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Descriptive account

Teaching a Dyslexic Student: A Personal View how Critical Incident Analysis can be used as an Effective Pedagogical Tool in Undergraduate Biosciences

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Abstract
This paper examines the concept of critical incident analysis in respect of improving the pedagogical practices in teaching dyslexic undergraduate biosciences students. Critical incident analysis is a well established pedagogical theory (Tripp, 1993) that allows reflection of a seemingly typical incident; the ‘critical incident’, so that changes and improvements can be implemented in teaching practices. In particular, it offers the opportunity to reflect upon these incidents and adopt different strategies by using the paradigms as described by Tripp and colleagues and uses these to foster improvement in teaching practice. However, the implementation of paradigms adopted by critical incident analysis and its reflective description in analysing an incident is currently lacking in undergraduate Bioscience. In view of the importance of critical incident analysis, here I describe the content and reflective pedagogical approaches adopted by critical incident analysis and incorporate its key principles into improving the methods and perception of teaching a dyslexic undergraduate student.

Keywords: Critical incident, reflection, dyslexia, undergraduate, Biosciences

Introduction
Reflective thinking is not a new notion. Dewey (1933) referred to reflection as a form of ideas and thought growing from an uncertainty felt in a directly experienced situation. This paradigm of problematising a situation or ‘incident’ was further developed by Schön (1983; 1987). Schön expanded Dewey’s original paradigm and based it on practice-based rationality. Rather than base it on theory (Dewey, 1933), Schön, (1983; 1987) based his paradigm on reflection-in-action (thinking on your feet) and reflection-on-action (contemplation undertaken after the practice is completed). These perspectives formed the hierarchical constructs that have allowed educators to understand the context of an incident in the ideological structure that defines success or failure. To further develop the skills and attitudes of reflection, Tripp (1993) constructed approaches that improve the practice of an educator, for example, to take a step back and ask ourselves how the nature and analysis of a seemingly typical incident — the ‘critical incident’, will affect our achievement. In analysing the critical incident by using this paradigm, educators as reflective practitioners can understand and gain control over their current professional practice and habits.

In this descriptive account, I describe through personal experience how reflective thinking and analysis can be used to critically evaluate an incident through a variety of methods suggested by Tripp and colleagues and to show that critical analysis can be implemented as a useful model for choosing appropriate teaching methods to support teaching of dyslexic student(s) in undergraduate biosciences.
The description of the critical incident

To begin with, critical incident analysis aims to describe the nature of the incident:

“In a lecture session, I presented a timed essay title for the second year pharmacology students. They had two weeks to prepare for the essay, which would be undertaken under exam conditions. During the class one of the students asked for extra time to be allowed for the essay, without giving a suitable explanation for why extra time was needed. I mentioned to all the class that only one hour is allowed for the essay. After the lecture, the student came to me and mentioned that she was dyslexic and gave me her dyslexia certificate. This student then came to my office later that afternoon and requested extra tutorial sessions with me to help her prepare for the timed essay. I initially agreed to this. Later on in the week other students from the class came to my office and wanted to know why I was giving this student (who they did not know was dyslexic) extra tutorial sessions for the timed essay. The students felt that I was unfairly disadvantaging them because while they were only allowed one class-based tutorial session to discuss the timed essay, the dyslexic student already had two individual tutorial sessions.”

When the dyslexic student came back for their third tutorial session, I asked the student if she had told her peers that she was receiving extra tutorial sessions. The student had told her peers that she was getting extra sessions from me but would not tell her peers why this was so. I told her she was putting me in a difficult situation because, due to confidentiality (in that the dyslexic student did not want to reveal the dyslexia to her peers), I could not tell the other students why she needed special individual time. This left me unsure how to handle the situation. This was distressing to me as an educator with no reasons to explain to the other students why one particular student was receiving additional attention. The other students felt that I was being unfairly biased, which raised issues of favouritism in class.

Thinking strategies in relation to the critical incident

‘Mazes’ are one way to analyse and reflect upon the critical incident. Kennedy (1999) describes mazes as a way of presenting structured and alternative strategies for the critical incidents. Incidents are identified and alternative possibilities for action are chosen. Each possibility leads to further reflection and options for action. Although mazes can be useful in developing thinking strategies, at this stage of the critical incident analysis, Tripp’s (1993) paradigm is perhaps more useful as it provides categorisations of critical incidents and different levels of analysis particularly in terms of thinking strategies such as plus, minus and interesting:

A. Thinking strategy one – ‘plus, minus and interesting’

Plus:

- Dyslexic students will benefit from the extra tutorial sessions and probably learn more about the topic.
- The student mentioned to me that if she lost her way in the lecture she could ask me the same question again in the one-on-one tutorial session and not feel embarrassed.
- I gain first hand learning experience and knowledge from the student, for example, she finds it difficult to read long sentences so I now try to minimise this in the class-based tutorial sessions. In addition, I give my PowerPoint presentation lectures on a blue background.

Minus:

- Students with dyslexia feel there is insufficient time to copy from the board so they request individual tutorial sessions.
• The student cannot read words on the whiteboard. They move around and sometimes she may see two words the same. Her peers are enquiring why she is asking so many in-appropriate questions.

Interesting:
• The student may be able to produce very good work one day and even the next day. ‘Off days’ are quite common and I realise she requires extra encouragement and understanding.

B. Thinking strategy two – 'Reversal'
Educators of dyslexic students (including me) see students as interesting, capable and eager to learn. The thinking strategy can, however, be reversed, for example, ‘I cannot teach the dyslexic student individually because I would be unfairly disadvantaging the other more capable students.’ The Disability Discrimination Act states that one cannot discriminate against non-disabled students. Does the critical incident then become emancipatory? Am I being inclusive in my teaching to all the students? The reversal of the critical incident can reveal the disparity that exists between my teaching towards dyslexic and other students. Why do I believe that all students should be treated equally? Does dyslexia affect a student’s scientific intellect? By reversing (often routine) questions, I am able to challenge myself to adopt a more rigorous critique of an incident. The mazes paradigm (Kennedy, 1995; 1999) would be useful in further analysing the reversal strategy to present a structured alternative action. For example, based on the paradigm by Kennedy (1999) I could have adopted two additional approaches. The first would be to continue to foster the special needs requirement of the dyslexic student and second tell the class from the outset that there were dyslexic students in the group. Doing so would allow me to incorporate the educational requirements of the dyslexic student into the actual lesson.

The Why? Challenge
Following on from thinking strategies, the ‘Why? Challenge’ illustrates another form of analysis of the critical incident. In the paradigm based on Tripp (1993), asking ‘Why?’ forces us to question our response of the incident, for example, by asking ‘Why?’ we question ‘that is how it should be? Or that is how it is?’ A different paradigm proposed by Gibbs (1988) also challenges me in asking the ‘Why?’ question. Gibbs reflective cycle (Gibbs, 1988) looks at the ‘Why?’ challenge in a systematic way. In this setting, using Gibbs (1988) framework, I could see that my tendency for firm beliefs about what I initially thought about dyslexia may hinder my ability to build upon and further analyse my critical incident.

With relation to the critical incident:

Why should I spend more time with the dyslexic student who does not want to reveal her condition to other students because of confidentiality?
Because she requires special individual time
Why?
She appears to require more help than non-dyslexic students.
Why?
She believes there is stigma attached to dyslexia and so feels she deserves more help.
Why?
She feels stigmatised by her peers because she asks the same questions repeatedly and does not understand.
**Why?**

The dyslexic student does not have additional support from her peers that would assist her. Additionally, material is presented in such a way that she has to work harder to understand it.

On to a different perspective; the answers to the ‘Why?’ challenge can follow an alternative route which points to further development of the incident:

*Why should I spend more time with the dyslexic student who does not want to reveal her condition to other students?*

I am unfairly disadvantaging other students and therefore not being inclusive.

*Why?*

Because the other students perceive that I am biased towards one student and due to confidentiality guidelines I cannot reveal the reason for her extra tuition.

*Why?*

The student tells her peers she is having extra tutorials from me but does not disclose the reason.

The different kind of answers given in the ‘Why?’ exercise, challenge the appropriateness of the University of East London’s Disability Policy. In particular section 9 which states:

**Confidentiality:**

- *With the student’s explicit permission, disability-related information will be shared among appropriate staff, but only at a level of detail necessary to ensure the student’s requirements are met.*
- *We will develop a policy on confidentiality and disclosure of information which will protect students’ privacy and permit disclosure necessary for the provision of effective support and/or to ensure health and safety.*

This section of the policy clearly states that only with the student’s explicit permission will disability-related information be shared. This potentially leads to the dilemma outlined above: the need to spend more time with a dyslexic student who does not want to reveal her disability and, in her choosing to keep her dyslexia confidential, raises accusations of bias and favouritism among other students. Using Tripp’s (1993) ‘Why?’ challenge to analyse the dilemma this way is more akin to an interrogative stance of the reflective practice. This approach is similar to the reflective algorithms used by Francis (1997), which again directs the learner towards cumulative interrogation. Francis (1997) adopted the following approaches:

*What do I do?*
*What does this description mean?*
*How did I come to be like this?*
*How might I do things differently?*

Although Tripp (1993) and Francis (1997) have designed these questionning paradigms as reflective algorithms, in my opinion their intention was not to do so. Ultimately critical incident analysis is associated with a personal approach. A key feature of incident analysis was initially proposed by what Louden (1991) refers to as ‘personal horizons of understanding,’ and development of ‘dilemma identification,’ which was also adopted by Tripp (1993).

**The dyslexic student and dilemma identification**

Within an educational context, dilemma identification can be used as a powerful critical incident analysis strategy to promote further pedagogical reasoning, reflection and learning.
As described by Louden (1991) and Tripp (1993) dilemma identification can be used to deal with an uncomfortable situation more clearly. In addition, the foundation of the dilemma is not due to the anxieties and shortcoming of the educator but rather is created for the educator by the dilemma. This dilemma identification paradigm has been further developed by Wildy et al. (2000) in particular the identification of ethical dilemmas that confront teachers. Analysing the critical incident using the dilemma identification suggests that a key dilemma of perceived student favouritism would manifest itself by spending more individual time with the dyslexic student.

Dilemma hypothesis and evaluation

The dyslexic student was an able student and had achieved good marks in her exams. She was very competitive and wanted to gain the highest marks in the class. The student believed that her dyslexia was a key obstacle that hindered her achievement and therefore would try to adopt some other means of advantage over the students. In allowing the dyslexic student to have several individual sessions with me, I may have inadvertently exacerbated the situation. Most obviously, because I could not reveal to the other students why I was giving extra tutorial sessions to one particular student posed the greatest dilemma. In this context, the dilemma has many facets. For example, a question of individual versus group learning is raised and learning in common culture versus peer-group pressure. By taking what I thought to be a positive approach however, may actually have led to additional problems and further obfuscate the issue thereby raising additional dilemmas. For example, by doing what I perceived to be the more appropriate course of action, which would have been to reveal the students condition to the class and explain why there should not be a stigma attached to dyslexia could make the situation more threatening because by revealing her dyslexia to the classmates could lower her motivation and self esteem, and therefore be unwilling to ask for guidance in the future. Upon reflection, I could have channelled her ability in some other way that would have adopted group learning.

Personal theory analysis and reflection

The term 'personal theory,' can be likened to a set of inherent rules that one holds that eventually informs one’s own professional judgement and therefore dictates the actual decisions made in the real world. It is an evolution of ‘dilemma identification,’ because the reason why one particular resolution is chosen over another enables identification of intrinsic values that underlie one’s professional judgement. The dilemma posed by my critical incident demonstrates a conflict between morals and rules. On the one hand I have a moral obligation to treat all the students equally. But on the other hand I am seen by the some students to be biased.

It is possible that my limited learning experience with dyslexic students misinformed my professional judgement relating to the most suitable course of action. At this stage of the analysis, I would therefore like to evaluate how the University of East London’s (UEL) and national disability policies have assisted in informing my professional judgement and adoption of inclusive practice.

How do UEL and national policies help dyslexic students?

As an educator, I firstly need to understand what dyslexia is rather than simply assuming that if a student is disabled they will need help with everything. In the context of the critical incident, it is therefore important to understand what dyslexia is. According to the national working party report proposed by Singleton (1999) on dyslexia in higher education, the definition of dyslexia is defined as:
“A complex neurological condition which is constitutional in origin. The symptoms may affect many areas of learning and function, and may be described as a specific difficulty in reading, spelling and written language.”

This definition was originally adopted from Balise et al. (1998) in which dyslexia was described as a language learning disorder that results in deficits in reading, spelling, and writing. Two recent reports by Savage (2007) and Aaron et al. (2008) expanded the study by Balise et al. (1998). These studies demonstrated that dyslexia does not affect the individual’s ability to work or their intelligence. In the context of the critical incident, what I did for the student goes way beyond what was actually required. I was not only correcting the students’ English but also advising on the scientific content of the essay. It is therefore possible that the student used her dyslexia to gain unfair advantage over the other students. Several policies both at the local and national level make adequate provisions for dyslexic students. The 2006/7 statistics suggest that were 1600 disabled students at UEL of which 816 are dyslexic (Eleanor Girt, personal communication, UEL). The ‘culture for success,’ strategy adopted in UEL learning and teaching strategy (2006 – 2009) has recognised the need for inclusive curricula and effective pedagogy to enable success of dyslexic students. In particular, this strategy has been very effective in ensuring that all the learning opportunities comply with the Special Educational Needs and Disability Act (SENDA) and the Disability Discrimination Act (DDA, 2005). In addition, UEL assessment policy (section 7) requires that the assessment needs of students with dyslexia be supported in compliance with the DDA act (2005) and the UEL disability and equality scheme (2006). Importantly, the assessment policy also complies with the quality assurance agency (QAA) codes of practice on students with dyslexia. This policy includes the whole set of QAA codes in the context of disability, and does not just focus on students with dyslexia.

The UEL and national policies have encouraged me to re-evaluate the fact that disability requires me as a reflective practitioner to make reasonable adjustments and develop inclusive practice. Together with the learning and teaching strategy (UEL) and the studies by Fuller et al. (2004); Sharp and Earle (2000), I can adopt several strategies to ensure that a dyslexic student is not disadvantaged or seen to be treated favourably. These include the provision of glossaries and lecture summaries early on in the module. In addition, copies of the presentation given to the dyslexic students before my lecture. A multi-sensory approach in the PowerPoint presentations has been adopted, for example, providing the relevant information visually in the form of diagrams and charts. Strategies have also been implemented for the practical components of the course, for example, giving extra help in numeracy and giving clear logical spoken instructions, reinforced by written instructions.

Discussion

The ideological critique, which is the final part of critical incident analysis will enables me to make rational and informed choices about my practice that relates to the incident. To begin with, my initial view of dyslexia was to ‘label’ it as a disability. Upon reflection, I had initially assumed this to mean that the intellect and the ability of the student was affected by dyslexia and therefore went beyond what was needed by helping the student in both her grammar and scientific reasoning. Thus it is the misinterpretation of the effect of dyslexia upon a student that is the underlying driver in this context. Equal opportunities legislation encourages the entry of disabled students into higher education but only if they are intellectually capable of achieving the learning objectives of higher education. The maintenance of academic standards in the admission and support of disabled students is enshrined in the Disability Discrimination Act (DDA, 1995). In one context if dyslexia is labelled as a disability it reinforces the notion that dyslexia is a recognised problem that hinders the learning of the student. From an ideological standpoint, it would, therefore, be assumed that dyslexia would prevent the recognition of the inherent talent of the student and thus the educational organisation and individual lose. At this
point, it is worthwhile to further reflect upon the accepted view of dyslexia within the higher education system.

**Perception of dyslexia in the higher education system**

In 1996, the higher education quality council (HEQC) published a report entitled ‘what are graduates? Clarifying what ‘graduateness,’ is. This paper reflects the accepted view held by academics and reviews the support available in higher education for students with dyslexia. To quote from this HEQC paper (page 7, paragraph 14):

“No one should graduate who lacks ancillary skills (grammatically acceptable English and certain level of numeracy); but there is anecdotal evidence that this can occur. If this is so, it is to be condemned – not least because the absence of such ancillary qualities will impede the exercise of those higher-level qualities that are regarded central to degree study.”

From such a view it can therefore be argued that the ability of the student to achieve ‘graduateness’ is hampered if the student has dyslexia and therefore the HEQC policy does not serve in dyslexic students’ best interests. In addition, information such as this can mis-inform my professional judgement because if the dyslexic student is unlikely to be associated with the term ‘graduate’ I will give the student the individual special attention in both grammar and scientific content correction even though it may not be in the student’s, or my, best interest. The quote from the HEQC paper is in contradiction to the principles of Special Educational Needs and Disability Act (SENDA, 2001) and subsequent guidance from the QAA. Unfortunately, it still may represent the viewpoint among some academics. To adopt an alternative perspective, it may be argued that by giving the dyslexic student special individual attention her peers would be motivated by such an act and would themselves achieve higher mark for the timed essay, however, this may inadvertently cause a paradox and present additional obstacles for both the student and me, for example, student bias and favouritism. Gibbs (1992) would argue that the majority of students are only interested in surface learning and that a deeper exploration is of little interest to them and thus questions if the extra tutorial sessions would be of actual benefit to the dyslexic student. On the other-hand, Brown and Glasner (1999) have proposed that most learners are strategic learners and in this context, the dyslexic student is only motivated in passing her assessment. These assumptions made by Brown and Glasner (1999) and developed by Galaburda et al. (2006) were focused on a medical approach to dyslexia. This ideology reflects the dominant view and itself causes tensions with other proposed models of dyslexia. Singleton (1999) suggested that the dominant medicalised paradigm of dyslexia hinders the learning of dyslexic students in higher education. I agree with the study by Singleton (1999); if dyslexia is perceived to be medicalised then a dyslexic student is seen as a subject for treatment and cure, and potentially less attention is paid to the social, environmental and economic factors affecting the student. Various studies have reinforced that medicalisation of dyslexia further confounding the learning of the dyslexic student (Barnes, 1991). The earlier work by Barnes (1991) laid the foundation for a social paradigm of disability. Shakespeare and Watson (2002) developed a model for disability, in which disability was seen as a form of oppression. From an educational standpoint, the focus therefore shifts from what is ‘wrong’ with an individual to barriers that prohibit his or her participation in higher education. Dyslexia, as with other learning associated disabilities, would in fact not at all be disabling if social, environmental and economic factors are balanced appropriately to facilitate the ‘disabled’ learner’s progress. It is pertinent at this stage to explore whether the labelling of dyslexia misinformed my professional judgement.

**Is the labelling of dyslexia disabling to the critical incident analysis?**

At present, there is adequate provision for dyslexic students in degree level education. This is the mainstay of the Disability Discrimination Act (DDA, 1995) which states that all higher education institutions are to publish a formal disability statement setting out policy and
provision in relation to disabled students. This act was extended to education from September 2002, following amendments introduced by the Special Educational Needs and Disability Act (SENDA, 2001) making it unlawful to discriminate against disabled applicants, potential applicants or students. In addition, SENDA was modified in 2005 by the Disability Equality Duty (DED) legislation which extends the duties of public bodies to promote disability and equality and requires the institution to publish a disability equality scheme, to be reviewed every three years. SENDA defines a disabled person as:

“A person that has a mental or physical impairment which has long term and adverse substantial effect on their ability to carry out normal day to day activities.”

In addition, the higher education funding council for England (HEFCE) has provided a detailed charter, which improves provision for disabled students (HEFCE, 2005) and supports institutions. During reflection in the process of analysing my critical incident, I came to realise that I had, labelled the student, which would have misinformed my inclusive practice. Upon reflection, I inadvertently stigmatised dyslexia and gave the student more help than what was warranted. This stigma attached to dyslexia should be taken into consideration in view of dyslexic students’ relationship to learning. It suggests that a subtle and covert conflict can arise that actually hinders their learning and disempowers them as (future) learners if the educator misinterprets their dyslexia.

The misinterpretation of dyslexia and the way I taught this particular dyslexic student is disabling in relation to the analysis of my incident. Section 7.2 of the UEL assessment policy is useful here in relation to the incident. I should not label a student but instead adopt an inclusive approach that supports him or her by creating an environment that responds to the learning needs of the student rather than focus on the deficit. By fostering this approach, I move away from labelling the dyslexic student and make my teaching inclusive. A recent study by Waterfield et al. (2006) has shown that labelling of dyslexia is a key element that hinders the ability of a student with dyslexia to learn. This ideology is underpinned by the QAA code of practice on students with disabilities and reinforces the view that:

“assessment and examination policies practice and procedures should provide disabled students with the same opportunity as their peers to demonstrate the achievement of learning outcomes.”

Despite these guidelines there appear to be competing tensions between QAA and disability policies. The QAA policy can be likened to a reductionist model, in which everything is compartmentalised and made transparent. The QAA policy ensures a fair assessment for every student, but the policy does not tell me how to make appropriate allowances and define what is meant as a ‘fair assessment.’ In comparison, the disability policies are interpretative and in the case of dyslexic students, it is often difficult to be transparent.

Conclusion

The methodological principles developed by Tripp (1993) and others were central to the analysis of the critical incident. The problematisation of pre-judged consciousness was integral to the analysis of the incident. By problematising the incident the critical analysis has been an empowering and supportive process. Having reflected critically about my incident, I realised that the way I helped the dyslexic student misinformed my professional judgment. In addition, I initially defined the problem in one (habitual) way. This prevented other factors, which would have helped to manage the situation, to be considered and therefore further misinformed my judgement. One example is correcting the scientific content of the essay, which causes other problems such as student favouritism and bias. Kolb (1984) proposes that learning arises from critical reflection upon experience. I was focusing on the disability and not on what the dyslexia warranted, which upon critical reflection misinformed my inclusive practice.
Having studied the UEL and local policies, the information suggested that educators make ‘appropriate allowances.’ It is unclear what this means and how one should implement ‘appropriate allowance’ into everyday teaching. Specific allowances are mentioned in university policies, for example, extra time in exams, but in terms of routine teaching, it is difficult to adopt the most appropriate course of actions, as there is limited guidance. In this respect, there is a need for the disability and dyslexia units to provide more instruction to staff, particularly new members of staff who may have limited amounts of teaching experience. Currently there is often a disconnect between disability support staff and academic staff in institutions. The higher education academy (HEA) produces practical guidance for academics (HEA, 2006). This was perhaps the most relevant document in terms of how I would implement appropriate allowances to everyday teaching. This document focuses mainly on the experiences of academics working with disabled students on undergraduate programmes. This approach has been adopted from the Premia Project (2008), which was a comprehensive study relating to disabled post-graduate students at Newcastle University. Based on these studies, to adopt inclusive practice, if I was considering giving a dyslexic student one extra week to complete an assignment, I would plan my deadlines so that the extra week is taken into account for all students. I would therefore offer the same adjustments to all the students. Would this solve the problem? Dyslexic students may then expect yet another extra week. Whilst the approach of modifying the course would be welcome for all learners, it may still be necessary for learners with specific needs to have adjustments that cannot be catered for by adjusting the general approach to teaching the whole cohort.

In summary, this paper describes the issues relating to teaching of dyslexic students in higher education and the potential of critical incident analysis as a useful tool for educators to navigate through the challenges that they may encounter.

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Editor’s note
Readers and teachers of dyslexic students may find the following resources useful;
www.techdis.ac.uk/getTeachingInclusively,
www.open.ac.uk/inclusiveteaching and
www.psychology.heacademy.ac.uk/networks/sig/
References


