesise what has become disjoint in a way which does not overstimulate.

- The 3-day or 3-fold method employed by Steiner teachers may be beneficial here-
- new material presented the first day through story images (in the younger primary years) or phenomenological observation (in later years)
- the images are recalled the second day and integrated through drawing and movement or drama

- children create a written record of the material which has become deeply integrated

Also teachers could focus on integration of the senses through activities which are cross domain eg singing while walking a star pattern in partnership with other children at each point and clapping. These experiences require a working together of many senses rather than one in isolation.

Reference

Kiessle, M *The Decrease of the Senses and the Evolution of the Fast Brain*
Association of Waldorf Schools of North America (AWSNA) (Waldorf High School
Research Paper - WHSRP)

APPENDIX 5 - THE CHANGING WORLD VIEW

In the final pages of their book *Curriculum :Action on Reflection* (p236-242) Smith and Lovat (2003) have several lists of challenges to be met by future curriculum work. They first speak about the growing need in our society to find meaning and purpose other than paid work and to link self-identity with something greater than the material world They note that schools still largely teach information and labels for ideas rather than the ideas themselves.

They go on to say that our theories of the world have been restricted by a materialistic world view but that increasingly scientists are addressing realities that even a couple of decades ago no self-respecting scientist would have admitted to. They list new theories and ideas which must inform curriculum work for the future such as that -

- our bodies may be vibrating frequencies of fluid energy layers
- and at a quantum level 99% of our cells and therefore bodies are voids(Chopra 1994)
- our ability to create images may be more powerful than any of the energies we use on earth (Howe1986)
- the universe itself as well as humans may be evolving through levels of increasingly sensitive consciousness (Wilber 1984).

They then go on to speak about the need for curriculum which-

- recognizes the links of humans to something greater than their own individual identity,
- recognizes the power of positive mental imaging
- recognizes that the sum of our combined actions and thoughts creates the world we live in
- has peaceful and loving visions of the future
- has a sense of community
- instills responsibility instead of carelessness (Beare &Slaughter,1993)

How we can work with knowledge rather than information , and ideas rather than their labels ? The key may be in the experience of the phenomena of the world and the initial holding back of explanations and labels. It may also be in the arts through which we can connect to and express our experience of the world.

As Steiner teacher Anthony Downs states (1987) of the class 6 Steiner curriculum, the first formal study of physics begins as the intellect awakes but it is not a time for reducing such concepts as sound or light to merely waves with amplitude and frequency. .It is a time to be open to the wonder of the universe , seek to penetrate its mysteries and then find the laws that underlie its physical expression .

This can seen during the lesson when the children experience the Chladni plate . A violin bow is drawn across a suspended brass plate sprinkled with fine lycopodium powder.A note is produced and the dust magically arranges into a beautiful pattern that corresponds to the note played. Many such patterns can be produced. When fine pollen is

used with an electronic Chladni plate, the pollen arranges itself into a minute universe of three-dimensional dancing ‘ stars and planets ‘. The children experience the creative power of sound .

As Anthony Downs (1987) continues; “Their first exploration must be an enhancement ,not a deadening , of experience , filling them with awe , wonder and joy , for what a child loves now will lead to understanding at a later time We must not explain away the mysteries being viewed with those dry conclusions learned through the very type of science we wish to transcend .”

The challenge listed by Smith and Lovat (2003) at the end of the book (p242) “To construct ...a curriculum ..that has peaceful and loving visions of the future thatinstills responsibility instead of carelessness.” has been the subject of a study in the research of Jennifer Gidley (1998) on Imagination and Will in Youth Visions of their Futures. The references she reviewed focused on the contribution of imaginative presentation, storytelling and the integrated artistic work.

Her research investigates the effect of these methods on the inner qualities of hope , positivity and motivation which are relevant to the curriculum outcomes raised by Smith and Lovat.

Jennifer Gidley looks at the ability to envision a positive future and to feel personally inspired to work towards this .She links this ability to the power of imagination as is identified in the work of Rich Slaughter , Frank Hutchinson and Elise Boulding .She lists story –telling , mythology and the use of creative arts as teaching media as some of the factors involved in this cultivation of the imagination.

Her research found that the imaginative , artistic , holistic approach of Steiner Education empowered a group of young people to envision positive futures towards which they felt confident and proactive. Personal empowerment, community empowerment , consciousness development and activism were recognized and valued by students as ways to create a positive future . As she concludes

“ It has been shown here that educational input can potentially facilitate a positive, confident outlook , thereby empowering students for their future lives . It is vital that the current emphasis on ‘head knowledge ‘ be balanced in the future by cultivation of the imagination through storytelling and the arts and the reinvention of human values to include activism, spirituality, and future care ”

References

- Smith D. and Lovat T. (2003). **Curriculum Action on Reflection**. Social Science Press Tuggerah .
- Downs, A. (1987) Article on Class 6 Science in **Glenaeon School Magazine** 1987, Glenaeon School, Middle Cove.
- Gidley ,J. (1998) Envisioning Positive Futures in **Educare News** 1998