

Systems of Knowledge: Strategies in Challenging the Current Perceptions through Improvement of Lecturing Strategies

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Abstract: This paper is the result of a practitioner research into the current teaching and learning of Systems of Knowledge, a compulsory subject, which is treated as an added burden. Consequently SOK is often deemed as a negative experience which steals time from other chosen subjects. The solutions lie in challenging this role. Rather than an inconvenience, SOK should be perceived as *complementary* to the students' post-secondary educational experience. The vast syllabus should not be used as an excuse not to seek improvement in effective teaching methods. I am researching and implementing pedagogical strategies that enhance *engagement* and *relevance*. Skills-based lectures, within the framework for 21st-century learning and life-long learning policies is one strategy employed so far. Content remains important; however' it is integrated with skills that students usually need for their everyday life and to tackle their subjects.

This research is an introductory step but is indicative of the way forward. When students see the relevance of a subject in their studies and their lives, they own it, appreciate it and feel engaged.

Keywords: relevance, engagement, Systems of Knowledge, action research, active learning

Context and Approach

Systems of Knowledge (SOK) is a compulsory subject in Maltese Further Education Institutions for proceeding to studies at the University of Malta. Its compulsory nature defeats its appeal as a complementary subject to the rest of the study programme (two subjects at advanced level and another three at intermediate level). Students perceive the subject, way before they enter the lecture room, as an extra burden. This research aims to challenge this apathy and searches for ways to ameliorate student engagement and subsequent appreciation of the subject's relevance and complementarity to the rest of their studies, primarily through improvement of lecturing strategies. As an educator, experienced in various teaching and learning methods, I set out to put the onus of the challenge on me. Not on the students or on the syllabus: action research was the best agency for change. Rather than just investigating *why*, I set out to find ways *how* to improve the situation. In education, at any level, action/practitioners' research should not be aimed at simply investigating the situation but as a potential 'vehicle for change'.¹

The opportunity and impetus to carry out this action research arose during the *Junior College Induction Course in Pedagogy*,² where I was encouraged to pursue such investigation. I am, therefore, in the process of adjusting my practices as to challenge the negative perception of the subject. The main objective was to search for lecturing strategies which would make the subject more complementary to the other course subjects and more relevant in everyday life. At the onset of my quest, I delved into educational theory for inspiration. I reviewed literature on the latest teaching/learning strategies for *student engagement*, *relevance* of studies in a *lifelong learning* context, and the latest *skills and competences* outlined for our century as opposed to content-based lecturing. Lecture plans were adapted according to this perspective. To evaluate whether these tweaks were effective, after a number of weeks, I conducted a mini-survey and interviews amongst a sample of

- 1 M. Coleman and J. Lumby, 'The Significance of Site-Based Practitioner Research in Educational Management', in *Practitioner Research in Education – Making a Difference*, D. Middlewood, M. Coleman, J. Lumby (eds.) (London, 2004), 17.
- 2 *Induction Course in Pedagogy – Learning and Teaching in Further Education*, was a 25-hour intensive programme for new lecturers, organized by the College CPD Committee.

my students. This is a work in progress, nevertheless very encouraging feedback is already at hand (see *Outcomes*, 6).

The Methodology: A practitioner's research, but not only

As a professional on a quest to improve, I opted for *practitioner's research* or, as it is more popularly known, *action research*. These two terms are often used interchangeably when research is meant to put new knowledge to practical use.³ Since the 1930s, experts in the field have been encouraging educators to adopt such an approach. Dewey was the first to encourage *reflective practitioner research* as a means for improvement.⁴ However, it was not until the 1970s that Stenhouse encouraged the shift from reliance on 'outside experts' to teacher researchers.⁵ He challenged research 'on' teachers, through promoting research 'by' teachers. Through the 1980s⁶ and since then, teacher practitioner research has become the favoured research method in the field. In contrast to other forms of research, it does not seek generalizations and wide-ranging theories, but insights on how one can improve in personal practice. The research is unique, as one deals with own challenges, rather than applying generalized theories discovered by others. As opposed to traditional methods, the researcher is *in* the field of interest and not *above* it.⁷

I was adamant to be a reflective and active practitioner rather than a 'research recipient'.⁸ The aim is not to produce or reproduce knowledge but to improve practice. More importantly action research is self-reflective and self-critical: critical reflection of practice, together

3 M. Dadds, 'Perspectives on Practitioner Research', in *Development and Enquiry Programmes – Teacher Researchers* (NCSL), <http://palava.wikispaces.com/file/view/Teacher+Researchers+PDF.pdf> (accessed 6/8/2017), 2.

4 J. Dewey, *How we think: A restatement of the relation of reflective thinking to the educative process* (Boston, 1933)

5 L. Stenhouse, *An Introduction to Curriculum Research and Development* (London: 1975)

6 W. Carr and S. Kemmis, *Becoming Critical: Education, Knowledge and Action Research* (Lewes, 1986).

7 D.A. Schön, *The Reflective Practitioner: How Professionals Think in Action* (New York, 1983).

8 M. Morrison, 'What do we mean by educational research?' in *Research Methods in Educational Leadership and Management*, M. Coleman and A.R.J Briggs (eds.) (London, 2005), 4.

with action to improve, becomes very pertinent in addressing the needs of students in SOK.⁹ As the responsibility for change is on me, this research is based on my practice, my pit-falls, and my successes. Nevertheless, action research should not be trivialized. One cannot set off working independently without regard to other valuable research traditions.¹⁰ Self-development is also sought through learning from others. Accordingly, I set out to investigate my practice by putting it in context of educational theory, emerging policies, and research of other practitioners.

In theory ... thus in practice

The literature review in this investigation is based on the exploration of strategies for *active learning*, with particular interest in further education. The focus is primarily on *student engagement*, *relevance*, and *life-long learning*. These three are also interconnected within the discourse of *21st-century skills and competences*.¹¹ Lecturing in further education varies from other educational sectors in many ways. It has long been dichotomized from secondary education mainly through the methods of teaching and learning. It is a widespread belief, even in Malta that, while secondary teachers ‘teach’, post-secondary teachers ‘lecture’. The lecture is often criticized for its ‘lack of effectiveness as an instructional strategy’.¹² Due to the instructional emphasis of ‘lecturing’ methods, the challenge of *student engagement* in further education deals with methods that contest one-way communication and passive learning. Modern educational research suggests *active learning/engagement* as the alternative to the tradition of students sitting and listening while lecturers recite their academic expertise. Students ought

- 9 S. Lennon, ‘What I Really want from this course is ...: Tailoring Learning to meet students’ needs, using pedagogies of connection and engagement’, in *Student Engagement and Educational Rapport in Higher Education*, L. Rowan, P. Grootenboer (eds.) (Switzerland 2017), 87–103.
- 10 A. Brown and P. Dowling, *Doing Research. Reading Research. A Mode of Interrogation for Education* (London, 1998).
- 11 J. Soffel, ‘What are the 21st-century skills every student needs?’ (2016) in weforum.org/agenda/2016/03/21st-century-skills-future-jobs-students/, (accessed 6/8/2017).
- 12 M. Bland, G. Saunders, J.K. Frisch, ‘In defence of the lecture’, *Journal of College Science Teaching*, 37:2 (2007),10.

to write, read, discuss, solve problems, and be continuously challenged with higher-order thinking.¹³ Students must own what they are learning, assimilate it and be able to apply it in their daily lives. Lecturers should link students' prior knowledge and experiences to the content knowledge and clarify the correlation between the curriculum and everyday life.¹⁴ Such and other pedagogical techniques, as distinct from traditional lecturing have shown that more students and with diverse learning styles are reached.¹⁵

The question of *relevance* is very closely tied to lifelong learning and the 21st-century skills and competences. Students need to know that what they are learning is relevant to their desired qualifications for a future job. As lecturers and policy-makers, we need to respond to such demands.¹⁶ Nevertheless, employability should not disregard the need for a holistic approach and an education for life. More often than not, curricular content reflects socio-economic priorities as dictated by a country's agenda for future development; skills and competences should go further than that.¹⁷ In life-long learning policies within the EU, special emphasis is laid on the changing learning and work environments and how we must respond to them, but not only. In 2001 an innovative pedagogy was proposed, with a shift from knowledge to competence, from teaching to learning, and from just learning to *learning how to learn*.¹⁸ The latter emphasizes the development of metacognitive skills and thus a demand for a class environment and learning strategies that cultivate moods for effective ongoing learning.¹⁹ This is amplified even further in the 21st-century skills and competences objectives, which include ways of thinking, ways of working, tools for working,

- 13 A.W. Chickering and Z.F. Gamson, 'Seven principles for good practice in undergraduate education', *AAHE Bulletin*, 39:7 (1987), 3-7.
- 14 J. Bransford, A. Brown, and A. Cocking (eds.), *How people learn: Brain, mind, experience, and school* (Report of the National Research Council) (Washington, DC, 1999).
- 15 C.C. Bonwell and J.A. Eison, 'Active Learning; Creating Excitement in the Classroom', *ASHE-ERIC Higher Education – Report No. 1* (Washington, DC, 1991), 5.
- 16 R. Edwards, *Changing Places? Flexibility, Lifelong Learning and a Learning Society* (London, 1997).
- 17 M. Apple, *Ideology and Curriculum*, 2 edn. (New York, 1990).
- 18 'Making the European Area of Lifelong Learning a Reality', in *Brussels: Commission of the European Communities* (2001), 23.
- 19 P.J. Denning and G. Flores, 'The Profession of IT – Learning to Learn', *Communication of the ACM*, 59:12 (2016), 33.

and ways of living.²⁰ Critical thinking, creativity, communication, and collaboration are the competencies aimed to equip students for career and life.

Moreover, *learning to learn* strategies encourage learners to build on prior learning and life experiences in order to apply knowledge and skills in a variety of contexts. This stimulates motivation and confidence in competences for everyday life.²¹ Unfortunately, especially in post-secondary and undergraduate and graduate courses, these teaching strategies tend to succumb to the dominance of *content knowledge*.²² Whilst it is up to designers of curricula to reduce content and encourage skill development, it remains the responsibility of lecturers to integrate skills with content. In higher education, the learning of skills should be as important as research and content knowledge.²³ Rather than an obstacle, content should be a medium for developing these skills.

We should focus on how to enable learners to find, identify, manipulate and evaluate information and knowledge, to integrate this knowledge in their world of work and life, to solve problems ... and to communicate this knowledge to others.²⁴

This is also reminiscent of ‘curricular knowledge’ as proposed by Schulman.²⁵ Here, the content and skills of any subject are also made relatable to those in other subjects. Everything that is learnt, is not learnt for its own sake but as part of a holistic learning process.

Hence, my inspiration to do something about incorporating the skills and competences with SOK content knowledge and relating them to other subjects and everyday life. In SOK, due to the nature of its value-

20 ‘Assessment and Teaching of 21st Century Skills’ (Melbourne, 2013), <http://www.atc21s.org> (accessed 17/8/2017).

21 *The Key Competences for Lifelong Learning – A European Framework*, An annex of a Recommendation of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning that was published in the Official Journal of the European Union on 30 December 2006/L394, <http://www.atc21s.org> (accessed 17/8/2017).

22 I.R. Cornford, ‘Learning-to-learn strategies as a basis for effective life-long learning’, *International Journal of Lifelong Education*, 21:4 (2002), 36–6.

23 C.K. Knapper and A.J. Copley, ‘Higher Education and the Promotion of Lifelong learning’, *Studies in Higher Education*, 8:1 (2000).

24 T.H. Brown, ‘Beyond constructivism: Exploring future learning paradigms’, *Education Today*, Issue 2 (2005) 10.

25 L.S. Schulman, *Those Who Understand: Knowledge Growth in Teaching*, http://www.itp.wceruw.org/documents/Shulman_1986.pdf (accessed 28/8/2017).

laden topics, this exercise is fairly manageable; however, I am aware that in other subjects this could be problematic. *Learning to learn* for *life-long learning* and within *21st-century skills and competences* depend not only on the lecturers' disposition to innovative lecturing strategies but also on the nature of the subject. Even the skills and competences themselves and the value of 'learning to learn' are debatable, let alone their applicability in all subjects. Criticism of 21st-century skills also includes the notion that, while we strive to teach skills, content should not be sacrificed, as then students would lack a solid knowledge base.²⁶ The challenge is thus to adeptly incorporate the skills into knowledge content.

Tweaking for change: Questioning and adapting my lecturing techniques

In the light of the above research, I tweaked my approach to lecturing. As with every action research the changes were to be small, realistic, and gradual. I chose particular areas from the theoretical/practical recommendations discussed above, namely lecture planning, student engagement and participation, drawing on the students' experiences, and encouraging critical thinking. The initial adjustment was in formulating lecture plans. Instead of basing the lecture on a list of points or a power-point based on knowledge content, I listed the skills that students would need to understand the content, hence, promoting active learning. For example, when I was planning a lecture on responsible citizenship I based the objectives on skills (appreciating, evaluating, criticizing, opinion forming) rather than on content. The students were thus presented with a challenge rather than a ready-made pack of information. During the lecture, I then encouraged students to share their experiences with responsible citizenship so far in their lives. This is the pedagogic engagement which promotes connection between content and life experiences.²⁷ These experiences were then incorporated and referred to when we discussed the content knowledge. When presented

26 *The Glossary for Education Reform*, <http://edglossary.org/21st-century-skills/> (2016) (accessed 28/8/2017).

27 B. Hooks, *Teaching to Transgress: Education as the practice of freedom* (London, 1994).

with the content, the students are not passive recipients, but participative and valued, as Freirean philosophy upholds.²⁸ A dialogue of knowledge is created. Once the students own their learning, they feel confident to criticize, appraise, and express their own opinion. Another example were the lectures covering *objectivity in science*. The departing point of the first lecture was a discussion on objectivity in everyday life. The students shared examples of objectivity and subjectivity in various situations and the various skills (evaluation, comparison, opinion, etc.) needed to appreciate the difference. Then, when it came to understanding the nature of objectivity and subjectivity in science, the students found it easier to relate to the knowledge content.

Another approach was to encourage students to draw experiences from their academic expertise. The reasons for this approach were twofold, namely to strengthen the participative element but also to connect SOK to their other areas of study. I assumed that, if the students realize that the skills and knowledge from other subjects are applicable also to SOK, they come to see SOK as *complementary* to their other subjects. Before I started ‘lecturing’ on content, I asked the students if they were studying that topic in any of their subjects and whether they would *enlighten* us, as *experts* in that particular topic. The response was surprisingly positive. One student who is technically proficient, provided us with valuable information on automotive technology when the topic of the industrial revolution came up.

These simple and uncomplicated approaches did not take up much time; rather I would dare to say that time was actually gained. Sometimes the stress we lay upon ourselves to ‘teach’ all we can, is unnecessary and often unyielding.

Listening to the students: their say in the matter

The major and most valuable part of this practitioner’s quest was the students’ reaction after the lecturing adjustments. After weeks of lecturing, it was time to listen to what my students had to say. Their feedback, not only serves as an evaluation of the process so far, but also indicates the best way forward in meeting students’ needs in SOK.

28 P. Freire, *Pedagogy of the Oppressed* (New York, 2015).

The listening tools

I carried out a mini survey (Figure 1) to gather quantitative data and followed it up by semi-structured interviews (with the same sample of students) to support the data with qualitative evidence. The sampling was a delicate issue, as I already knew my students very well. Hence, I chose to go for the worst-case scenario. I chose the class (out of four first-year classes), which was most critical and apprehensive of SOK. I reasoned that, if any ‘conversions’ were possible in this class, then they were possible anywhere. The participants were all voluntary.

The outcomes: before and after impressions

The students’ response on their original perception of SOK (Figure 1, Question 1), proved the apathy towards the subject. The adjectives varied from, ‘boring and useless’, to ‘unnecessary and extra’, ‘waste of time’, ‘more stress’, ‘unrequired’, and ‘time-consuming’. Not even one respondent had a good word to spare. In contrast, their idea of SOK, after attending my lectures (Question 2) was positive and encouraging: ‘sometimes it is relatable’, ‘covers topics that no other subject does’, ‘it helped me improve in my other subjects’, ‘lectures were fun and entertaining’, ‘lectures included many examples’, ‘we discussed every topic, even what is happening around us’. Others still showed some doubts using the word ‘sometimes’ when describing the subject as being ‘relatable’, ‘boring’, ‘useless’, and ‘interesting’. Two students remained adamant that SOK is ‘useless’ and ‘not needed’.

When it came to specifics (Figure 2), the students showed that they appreciated my efforts, however, I was still far from reaching my desired goals. The majority of students (74%) felt that ‘sometimes’ SOK was relevant, while 7% hardly ever saw the relevance. In the interviews, the main reason for irrelevance was attributed to topics which were too detailed and technical. These topics alienated the students, as their only preoccupation in class was on how to remember the details for the exam. This issue needs to be tackled with the syllabus designers and with lecturing methods that water down detailed topics.

Improvement in skills was rather more encouraging. A majority of 65% admitted that at times, the skills used during SOK lectures helped in interdisciplinary skills. This means that they saw SOK as complementary to the rest of their studies. A further 16% felt

that they nearly always saw the link. The rest of the students (19%) confirmed that there must be areas and subjects to which SOK is not yet connecting. In the interviews, it was specifically noted that there was little connection between SOK and subjects such as mathematics, chemistry, and accounts.

Student engagement feedback suggests that the majority of the students (63%) felt engaged in almost all lectures. Considering this was the most difficult class, I should not be discouraged by the negative percentage. In interviews, engagement was attributed to topics being relevant to their lives and learning and discussing topics that were never discussed in other lectures. Discussion and critical thinking were here confirmed (as in theory) as two tools for engagement and relevance. Those students who lacked engagement, either confessed that they feel like this in all subjects or else because they still see SOK as a pain in the neck ('*kanna*'). Dealing with the excessive hostility towards the subject is another challenge I will need to take up.

To end on a positive note, the general response of their *before and after* opinion of SoK, was very positive. A good 74% have a 'better' opinion of SOK, while 15% have a 'much better' one. That leaves 8% unaffected and 3% who have a worse opinion than before. The latter 11% expressed the reasons for their opinion as simple apathy and 'aversion' to a subject they did not choose. They were not even interested in discussing it further. Nevertheless, the overall reactions were uplifting and a source of encouragement to pursue further research.

Conclusion ... and the road ahead

This modest practitioner's research suggests that with a little effort one can make a difference. However small, any difference is definitely better than retaining the status quo. It is very easy to stay feeling safe in a comfort zone; however, that feeling of safety and comfort is often misleading, if not detrimental to one's practice. As professional practitioners at the service of our students, we must keep searching for ways to develop our pedagogical strategies. It takes courage to admit a need for change: it takes more to act upon it. With this investigation,

1. Before I started SOK lectures, I thought SOK was:

2. SOK lectures were related to my everyday life (they were relevant to me)?

| | | | | |
|--------|---------------|-----------|--------------|-------|
| Always | Nearly Always | Sometimes | Nearly Never | Never |
|--------|---------------|-----------|--------------|-------|

3. SOK lectures helped me improve in skills which I can use for other subjects?

| | | | | |
|--------|---------------|-----------|--------------|-------|
| Always | Nearly Always | Sometimes | Nearly Never | Never |
|--------|---------------|-----------|--------------|-------|

4. How far did you feel engaged during SOK lectures?

| | | | | |
|--------|---------------|-----------|--------------|-------|
| Always | Nearly Always | Sometimes | Nearly Never | Never |
|--------|---------------|-----------|--------------|-------|

5. Now that I have covered two SOK modules, my idea of SOK (when compared to that in Question One) is:

| | | | | |
|------------|-------|----------|--------|-------------|
| Much Worse | Worse | The same | Better | Much Better |
|------------|-------|----------|--------|-------------|

Give ONE reason for your answer:

Figure 1
Mini Survey

| Question Title/ Answers | % |
|---------------------------------------|----------|
| Relevance to everyday life | |
| Nearly Always | 19 |
| Sometimes | 74 |
| Nearly Never | 7 |
| Improvement of skills | |
| Nearly Always | 16 |
| Sometimes | 65 |
| Nearly Never | 19 |
| Engagement during lectures | |
| Always | 14 |
| Nearly Always | 49 |
| Sometimes | 30 |
| Nearly Never | 7 |
| After, when compared to before | |
| Worse | 3 |
| The Same | 8 |
| Better | 74 |

Figure 2
Mini Survey – Feedback Data

I have just scratched the surface of a much deeper issue; nonetheless I feel that I ‘initiated’ a process of ‘worthwhile change.’²⁹

This study has identified three main areas for development. The first priority would be to further my research on relevance. I need to be better informed on the skills of other subjects, especially those indicated above, so that I can integrate them in SOK. Secondly, I have to deal with the issue of excessive detail, while helping students to study effectively. This will entail better lecture planning, based on learning-to-learn skills. Thirdly, I need to address the issue of the frustrated minority – those

29 M. Bassey, ‘Action research for improving educational practice’, in *Teacher Research and School Improvement: Opening Doors from the Inside*, R. Halsall (ed.) (Buckingham, 1998), 108.

who are totally estranged from the subject. This will be the toughest, yet the most appealing, challenge. Additionally, I believe that in light of the above research, any reform in further education should give precedence to consultation with students. More often than not, they know best.

I have seen, I have heard, but I am yet to ‘conquer’. This is the spirit through which this action research will proceed. Nevertheless, for further inquiry, it is pertinent to ask if, as educators, we ought to have and use our ‘conquering’ power to dictate *what* and *how* students should learn. How far should we prescribe learning? In our search for giving students skills to study and live, are we actually encouraging them to engage actively in life or are they still passive bystanders with an opinion? Where and how do educators feature, in an information/social media dominated society? Are we really so indispensable in educating the future generations? If we are, we must strive to discover what is beyond our ‘conquering’ power, and if we should have power at all.

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