

# DIFFERENT MODES OF DELIVERY — STUDENT OUTCOMES AND STUDENTS' PERSPECTIVES

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## ABSTRACT

This paper reports on a study of the effects of different modes of delivery. It bases its findings on an analysis of student outcomes from the national VET collection in six different discipline groupings and student responses to a questionnaire survey by 769 students from TAFE institutes in four states. It concludes that it is difficult to determine a direct relationship between modes of delivery and student outcomes. Also reported are students' evaluations of the effectiveness of the methods they have experienced and the problems they have encountered.

## About the study

This paper discusses the findings of a study that investigated the effects of various modes of delivery of instruction. These findings are based on an analysis of the data on module outcomes from the national VET collection for the different modes of instruction across six discipline groupings and student responses to a student questionnaire survey. These data are held by the National Centre for Vocational Education Research. Because the survey gathered information from only those students who had successfully completed their studies it was considered important to access information also on those students who had not completed their studies. The data on student outcomes provided this.

Data on student outcomes were extracted for the seven AVETMISS (Australian Vocational Education and Training Module Information Statistical Standard ) strategies (local class, remote class, self-paced scheduled, self-paced un-scheduled, external/correspondence, workplace experiential, mixed and other) in the discipline groupings of accounting, commercial cookery, computing, hospitality, civil engineering, and electrical engineering. A definition of each of these strategies appears in Appendix A.

Module outcomes in terms of Student assessed pass rates (SAPRs), Module Pass Rates (MPRs), Module Completion Rates (MCRs) were computed and analysed for all six discipline groupings. They were then grouped into bands of performance. Rates within discipline groupings which were within one, two or three percentage points of each other were placed into the same band.

The student questionnaire survey provided information on student age, level of education, distance from campus, learning preferences, ability levels and reasons for choosing a particular mode of delivery. It also provided information on students' with and evaluation of the delivery method via which they undertaken their studies. It was administered to on campus students during class or learning sessions and mailed to students studying via the external/correspondence method. Responses to the survey were analysed according to whether students had undergone training via traditional face-to-face delivery or flexible delivery. There were 769 students who responded to the survey. Just over half of the students had undergone training in a predominantly traditional face-to-face manner. The remainder had undertaken their studies mainly off campus or in a flexible on-campus situation. A basis for this distinction was provided by teachers of these students.

## Part 1 - Module outcomes

### NO ONE BEST STRATEGY

This analysis, has been unable to provide definitive answers as to which strategy needs to be put in place to best ensure consistent successes (in terms of student assessed pass rates, module pass rates and module completion rates) for all clients. These findings show that module pass rates for all but one of the strategies was generally high. In addition all strategies across all six disciplines were able to produce pass rates which were over 80% and all but one capable of producing pass rates over 90%. This means that it is difficult to determine which strategy will always provide the best outcomes for all students. However the external/correspondence delivery strategy consistently (although not

always) produced MPRs and MCRs which were below those of other strategies. A breakdown of these data for delivery strategies and for discipline groupings appears in appendix B.

## **THE PERFORMANCE OF THE EXTERNAL/CORRESPONDENCE DELIVERY STRATEGY**

The external/correspondence mode of delivery, although capable of producing module pass rates which were over 90% for one discipline grouping, consistently produced MPRs for other discipline groupings which were in some cases about half the rate of those produced by other strategies, and often well below the 50% mark. In addition the strategy also performed poorly in relation to other strategies when MPRs for different groups (males, females, part-time and full-time workers, and students of different age groups) were examined. A similar picture emerges for module completion rates. The external delivery strategy consistently produced completion rates which were generally below those produced by other strategies.

Why the external/correspondence delivery method performs so poorly in terms of module pass rates is in part explained by the substantial percentage of *withdrew-failed* outcomes included in the calculation of the MPR. In five out of the six discipline groupings about a third of the enrolments resulted in a *withdrew-failed* outcome. This is in contrast to the minimal numbers of such outcomes for most of the other delivery strategies. However the local class, and the self-paced scheduled delivery strategies also posted rates of withdrew-failed outcomes which, although only a fraction of those provided by the external/correspondence delivery strategy, were substantially higher than the remainder of the strategies.

When pass rates were computed by taking only student -assessed passes as a percentage of all assessments taken (including those in which students were assessed but had their results withheld) then a slightly different picture emerges. The external/correspondence strategy no longer produces very low rates as it does when a module pass rate is computed. Rather it operates similarly to other forms of delivery in that sometimes it finds itself in the top two bands and other times in the bottom two bands.

However the high rates of *withdrew-failed* outcomes that were associated with the external/correspondence mode of delivery continue to be a cause for concern. They alert us to some teaching, student learning and college administration issues that need to be considered.

## **THE RELATIONSHIP BETWEEN MODES OF DELIVERY AND OUTCOMES**

Although it is easy to analyse and rank outcomes of different delivery strategies in terms of pass and completion rates, it is more difficult to determine whether in fact there is a direct relationship between the strategy and the outcomes that are produced. Many other variables need to be considered. The delivery strategy is the means by which instruction is delivered and received. As such its success in delivering pass rates or completion rates is strongly dependent on those who are delivering the training and assessment as well as on those who are receiving the training and undertaking the assessment. Students produce pass and completion rates by putting in the time and effort to learn and to prepare for assessment. Teachers help students to produce pass rates by providing timely and appropriate support to students when they get into difficulties. This is why it is important to gather information on their experiences and evaluations of the method of training.

## **Part-2 Student evaluations**

This part of the study investigated the responses to a questionnaire survey by students who had undertaken training delivered via flexible delivery or traditional delivery strategies.

### **ABOUT THE STUDENTS**

Students in flexible delivery strategies tended to be older than students in traditional delivery strategies and more likely to be in full time work. Almost three-quarters of them lived between one and 15 kilometres from the campus. This was the case for just under half of the traditional delivery students. There were no major differences between the number of hours spent on their studies for the two groups with an average of between six and seven hours being allocated by both groups.

There were also no major differences between their educational backgrounds with more than three-quarters of students in both groups having completed year 12 and a substantial number of them had TAFE certificates. In addition an analysis of the self-ratings of flexible delivery and traditional delivery students on literacy, language, and problem -solving skills showed that there were no statistically

significant differences between the two groups on any of the skill areas. There were few students in both groups who rated themselves in the *below average* ranges of ability on any dimension. However, when only the *well above average* ratings were examined flexible delivery students were found to be far more likely to rate themselves as *well above average* in all cases apart from mechanical skills. An examination of the *below average* ratings showed that traditional delivery students were more likely to consistently rate themselves as *below average* at a slightly higher rate than were flexible delivery students.

## REASONS FOR CHOOSING METHOD OF DELIVERY

Flexible delivery students were more likely than traditional delivery students to indicate that their choice of method was lifestyle related. Traditional delivery students were more likely to indicate that they had chosen the method because it was the only method offered. Although the second most common reason for both groups was that the method was the most convenient this was the case for a substantially greater percentage of flexible delivery students than traditional delivery students. While almost a third of traditional delivery students chose the method because they felt it better helped them to understand the material, just under a fifth of the flexible delivery students gave this as a reason. There were no other major differences between the two groups. Very few students in both groups chose the method because it was less work, and about the same percentage chose it because it was an easier form of learning.

The reasons for students choosing to study via a particular delivery strategy may hold the key to understanding the differences in outcomes that are produced within the delivery methods. If flexible delivery students are selecting these methods because they suit their lifestyle and because they perceive them to be most convenient, then we can assume that their studies are not their first priority. This means that they may not choose to (or be able to put in the effort) to do the work required to understand concepts, complete necessary assignments, or prepare themselves sufficiently or adequately for assessments. In addition they may underestimate the time required for the completion or passing of the module. Their ability to pass or complete the modules then suffers as a result.

The study has found that external/correspondence students record the highest percentage of *withdrew failed* outcomes for all discipline groupings bar one. This provides one explanation for why the strategy tends to do so poorly in terms of module load pass rate. That is they do not fulfil the requirements of the course in time and then have to withdraw. However they also do not meet the deadline for withdrawal and so incur a fail. This provides one explanation for why the strategy tends to do so poorly in terms of module load pass rates.

There may be many reasons for students withdrawing from a course. However the reasons for them withdrawing from a course at a late date are not clear. One explanation could be that although they may commence the course with all the good intentions of putting in the time required to pass or complete it, these intentions may fall by the way-side as they try to fit in their other work and family commitments with study. These multiple commitments may lead to their running out of time to complete the assignments and prepare themselves for assessments. This lack of time and the frustration that may emanate from it, may then lead to a decision to withdraw from the course when it is too late to do so without penalty. If this is true for students who incur a *withdrew-failed* outcome then they may need to be made more fully aware of the problems associated with increased flexibility. Alternatively time management sessions should be included in the orientation workshops for all courses which are to be delivered in a flexible delivery format.

It may also be the case that students enrol in courses because they want the learning materials that accompany the course. That is they have no intention of completing the course. In addition they may also not be aware of the deadline for withdrawals from the course. Their reasons for enrolling in the course coupled with lack of information or awareness of the deadlines for withdrawals may then lead to a *withdrew-failed* outcome. If these explanations hold for substantial numbers of students who obtain a *withdrew-failed* outcome then a mechanism for identifying such students and dealing with them in a separate manner needs to be implemented at enrolment time.

## LEARNING PREFERENCES

The findings of this part of the study also provide an insight into the learning preferences of both groups of students. Flexible delivery students were far more likely than traditional students to indicate that they learnt best when studying individually with texts and study guides to help them, doing their own research and interacting on-line with a computer. Traditional delivery students were more likely to say that they learnt best from a lecturer in a traditional classroom, practising doing things in practical workshop, working on a problem with other members in a group, and looking at pictures or diagrams

which help explain concepts and processes. Students in both groups tended not to like learning by watching videos or listening to audio-tapes.

These findings show that students have generally chosen a delivery strategy that matches the way they prefer to learn. However when these findings are taken in conjunction with the information on student outcomes it seems that learning preferences may not have a strong bearing on students passing or completing a course. This is the case especially for external/correspondence students who in the majority of cases have the highest non-completion rates and the lowest module load pass rates.

If students are choosing to study via methods which accord with the way they prefer to learn, but are still not obtaining successful outcomes, then it may mean that more effort will need to be put into the provision of induction activities. However given that flexible delivery students were more likely than others to indicate that they were provided with substantial induction activities, some changes to the induction may need to be implemented. These changes may include activities which are aimed to assist students to better understand the problems that may occur with the different delivery options. Alternatively these changes could comprise increasing the amount and quality of interaction between students and teacher and other students. Another solution would be to counsel those students who have very full working and social lives and who want to take external/correspondence courses to be wary of this particular method if they are not prepared to structure time into their lives to complete assignments and prepare for assessments. Time management sessions which give students tips on how to organise their time to meet their study goals could also be included in sessions for introductory workshops.

## **PREPARATION AND SUPPORT FOR LEARNING**

This study has shown that flexible and traditional delivery students, generally valued the training they had undergone and believed that they had been provided with the assistance they required prior to commencing their studies as well as that required whilst completing their studies. This included the provision of study skills training, appropriate resources and equipment, teacher support, well planned and structured learning activities, and meaningful and appropriate assessment tasks. They were able to locate reference materials required for the preparation of assignments, and equipment required for the development of skills. In addition, the great majority had found it easy to follow study guides and texts, and access equipment and materials required for learning and developing skills.

This must be encouraging for teachers in the TAFE sector and especially for those providing studies in the specific modules considered in this study. It suggests that providers are taking the time to ensure that students are well prepared to commence their studies and have available to them the facilities and resources and support required to complete them.

## **PROBLEMS AND CONCERN**

The most common problems for flexible delivery students were making enough time to study and fitting in family obligations with study. For traditional delivery students they were completing assignments to deadlines, finding enough time to study, and following instructions for practical sessions. Few students in both groups found it difficult to access material or equipment required for their learning or to follow texts and study guides.

These findings show that students are generally not choosing to identify as problems factors which might be directly related to the delivery strategy itself. Rather they are looking at their own shortcomings in meeting course requirements. They are citing organisational difficulties like fitting in study time with their other commitments and making enough time to study. By their responses students have supported the thesis that delivery strategies on their own do not produce successful outcomes. That is, there are many other considerations that need to be taken into account when evaluating the effects of these different modes.

## **PERCEIVED ADVANTAGES OF THE DELIVERY METHODS**

When students reported the advantages of the particular method of delivery they had experienced in their course, flexible delivery students cited advantages which related to the flexibility that the method provided. That is, the flexibility it allowed them to self-pace their study program and the opportunity it gave them to fit in study times with work and family obligations. Frequently reported was the support that they had received by teachers and tutors. For traditional delivery students the most frequently

cited advantages related to personal contact with others. This included face-to-face contact with teachers and students, and the support received from teachers .

Where almost half of the traditional students cited improvements in knowledge and skill as a consequence of the delivery method, just over a tenth of the flexible delivery students reported these as advantages. However flexible delivery students were more likely than traditional students to cite advantages in terms of cost and time efficiencies.

These findings provide further insight into the reasons for students choosing to study via different methods of delivery. They show that the priority for flexible delivery students is to be able to juggle studies with other activities, while the priority for traditional delivery students is to be able to study via a method which allows them to have more personal contact with teachers. This could mean that for flexible delivery students their studies may not be a high priority. They may however be an important priority for those who have decided to choose a delivery strategy that requires them to put aside time to attend classes.

## **PERCEIVED DISADVANTAGES OF THE DELIVERY METHOD**

When students were asked to report any disadvantages they had experienced with the method of delivery used in their course, the most common disadvantage, identified by just under half of the responding flexible delivery students, related to interaction with others. They reported the lack of instant access to teachers when they were experiencing difficulties, and the lack of general interaction with other students and teachers. The second most frequently cited disadvantage had to do with personal issues such as the self-discipline required to get things done and the self-consciousness experienced by students in video-conferencing situations. For traditional students the most common disadvantage, identified by well over a third of the students, related to time pressures. Of these the most frequent was the lack of adequate time in the course to get things done.

Traditional delivery students were also slightly more likely to identify ineffective teaching processes as a disadvantage than were flexible delivery students. Flexible delivery students were more likely to identify difficulties in understanding materials than were traditional students. They were also more likely to talk about problems in accessing equipment after hours and up-to-date materials and equipment. This was particularly the case with those students dependent on the availability of computers and the smooth operation of inter-net facilities.

The disadvantages reported by students in both groups emphasise the importance of interacting with teachers and other students during the learning. Where flexible delivery students were concerned that they had little or no such interaction, traditional delivery students complained about the nature of their interaction.

This may explain in part why external/correspondence delivery students do so poorly in terms of module load pass rates and module load completion rates. Their frustrations at not being able to access teachers and other students especially when they are having difficulties may reduce their motivation for putting in the time to get work completed. Alternatively they may put off calling teachers for assistance until it is too late, and then give up when things appear too hard or overwhelming. A combination of all these influences may then cause their withdrawal from classes and consequently their failure to complete the course.

Although it would be difficult to ensure instant access to teachers when students are having difficulties whether they be external/correspondence or on-campus students, there are other mechanisms that can be put in place to address student frustration with lack of interaction. Workshops, which bring students and teachers together prior to the commencement and during the course, could be organised. This would have three major advantages. It would allow students to meet with other students to discuss similar problems. It will also allow students to get to know teachers so that they do not feel self-conscious about getting in touch with them when they are experiencing problems. Such workshops may have a residential component for students in rural areas or students who live in other states.

## **PERCEIVED EFFECTIVENESS - STUDENT EVALUATIONS**

Students were positive in their evaluations of the extent to which the method they had undergone had suited the content of the module and had been able to assist them to understand subject material, practise skills and complete course requirements. This provides us with a measure of students' perceptions of the effectiveness of the delivery strategy. Because there were no major differences

between the two groups in how they evaluated the effectiveness of the strategy on these dimensions we are not able to say on the basis of this data that either method was better than the other.

However, flexible delivery students were far less likely to say that the method allowed them to have ready access to instructors than were traditional students. Although not unusual, this finding provides us with information to compare the two groups. Ready access to instructors at the time of learning is one of the central differentiating factors between flexible and traditional delivery methods. It is what flexible delivery students trade off for the flexibility which comes with the freedom to choose when to study, where to study, what to study and how to study. It is important then to make them aware of the problems that can eventuate from these choices.

## STUDENT SATISFACTION WITH THE MODE OF DELIVERY

Flexible delivery students were more likely than traditional students to say that they looked forward to their study sessions, preparing for assignments and doing assessments. In addition they were also more likely to say that they would recommend this method of learning to other students. However older students in both groups appeared to look forward to study sessions to a greater extent than younger students.

Why flexible students should feel more satisfied with their method of delivery than traditional students may in part be explained by the increased role they had in choosing the method of delivery. Another may be that they have increased autonomy in the way they interact with the subject material, the pace at which they wish to progress, and their choice of study times and places. These may combine to make the learning experience a far more enjoyable one and contribute to their positive evaluations of the method and their own satisfaction with it.

However it is evident that this sense of enjoyment or satisfaction may not lead to better outcomes. One explanation for this contradiction may be that the flexibility which attracted students to a flexible method in the first place, may in fact be what hinders them in their accomplishment of goals. Flexibility in deciding when, where, how and what to study may in fact not be the best option for already busy people. It may be that busy people who want to pass and complete their studies require structure - that is a timetable for regular and predetermined periods for study. This is not to say that busy people who are prepared and are motivated to put in the time required to complete their studies should not take advantage of increased flexibility. What needs to be pointed out to all intending flexible delivery students is that absolute flexibility may not be the answer to successful outcomes for those who have busy lives. If this is the case for them then they might do well to choose a delivery strategy that affords some flexibility, but encompasses some structured time for learning.

## Conclusions

This study has shown that it is difficult to determine a direct relationship between student outcomes and the delivery strategy. However it has highlighted the low completion and high *withdrew-failed* rates of the external/correspondence delivery method. Information from the student survey has provided us with some possible explanations for why students may find difficulty with completing work or passing assessments. It has highlighted the advantages of flexible and traditional strategies and the problems that can occur when things go wrong.

What it has shown is that certain learning principles should guide the structure of the learning activity whatever the delivery method. These include clear instructions, opportunity to discuss problems or issues with teachers and peers, timely feedback and enough time to practice skills and meet requirements.

# APPENDIX A

## AVETMISS mode of delivery categories

### Category 01 – Local class

This category relates to classes held on a common campus in a local classroom situation. Students attend classes at scheduled times and are presented with subject material by a lecturer. The local organisation permits extensive interaction between lecturer and students.

### Category 02 – Remote class

This category differs from local class organisation only in that the students are located in one or more remote sites, connected by some form of communications system (such as video conferencing or teleconferencing). The strategy is generally used to extend the classroom to students for whom attendance at the main site is not practical. Interaction between lecturer and students is dependent on the technology employed.

### Category 03 – self-paced –scheduled

This category relates to self-paced learning. This refers to scheduled class organisation in which the learning is directed through self paced materials with assistance available from a tutor. Students attend classes at scheduled times and progress at their own pace using print-based or computer-oriented materials. Typically, assessment is on demand and is often competency-based.

### Category 04 – self-paced – un-scheduled

This category relates to a form of self-paced learning in which the students has a variety of learning options. Attendance on campus is usually required only for guidance and progress monitoring, though there are typically substantial resource materials available on campus for students. Learning resources are essentially the same as those available under conventional self-paced learning. The term open learning is often associated with this delivery strategy.

### Category 05 – external/correspondence

This category relates to distance learning. It includes standard correspondence learning in which the students receive materials and assignments by post. Learning is directed by structured learning materials and is effectively self-paced. Communication between tutors and students is primarily in printed form via the mail system.

### Category 06 – workplace/experiential

This category relates to experiential learning and on-the-job learning. It will generally incorporate some degree of informal instruction as well as workplace experience.

### Category 07 – mixed delivery

This category relates to situations where more than one delivery strategy is used to deliver substantial components of a single module. For example, if a module offering combines local class delivery and regular workplace experience to present essential material to the client, then it should be classified as mixed delivery.

### Category 90- other delivery strategies

This category includes any category which is not described in the first seven categories above. It should not be applied if any of the categories 01 – 07 offers a reasonable description of the main form of delivery strategy in use.

# APPENDIX B

## Student outcomes

The following AVETMISS outcomes have been used in the calculation of various rates module pass rate (MPR), student assessed pass rate (SAPR), and module load completion rate (MCR).

- Students assessed - passed (01)
- Students assessed failed = (02)
- Student assessed - results withheld = (03)
- No assessment – satisfactory completion of class hours = (04)
- No assessment – studies not yet completed (05)
- Status (or credit) granted through recognition of prior learning (06)
- Status (or credit granted) through credit transfer arrangements (09)
- Withdrew without failure (10)
- Withdrew – failed (11)
- Withdrew – transferred (12)
- Not stated (90)
- Unknown

**Formula for Module Pass Rate:  $MPR = 01 / (01+12+O11) \times 100$**

### Module Pass rates by delivery strategy and discipline grouping

Delivery Strategy	Accounting	Commercial Cookery	Computing	Hospitality	Civil Engineering	Electrical Engineering
Remote	98.0	90.2	92.3	94.1	100.0	84.4
Workplace/experiential	91.0	89.3	97.3	96.0	92.3	87.7
Mixed	90.4	81.1	92.6	89.3	99.1	92.8
Other	89.1	91.9	91.8	90.9	85.7	97.3
Self-paced scheduled	88.2	95.5	83.7	91.8	87.5	74.8
Self-paced un scheduled	85.3	97.5	88.3	100	96.6	93.3
Local	80.1	87.2	84.2	85.6	82.4	79.1
External/correspondence	43.7	90.1	44.2	54.1	40.5	47.5

**Formula for Student Assessed Pass Rate:  $(SAPR) = 01 / 01 + 02 + 03 \times 100$**

### Module assessments by pass outcomes for all delivery strategies

	Accounting	Commercial Cookery	Computing	Hospitality	Civil Engineering	Electrical Engineering
	Pass rate %	Pass rate %	Pass rate %	Pass rate %	Pass rate %	Pass rate %
Local class (Face to face)	85.4	90.5	89.5	87.7	86.3	84.2
Remote Class	99	88.3	78.4	82.7	100	83.9
Self-paced (scheduled)	84.2	92.3	88.6	86.4	92.2	80.8
Self-paced (unscheduled)	86.6	*97.5	75.9	84.1	91.8	100
External/Correspondence	81.0	80.1	91.1	89	97	84.7
Workplace/Experiential	99.5	91	98.8	93.5	*92.3	86.2
Mixed	92.9	78.2	94.8	92.1	99.1	81.5
Other	78.7	81.9	84.7	84.2	42.1	94.5

\* Denotes assessment numbers less than 50. Caution should be taken in interpreting these figures.

**Formula for module completion rate:  $MCR = 01 + 04 / (01 + 02 + 03 + 04 + 10 + 11 + 12) \times 100$**

### Module completion rates according to discipline groupings and delivery strategy



Delivery Strategies	Discipline groupings					
	Accounting	Cookery	Computing	Hospitality	Civil Eng	Elec Eng
Remote class	92.5	81.6	82.0	81.3	100.0	78.2
Workplace/experiential	88.4	72.6	94.1	85.2	85.7	84.7
Local	80.1	82.1	78.9	80.9	78.9	74.4
Other	79.0	78.3	82.9	80.1	85.7	93.4
Mixed	78.7	67.8	87.4	76.9	95.3	91.8
Self-paced scheduled	77.9	90.2	79.5	82.5	86.1	71.3
External/correspondence	41.4	75.8	43.5*	51.2	40.2	46.4
Self-paced un-scheduled	6.0	100	66.9	78.8	88.9	86.8

\* Denotes enrolment numbers less than 50. Caution should be taken in interpreting these figures.