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Abstract:-
In a research project completed in 2001, factors that supported New Zealand bakery apprentices in completing their National Certificate at level 4 qualifications were investigated. One of the discussion points that arose from the above project, was the impact that Modern Apprenticeship Coordinators could have on apprentice completion. This paper provides information on the Modern Apprenticeship Scheme in New Zealand and discusses the impact this scheme has had on apprentice completion since its implementation in 2001 (as it applies to the NZ Baking Industry).

Introduction:-
In the paper presented at last year’s NCVER conference on the importance of employer support towards apprentices completing their National Certificate qualifications at level 4, the advent of Modern Apprenticeship Scheme (MAS) in New Zealand was proposed as one avenue to offer support to both apprentices and employers in completing workplace based qualifications and assessments (Chan, 2002).

Since the changeover from Trade Certificate qualifications (which required the apprentice to pass practical assessments at block courses and end of year external written examinations), to the unit standards based National Certificate in Food Production – Craft Baking (level 4) (which require the completion of on-job assessments, block course assessments and correspondence course assessments), the number of apprentices in the baking industry has decreased dramatically from a Trade Certificate completion rate of 76% (1994 to 2000) to 25% (2001 and 2002) completion of the National Certificate at level 4.

This paper describes a study made of the unit standard credits completion rates of year 3 apprentices (who began their apprenticeships in 2000) and compares them to the unit standard credits completion rates of a group of apprentices (who began their apprenticeships in the 2001 calendar year) who have been assigned a Modern Apprenticeship Coordinator.

Modern Apprenticeships began through the implementation of a six-month pilot established by Skill New Zealand from July to December 2000 in 17 industries. The bakery industry was not represented in the 17 industries chosen for the pilot but in 2001, after the successful implementation of the pilot scheme, the NZ baking industry became one of the industries taking part in the MAS.

From a start of 500 Modern Apprentices in February of 2001(Skill New Zealand 2001), the scheme now (June 2003) supports the training of 5100 apprentices in 28 industry areas (Tertiary Education Commission, 2002).

The New Zealand MAS differs from the Modern Apprenticeships set up in the United Kingdom and the New Apprenticeships set up in Australia. One of the main differences in New Zealand is that the NZ government funds ($NZ2200 per annum per modern apprentice) Modern
Apprenticeship Coordinators (MACs) who act as brokers, mentors and advocates for apprentices. Funds are not paid to the employer (as it is in Australia) but to the MAC for each apprentice taken on to the scheme.

The role of the MAC as set out in the MACs Manual (Skill New Zealand, 2000) include:-
- Offering services to potential or employed Modern apprentices and employers in order to assist in the setting up, retention and completion of Modern apprenticeships.
- Assist in the recruiting and screening of potential apprentices.
- Liaise with employers, ITOs and training providers, and support the employment relationship.
- Undertake local marketing and promotion in schools and with employers and apprentices.
- Provide support in completing the qualification including liaison, developing training plans, and supporting the integration of on and off job training and assessment.
- Visit each employer and Modern apprentice at least once every quarter and more often if required.
- Facilitate opportunities for Maori & Pacific Islands young people.

MACs may be Polytechnic tutors, industry consultants, industry suppliers (of equipment or materials), private training providers or Industry training organisations (ITO). In Baking, MACs include one polytechnic tutor, one private provider coordinator, one consultant (in Engineering), a Maori training trust and an affiliate to the ITO. MACs are audited by Skill New Zealand (now devolved into the Tertiary Education Commission (TEC)).

Modern apprentices must be within the 16 to 21 years old age range and signed up into a training agreement with an employer and an ITO.

This paper details a research project to find out the effectiveness of MACs (based on unit standard credits completed) in assisting bakery apprentices in completing their National Certificate qualifications at level 4.

**Literature review**

Two recent Australian studies on apprentice retention and completion (Harris, Simons, Symons & Clayton, 2001 & Callan, 2001) highlight the need for support networks to be in place or established to assist in better retention and completion for apprentices. In the report by Harris et al. (2001), support networks (in the form of family, partners, friends), supportive workplace supervisors and managers and supportive workplace culture were mentioned as factors that help contribute to retention and eventual completion of apprenticeships. Callan (2001) also summarized reasons for apprentices not completing and these reasons included not getting along with their employer, poor quality on the job training and the employer or supervisor not being skilled to provide the training required.

Employer or supervisor support and receptiveness to training is therefore an important attribute that is seen by apprentices to help them eventually learn their trade and qualify with a recognized trade qualification.

Smith (2001) reviews research that indicated that learners in the workplace and workplaces themselves were mostly unprepared for independent and self directed learning. He recommends that strategies be put into place to better prepare the learners themselves (by developing learner preparedness), to develop training policies and structures that help support the learner and to also prepare the training personnel for their role as trainers, mentors and counselors.
Billett (2001) also advocates that guided learning in workplaces produces better learning outcomes and provides suggestions as to how to manage and organize workplaces better so that guided learning at work may be enabled to take place more efficiently.

The MAS in New Zealand could be seen to provide some aspects of support to the learner in that the MAC provides support to the apprentice and acts as an advocate in the workplace for the apprentice. This research is to find out how effective (from a unit standards credits completion point of view), MACs have been in assisting bakery apprentices complete their qualifications in one region of New Zealand.

Research Method
A comparative study of the number of unit standard credits completed was made of 2 groups of apprentices.

Group 1 (non MAC group) were apprentices who had begun their apprenticeships before Dec. 2001 (3 had commenced in 1999, 8 in 2000 and 11 in 2001) and were into their third or fourth year of their apprenticeship. These apprentices were attending their last two week block course at Christchurch Institute of Technology (CPIT) in May or June 2003. Since MAS was applied to bakery apprentices from 2001, all of these apprentices did not have MACs.

Group 2 (MAC group) were apprentices into their second year of apprenticeship and were all coordinated by a CPIT tutor. Although CPIT looks after 22 modern apprentices, only the data from modern apprentices who were signed up in 2001 was used. (Start dates of apprenticeships range from 26th July 2001 to 13th Dec. 2001)

Data for the comparative study was provided from each group in the following way:-
Group 1 results and progress were obtained from the New Zealand Qualifications Authority (NZQA) Record of Learning of each of the apprentices (printed out beginning of June 2003).
Group 2 results and progress were obtained from the records held by the CPIT MAC of each student's progress (printed out on the same day as the above records).

Student profiles of each group are:-
Group 1 – 22 apprentices, of which 1 is female and 2 are non-European (1 Pacific Islander and 1 Maori). All of the apprentices come from the North Island except for 8 South Islanders.
Group 2 – 10 Modern apprentices, of which 5 were female and 2 are non-European (1 Pacific Islander and 1 Maori). All of these apprentices work & live in the Canterbury area (from Ashburton to Kaikoura), with the majority coming from the Christchurch urban area.

In order to complete the National Certificate in Baking at level 4, 279 credits need to be completed, of these, 49 credits are compulsory (mostly generic unit standards on food safety, communications and literacy / numeracy plus some of the correspondence and all the block course unit standards), 150 to 230 come from industry specific unit standards (i.e. baking, food) and a possible 80 may be from non-industry specific unit standards.

A comparison was then made of the number of unit standard credits completed by each group of apprentices.
In order to obtain a clearer picture of completion of unit standards, the unit standards were placed into the following categories:-
- **Generic unit standards** – the unit standards on health and safety, food hygiene, first aid, communications and mathematics are included in this category.
- **Workplace based unit standards** – unit standards on the production of bakery products were included here. These unit standards are taught and assessed in the workplace.
• Correspondence course unit standards – the underlying knowledge of baking unit standards are offered via a text based correspondence course (and from 2002, as e-learning delivery).
• Block course unit standards - these unit standards are taught and assessed when apprentices attend block courses. Level 4 apprentices attend 2 weeks of block course a year over 3 years. ( A total of 6 weeks in total)
• Other unit standards – some apprentices have accrued unit standards at school (usually level 1 and 2 units) or while undergoing other training. Some of these unit standards may be used as electives by the apprentices to make up the total number of credits required to complete their National Certificates. However, if these unit standards have been used to complete another qualification, they may not be used again to complete the Baking National Certificate.

Results
Results are tabulated in the following table

<table>
<thead>
<tr>
<th>Total credits completed in each unit standard category by each group of apprentices</th>
<th>Group 1</th>
<th>Group 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Generic</td>
<td>Workplace</td>
</tr>
<tr>
<td>Group 1 Stage 3 apprentices (total 22)</td>
<td>67</td>
<td>320</td>
</tr>
<tr>
<td>Average credits</td>
<td>3.04</td>
<td>14.5</td>
</tr>
<tr>
<td>Group 2 Modern apprentices (total 10)</td>
<td>72</td>
<td>352</td>
</tr>
<tr>
<td>Average credits</td>
<td>7.2</td>
<td>35.2</td>
</tr>
</tbody>
</table>

Findings are summarized below:-
In group 1,
• 2 apprentices were close to completing their National Certificates.
• 3 apprentices have completed their correspondence courses.
• 3 apprentices have not completed all the compulsory block course units.
• 2 apprentices have not completed any unit standards apart from the block course unit standards.
• 9 apprentices have completed none of the workplace unit standards (but have completed some of their correspondence course and their block course unit standards).
• 6 apprentices have completed other unit standards, credits completed ranged from 6 to 57 and included unit standards in outdoor recreation, computing, horticulture, agriculture, electrical technology and word processing.

In group 2,
• 2 apprentices have not completed any unit standards.
• Only one apprentice has completed some correspondence course units.
• Overall, 9 apprentices have completed between 15 to 98 workplace based assessed credits.
The majority of apprentices who have been assigned a MAC have completed more unit standard credits than apprentices who have not had the support of a MAC. This is the case even when it is considered that the apprentices without a MAC (Group 1) have had (on average) served at least a year longer in their apprenticeships than the apprentices with MAC support (Group 2).

**Discussion**

The availability of a MAC to help apprentices organize their training and assessments has provided the need for structure amongst young apprentices who are perhaps unused to the principles of flexible and self-directed learning. The MAC has to set up a training plan with each apprentice at the start of their apprenticeship and then visits the apprentice at least four times a year to ensure that the training plan is being followed. The MAC helps the apprentice by organizing workplace assessors, workplace assessments and enrolment in the appropriate correspondence courses. They are also able to mediate when there are problems between the apprentice and the employer and basically offer the support often required for a young person to ‘stick on with’ the apprenticeship when the going becomes difficult.

Within the context of building up a community of practice (COP) (Lave & Wenger, 1991) as related to nurturing young people into the baking industry, MACs may be playing a role as a catalyst in bringing the information about the relatively new unit standards based National Qualifications into the workplace. A COP evolves through various stages (as proposed by Wenger (1998)). The first stage involves the community finding that there is potential for a COP to be formed. The existing Baking Industry community in New Zealand has perhaps not arrived at the stage of putting a great deal of importance into ensuring that a COP is built up that revolves around the procedures for certifying the apprentices in their industry (or they are still entrenched in the old COP that existed around the Trade Certificate qualifications). The ITO has had to try to build up a new COP for the new qualifications and this has been a difficult task for them as they are peripheral members of the Baking Industry itself. MACs might therefore be the vehicle that introduces the Baking Industry to the idea that a new COP has to be formed to support the process of ensuring that apprentices in the NZ Baking Industry have the opportunity to complete their qualifications.

However, the availability of a MAC in assisting apprentices and employers might allow both the apprentice and the employer to abrogate much of the responsibility for learning and understanding the qualification system away from themselves, possibly again delaying the formation of the emergent COP that revolves around the certification of bakery apprentices. The MAS has been extremely popular in New Zealand and the number of apprentices assigned a MAC has grown significantly over the last 2 years. There are indications that a cap (by TEC on the total of Modern Apprentices that it is able to support) will be placed on the numbers of apprentices assigned a MAC and if this happens, some apprentices who are eligible for MAC support might miss out. It will be interesting to follow up on what happens to apprentices who miss out on MAC assistance if this scenario occurs in the near future.

The need for personal engagement by apprentices is also an important factor to be considered. Two of the apprentices assigned with a MAC have to date still not completed any unit standard credits. Further investigation might help reveal the motivational level of these apprentices or other factors that might be beyond the apprentices’ or MAC’s control. MACs are therefore by no means the only difference between apprentices completing and not completing a qualification. However, they are providing many apprentices with the support and organization required to complete their qualification within the NZ bakery industry context.

It is also noted that there are more female apprentices in the MAC assisted group (Group 2) than in the group of apprentices who have not had MAC assistance (Group 1). Although female apprentices make up a minority of the total apprentice numbers (usually 15% of each cohort), their completion rate thus far has been higher than for their male counterparts (CPIT
records of results). Group 2’s higher completion figures for unit standard credits might be skewed by the fact that group 2 was made up of 50% females compared to group one’s 4.5% female contribution.

Conclusion
The MAS has made major inroads into ensuring that young trades based apprentices receive support towards the completion of their unit standards based National Certificate qualifications. Apart from the support provided to apprentices and employers in working their way through a new qualification structure, many other intangible qualities are entwined into the MAS role. The MAS provides the apprenticeship with mentoring and role models workplace assessment procedures to employers and workplace supervisors. The requirement that MACs have face to face contact with apprentices four times each year, provides impetus for the apprentices and their employers to complete tasks that have been placed into the apprentices’ activity plan and quarterly review sheet.

Within the NZ Baking Industry, completion rates of apprentices have certainly improved with the advent of MACs. TEC audits MACs to ensure that they are fulfilling their obligations to the apprentices they are assigned to assist. It will be interesting to repeat this comparative study (of all bakery apprentices who are programmed to complete in 2005) to see if final completion figures for MAC assisted apprentices supercedes the completion figures of the ‘old’ Trade Certificate Qualifications.

Bibliography


