

Science without religion is lame, religion
without science is blind.

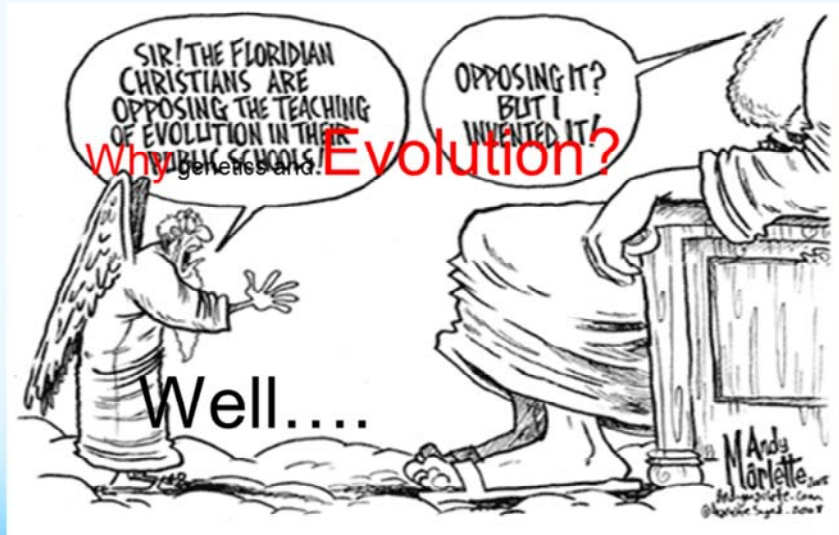
(Albert Einstein)

Catholic Social Teaching & Science

St Columban's College

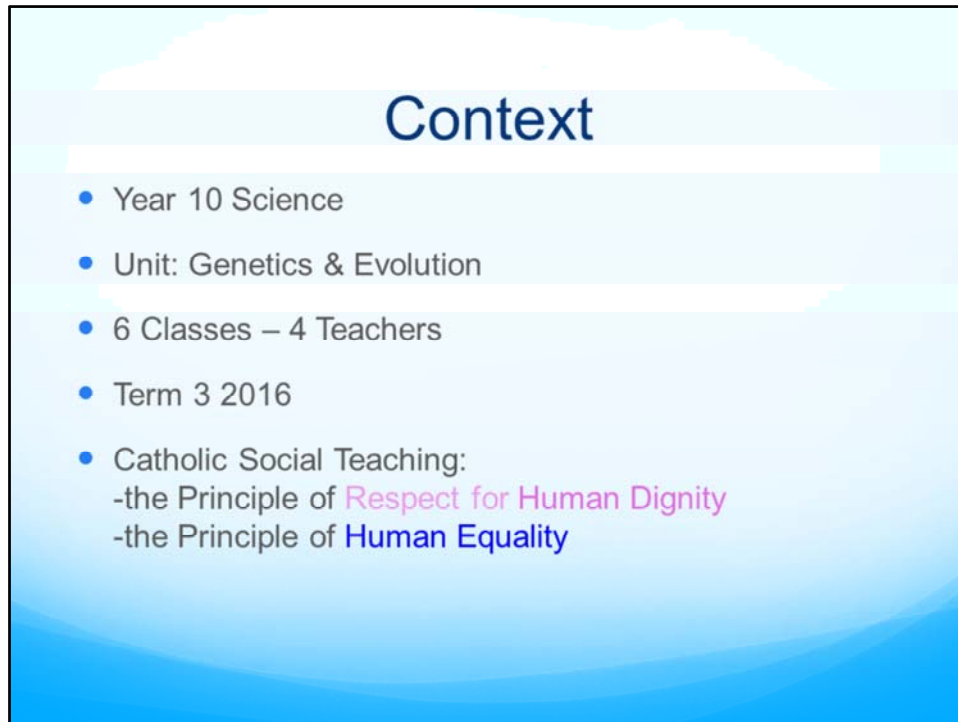


Good afternoon Ladies and Gentlemen, thank you for attending the seminar and listening to the experience of integrating Catholic Social Teaching at St Columban's College, a Secondary College at Caboolture . My name is Raechel Fletcher and I am the APRE at the College , STC has a student population that has been identified by the BI data as 50% Catholic and a ICSEA of 1025 . The data demonstrates that we have students from various ideological and socio economic backgrounds. The BCE initiative of strengthening Catholic identity is particular pertinent to our context and with this in mind we are involved in the two initiatives the KU Leuven Project and the ACU Catholic Identity and Curriculum. The choice of the quote that you see before you has a two-fold purpose – firstly it works as a suitable way to introduce the team here this afternoon – quite often in my time at STC I have been in many philosophical discussions with Jo(Head of science) and Reuben (Head of RE) at the issue of the perceived polarity that exists in the post modern secular world so when this opportunity to work with Dr Jim Gleeson presented itself the first logical choice for me was to work with Science and with Jo. Firstly because I knew that key people in the science department had a passion for this particular topic and secondly to challenge the view that Science and Religion are at polar opposites. So I would like to introduce the members to what I have affectionately called the STC CST dream team. Mr Jo Friedman (head of science) Mr Reuben Pather (Head of RE) , Mr Paul Schaumberg (Biology teacher) and Mr Andrew Skinner (Biology teacher – House Leader).



The team

- Science staff:
 - Paul Schaumberg
 - Nedra Rose
 - Brendan Walsh and
 - Jozef Friedmann
- RE leader:
 - Reuben Pather
- APRE
 - Raechel Fletcher



Context

- Year 10 Science
- Unit: Genetics & Evolution
- 6 Classes – 4 Teachers
- Term 3 2016
- Catholic Social Teaching:
 - the Principle of **Respect for Human Dignity**
 - the Principle of **Human Equality**

The topic lends itself well to ethical decision making

Teachers - Paul, Nedra, Brendan and myself.

Term 3 2016 due to the natural position of the unit within the Work Program

The current issues in reproductive technology and the implications for equal opportunity in society present a challenge to humanity to preserve social justice

The team many discussions between team members prior to the involvement with the project.

Planning

- Meeting: Dr. Jim Gleeson, APRE (Raechel Fletcher), Science staff (Jozef Friedmann, Paul Schaumberg, Nedra Rose, and Brendan Walsh) and RE leader (Reuben Pather)
- Professional dialogue: explore CST opportunities in the unit of study and decide on the most appropriate/relevant CST principles
 - Human Equality and Respect for Human Dignity

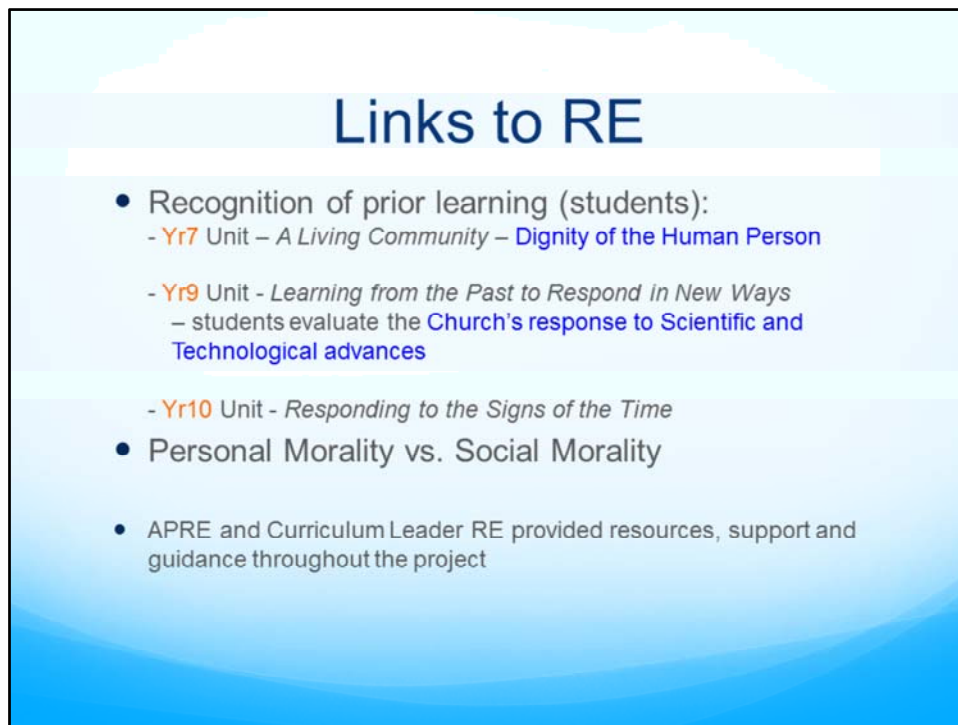
1. Meeting with Jim, APRE
 - Acknowledgement of Dr. Jim Gleeson for his inspiration and guidance extended to the team
 - To Raechel and Rueben for their leadership and guidance during the project and acknowledgement of the area of Religious Education within the College context and curriculum
 - Andrew and Paul for making it a reality in the classroom
2. Collegial conversation in relation to CST
 - To get on the same page
 - Clarify the principles of CST
 - Particularly stewardship of creation and common good
 - Links to Laudato Si
3. Discussion about method
 - Strategy adopted
 - Summarise major ideas of LS into PPT for teachers to guide class in course discussion
 - **Revelant teachable moments** – use as opportunity to link to CST and LS
 - Measuring tool
 - In a meeting of the team with Dr Jim Gleeson and prof Peter

Goldberg

Intended Student Outcomes

- Identify CST relevant to Bioethical issues
- Using CST to inform student choices and actions as informed citizens post schooling
- Acknowledge the relevance of CST to the discussion on contemporary global and local issues
- Assessment?
- through DIALOGUE with students – identifying links between Science and Religion

1. Identify CST relevant to scientific topics
 - Stewards responsible to :
 - Care for our common home
 - Welfare of the whole human family
 - We would hope students participate in creating a more just and human society where ever they find themselves
 - Socioeconomic
 - Political
 - Cultural life
 - Stewardship
 - Common Good
2. Links between Science and Religion
 - Dialogue
3. Using CST to inform their choices and actions post schooling
 - Participation
4. Acknowledge the relevance of CST to the discussion on contemporary global issues
 - Wisdom of the Catholic Tradition



1. Recognition of prior learning (students) **TO BE ELABORATED ON BY Reuben**

- Religious literacy
- Contemplative
- Prayerful

2. Stewardship of Creation as emphasised in Pope's latest encyclical

- Care for the world goods

3. Personal Morality vs Social morality

YEAR 7 – Doing Good Avoiding Evil

- Common Good
- Moral Unit
- Exodus
- Personal Character

YEAR 8 – Mission Matters

- Jesus
- Catholic Social Teaching
- Option for the poor
- Solidarity

- Virtuous life
- Love, hope and faith

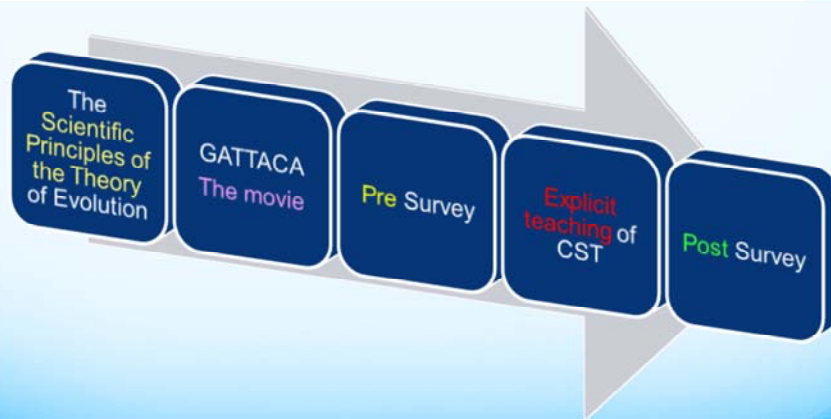
YEAR 9 – Restoring the Balance, Learning from the Past, Responding to New Ways

- Dignity of the human person
- Created in the image of God (creation in Genesis)
- Maranatha – meditation contemplation

YEAR 10 – Responding to the Signs of the Times, Making Amends and Moving Forward

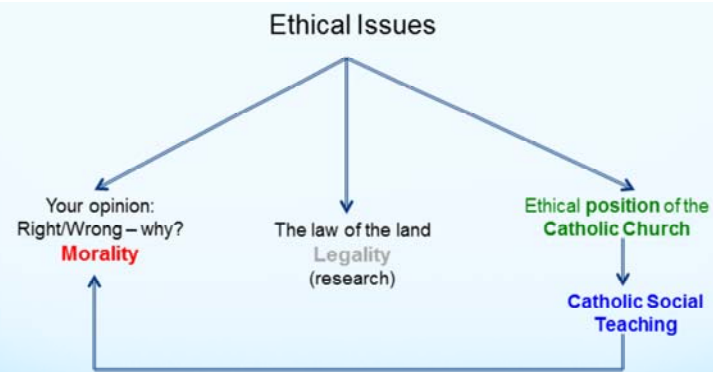
- Year 10 Case study
- Environment and social
- Impact of Shenhua Mine
- Common Good
- Human Dignity
- Association
- Solidarity
- Stewardship
- Option for the poor
- Pope John Paul II – The Catholic Church wont be ‘the Church’ until the Indigenous Australians are a part of it.

Action Plan - Mapping out the method



General principles of the Darwinian theory of Evolution
Human success in bypassing natural Evolution
Introduction of a case study (Film: GATTACA)
Focus on ethical issues in human applications of genetic engineering and Evolutionary Biology
Worksheet/Survey of the moral position of students on the issues in focus
Planned intentional explicit teaching of the selected CST principles
Evaluative process – post-teaching Worksheet/survey on student moral position (see Template)
Teacher reflection

Model for teaching CST





1. Principals of Catholic Social Teaching
2. Encyclical – Laudato Si
 - Conversion of heart
 - Care for world goods
 - Stewards
3. INFORM – Laudato Si (Ecology and Climate)
 - Creation
 - Interconnection
 - Trinity and relation to creation
 - Open debate
4. Australian Bishops’ Conference - media release summary of Encyclical Laudato Si
 - Emphasis
 - Dialogue
 - Suffering Earth and those excluded
 - Justice
 - Distribution of goods
5. Caritas Website (link to Encyclical)

6. Care For Our Common Home

Student Learning Outcomes

- Measured by **pre** and **post** survey (worksheets **1** & **2**)
 - *Not just about CST but also Biological issues*
 - *Chance to find out about students' prior learning on the issues – formal (RE) or informal (family)*
 - *Chance to find out about the students' ability to apply their prior learning and moral attitudes to a scientific context*
 - *Shift in attitude due to explicit CST is not automatic or universal but this teaching reinforced the moral position acquired prior to this project*

Initially when considering how student learning outcomes were to be measured

- There were concerns about whether this would need to be included in the assessment regime
- To do this would be problematic because this isn't part of our syllabus even though AC Science does have an assessment strand called Science Human Endeavour
- Students do often drift into the realm of ethical issues in coming to grips with this criterion.
- After coming to better grips with the 'Action Research' approach, we began to understand that our efforts in including aspects of CST into this topic could be evaluated through teacher reflection about the sort and quality of discussions had in class and that these understandings could inform future approaches.
- The next challenge was to find the keys to stimulate the discussions in order to see what the knowledge and attitudes are within the class without making the students believe this is just another RE lesson.
- It was proposed that a short survey could be developed which would illuminate on where students are as a group in regard to the knowledge held about the ethical issues as well as the attitudes that this knowledge informs. The gaps discovered helped form the approach to the inputs made into the classes as well as how the directions of discussions within the class.
- A post survey which consisted of the same questions, bar the last question, was administered to see how knowledge and attitudes had changed.

Class group outcomes of selected survey questions

Pre survey:

1. The vast majority of **Worksheet 1** respondents thought that artificial selection was wrong for either/and *moral* or *bio-ethical* reasons.

These included:

- It reduces diversity, particularly gender ratios
- It's unnatural, contrary to natural law
- It disrupts the process of evolution
- It's a recipe for discrimination and *inequality* between humans

2. The vast majority of **Worksheet 1** respondents thought that use of personal genetic information was wrong on moral, *equality* and *bio-ethical* grounds.

Class group outcomes of selected survey questions

Post survey:

1. Against that background most respondents to [Worksheet 2](#), not surprisingly, said that knowing more about Catholic Social Teaching didn't change their original opinion.
2. 14 (23) [Worksheet 2](#) respondents advanced CST-based arguments that they had not used in responding to [Worksheet 1](#) e.g.
 - 'human life is sacred',
 - 'dignity of the human person',
 - 'care for God's creation',
 - 'we are made in the image of God',
 - 'we are all God's children',
 - 'human equality'.

Teacher Reflections on student outcomes

- Strong sense (even before introduction of CST) that artificial selection and use of personal genetic information are wrong on *moral*, *equality* and *bio-ethical* grounds
- Most respondents said that knowing more about CST *didn't change* their original opinion (which can be a result of prior learning in RE)
- Of the 19 more extensive pieces, 2/3 made reference to arguments from CST in addition to moral and bio-ethical arguments...

Teacher Reflections on student outcomes

- Teachers' overall reactions
 - A **positive experience** with moments of **surprise**
 - Most students were **thinking ethically**
 - **Not** a part of **formal assessment** enabled a **more authentic** response
 - Initial attempt at working with '**unknown quantity**' (Yr. 10 students) and unsure of outcomes
 - Project had an **experimental element**
 - **No model practice** to refer to for our local context
 - Limitations/Challenges:
 - The **time frame** limited the opportunities for depth and breadth of analysis

- **The experience was positive with moments of surprise and wonderment**
 - Well received
 - Surprise over the teaching and involvement of the church in the environmental debate
- **Most students were thinking ethically**
 - What they thought what right, not what they were told by the government
- **Not a part of formal assessment enabled a more authentic response**
 - Not the 'right answers' rather what they thought
- **Project had an experimental element**
 - First time not sure of reaction, engagements, outcomes
- **No model practice to refer to for our local context**
 - No experience to draw upon
- **Problems encountered**
 - 4 1/2 week term

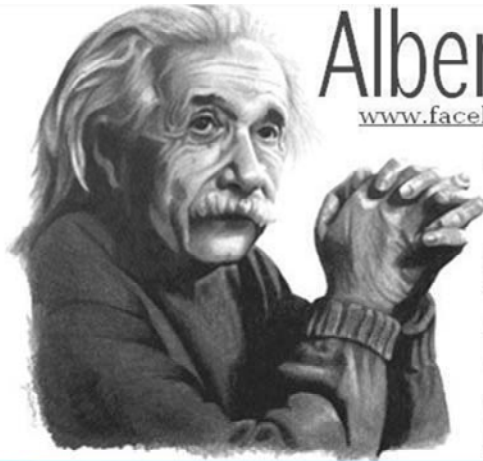
Teacher Reflections: Lessons learnt

- Explore links with RE Curriculum/prior learning and attitudes
 - The value of dialogue between RE and Science teachers
 - Organic approach is more authentic
+ CST
-
- A need for a range of data-gathering tools
 - Small team workshop PD about CST and its theological underpinnings for teachers before implementation of the next cycle

Where to Next?

- Introduce the principles of **CST across Science curriculum** where appropriate
- Moving towards a **coordinated whole school approach** supported systemically
- Year level **cross-disciplinary connections**
- **System-wide** approach?

- Crucial for the successful implementation is to work with those who are on board with the messages
- Enthusiasm for project has extended to over curriculum areas
- Exposure to different ways of implementing CST in schools. School visits have demonstrated that support structures need to be in place, for example:
 - Social Justice
 - Continued Financial Support
 - Curriculum Leader
 - Needs to be a planned approach



Albert Einstein

www.facebook.com/IQScienceFaith

“The more I
study science
the more I
believe in GOD.”

