CHAPTER 4

4. RESULTS AND DISCUSSION

4.1 Introduction

In this Chapter the gathered data is ordered, analysed, presented and discussed.

Reporting on the findings is as follows:

➢ Demographic profile of the supervisors and students in the sample:

Demographic data of supervisors

Demographic data of students

Geographic placement of participants

Demographics summary

➢ Grades students obtained in their practical exam for their clinical reasoning skills

➢ Comparison of students' grades in the practical exam with the following:

The IPA of the supervisors.

How the students experienced the nature of their relationship with the supervisors.

The supervisors' feedback style as acquired through focus groups and one-on-one interviews.

The grades students received from their supervisors for their clinical reasoning skills in the WHR.

The comments that the students received from their supervisors in the WHR.

Students' general academic performance.

➢ Triangulating for typical profiles of supervisors with high, medium and low performing students.

➢ Identification and discussion of the most effective supervisory profile for the fieldwork education of students.

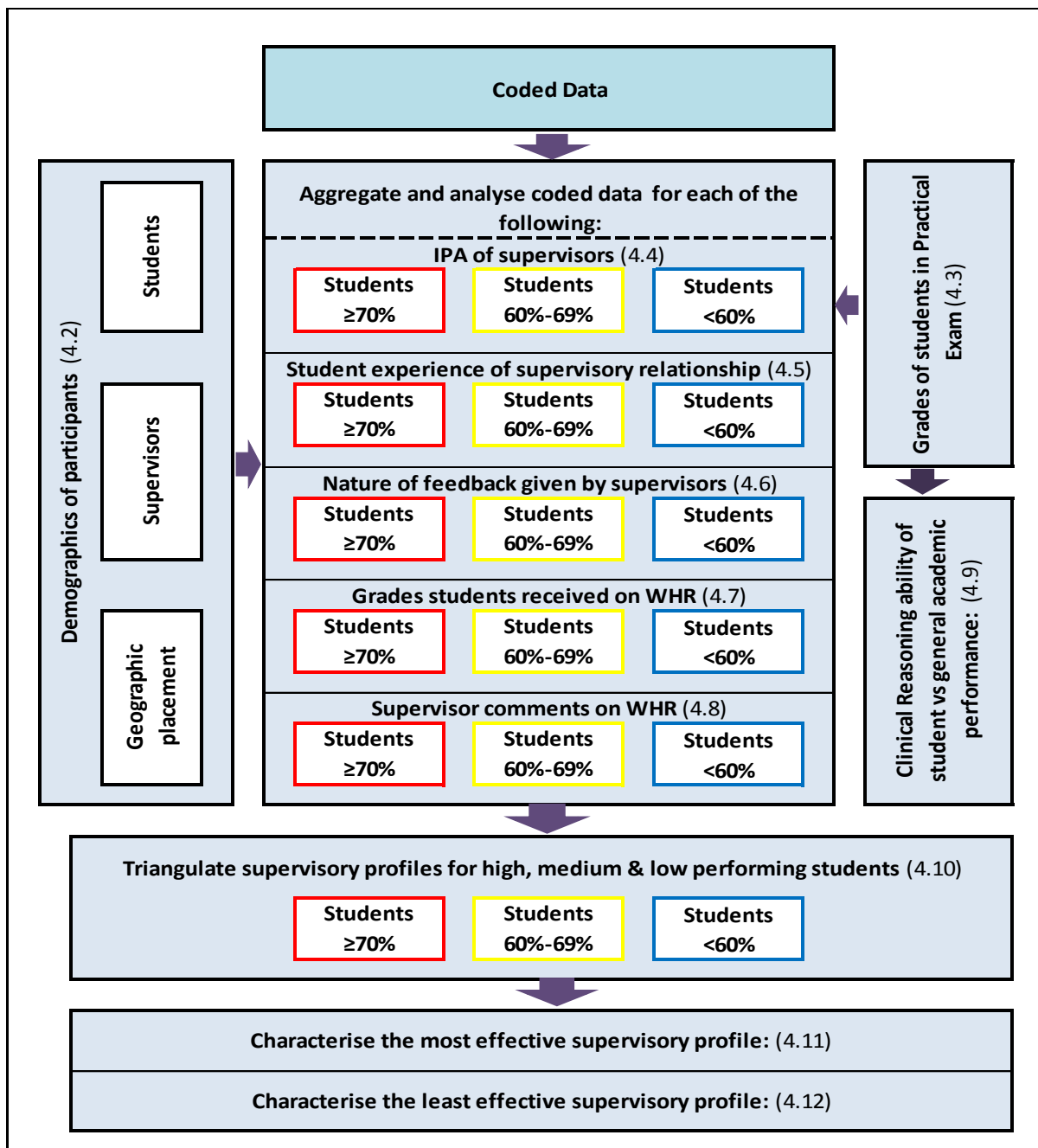A graphic process view of the above is given in Figure 4-1: Analysis and presentation of results.

Figure 4-1: Analysis and presentation of results

4.2 Demographic profile of the supervisors and students in the sample

4.2.1 Demographic data of supervisors

Demographic information about the 19 supervisors involved in the study is set out in Table 4-1: Demographic information about the supervisors included in the study in terms of workplace, gender and distribution of race and age groups.

Table 4-1: Demographic information about the supervisors included in the study

Demographics		Frequency	Percentage
Workplace	State hospital	12	63.2%
	Private hospital	7	36.8%
Gender	Female	19	100%
Race	African	1	5%
	Asian	3	16%
	Caucasian	15	79%
Age	23-24	3	15.8%
	25-30	11	57.9%
	31-40	4	21.1%
	41-65	1	5.3%

Although all 19 supervisors from the placement hospitals were recruited for the study, only one Asian and 15 Caucasian supervisors gave their written consent to participate in the one-on-one interviews and focus groups.

All the supervisors therefore did not participate in all aspects of the study; although student feedback on all of the supervisors is available, feedback from supervisors were not available for all students and IPAs were done on only 14 of the 16 that consented. Specific participation in each element will be identified in presenting the results.

4.2.2 Demographic data of students

The class of final year students in 2007 consisted of 36 students of whom three were African. As the study already incorporated a number of variables influencing the results, it was decided to eliminate cultural differences and the participation was thus narrowed to incorporate only one racial group. Only 30 of the remaining 33 Caucasian students consented to participate in the study.

Demographic information about the 30 students who participated in the study is depicted in Table 4-2 in the same order as those of supervisors in terms of fieldwork placement, gender, race and age.

Table 4-2: Demographic information about the students included in the study

Demographics		Frequency	Percentage
Workplace	State hospital	20	66.7%
	Private hospital	10	33.3%
Gender	Female	30	100%
Race	African	0	0%
	Asian	0	0%
	Caucasian	30	100%
Age	≤23	24	80.0%
	24-26	5	16.7%
	>26	1	3.3%

4.2.3 Geographic placement of participants

As shown in Table 4-3: Geographic placement of participants, students did their practical fieldwork in one of three block periods through the year at 6 hospitals of which 2 were private and 4 state-owned.

Table 4-3: Geographic placement of participants

Student	Block	Hospital / Supervisor																		
		I					II						III		IV		V		VI	
		Private					State						St.		St.		St.		Priv.	
									Z	ZZ				C						
		O	H	X	A	G	B	Z	Z	Z	F	P	C	C	D	E	L	Q	M	N
f	2						x	x		x		x								
r	3														x	x				
d	1														x	x				
ee	2	x	x																	
n	3	x	x	x																
nn	3	x	x	x																
t	3																		x	x
dd	1														x	x				
ff	2						x	x		x										
ppp	3						x	x		x		x								
b	1						x	x	x		x									
rr	3														x	x				
bbb	1						x	x	x											
aa	1	x	x		x	x														
a	1	x	x		x	x														
e	2	x		x																
cc	1												x	x						
c	1												x	x						
gg	2														x	x				
s	3																	x		
fff	2						x	x		x										
ccc	1												x	x						
cccc	1												x	x						
ss	3																	x		
h	2																x			
hh	2																x			
g	2														x	x				
tt	3																		x	x
j	2																		x	x
jj	2																		x	x

4.2.4 Demographics summary

Six hospitals, two in the private sector and four in the public sector, were used for fieldwork education.

Of the 19 supervisors who participated in this study, 12 were from state hospitals and seven from the private sector. Fifteen supervisors were white, one Asian and one African. All 19 supervisors were female. Their age groups ranged from 23 to 63 with nearly 74% being below 30.

The 30 students included in the study were all Caucasian and from the same university. Twenty were placed at state and ten at private hospitals with an average of five students per hospital. All the students were female and their ages ranged from 22 to 35 years.

4.3 Practical examination of clinical reasoning skills

The average grade obtained in the practical exam was 64.1% with a standard deviation of 7.78%.

Table 4-4: Grades obtained by the students in the practical exam

No	Student	Practical Exam
1	f	77
2	r	77
3	d	76
4	ee	73
5	n	73
6	nn	73
7	t	71
8	dd	71
9	ff	70
10	ppp	70
11	b	68
12	rr	67
13	bbb	66
14	aa	66
15	a	63
16	e	63
17	cc	62
18	c	61
19	gg	61
20	s	60
21	fff	60
22	ccc	58
23	cccc	57
24	ss	57
25	h	57
26	hh	57
27	g	55
28	tt	53
29	j	52
30	jj	48
Average		**64.07**

Students who obtained grades in the 70% range were regarded as innovative in their ability to reason clinically. Those who obtained grades in the 60% range were regarded as having a good comprehension of patients' problems and in applying

intervention strategies. The students whose performances were regarded as satisfactory in having insight into patients' problems and in applying intervention strategies obtained grades in the 50% range. The student whose basic insight into patients' problems was inadequate and who consequently applied deficient intervention strategies failed with a grade of 48%. The distribution of average grades obtained is considered reasonable and is shown in Figure 4-2: Frequency distribution of Practical Examination scores.
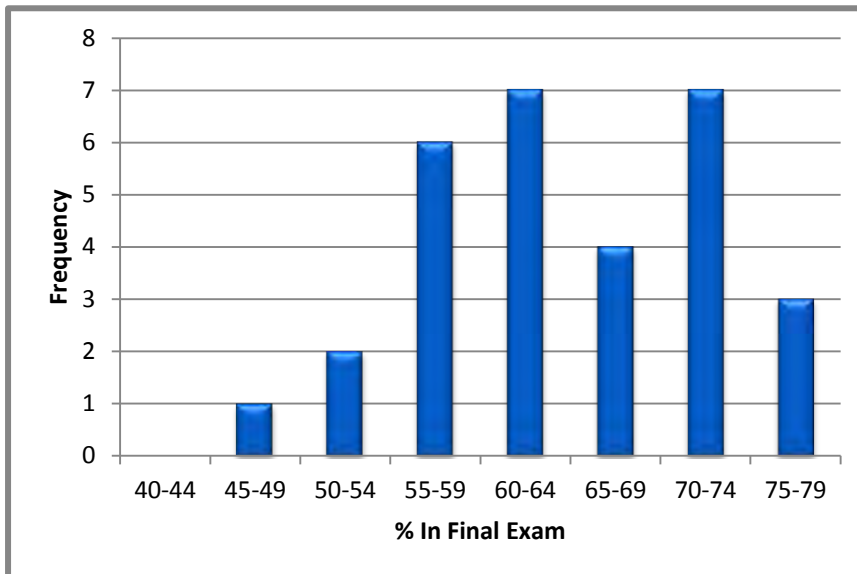
Figure 4-2: Frequency distribution of Practical Examination scores

Table 4-5: Average exam grade obtained by students in each fieldwork block shows that block 1 was close to class average, block 2 was 3.8% under class average and block 3 was 2.2% higher than class average, probably due to its proximaty to the exam.

Table 4-5: Average exam grade obtained by students in each fieldwork block

Average grade obtained in exam by students in each block		
Average exam mark of students in block 1	**64.8**	**%**
Average exam mark of students in block 2	**61**	**%**
Average exam mark of students in block 3	**67**	**%**

4.4   Interpersonal Pattern Analysis (IPA) of supervisors

Of the 16 variables of the IPA that was performed by the psychologist on those supervisors whose students obtained grades in the 70% range, five variables were identified as relevant for the study. They were the following:

- ➤ Approach in terms of being circular or linear

- ➤ Level of empathy

- ➤ Degree of interpersonal flexibility

- ➤ Problem solving skills

- ➤ Confirmation

These five variables were determined for 14 of the 16 supervisors that consented to participate in the study as shown in Table 4-6: Interpersonal Pattern Analysis of supervisors.

Table 4-6: Interpersonal Pattern Analysis of supervisors

Supervisor		O	H	X	A	G	B	F	P	C	D	E	L	M	N
Approach	**Circular**		x		x	x				x	x		x		
	Partial							x						x	x
	Linear	x		x			x		x			x			
Level of empathy	**Emphatic**		x		x	x				x			x		
	Partial							x			x			x	x
	Judgmental	x		x			x		x			x			
Degree of flexibility	**Flexible**		x		x	x				x	x		x		x
	Partial	x						x						x	
	Rigid			x			x		x			x			
Problem solving	**Solve**		x	x			x	x		x		x	x		x
	Partial				x				x		x			x	
	No	x				x									
Confirmation	**Give**		x		x	x				x	x		x		x
	Partial give							x				x			
	Limited	x		x			x							x	

Comparison of the grades obtained by students in their practical exam with the IPA of their supervisors is done by aggregating the IPA of supervisors of students in the

4.4.1 Interpersonal Pattern Analysis of supervisors with high performing students

The five variables of the IPA performed by the psychologist on nine of the ten supervisors who played a significant role in the fieldwork education of those students who obtained grades in the 70% range and who participated in a focus group or a one-on-one interview, or both, is set out below.

Table 4-7: Interpersonal Pattern Analysis profile of supervisors with students in the 70% range

SUPERVISOR		O	H	X	B	P	D	E	M	N	Total 9	%
Approach	Circular		x				x				2	22%
	Partial								x	x	2	22%
	Linear	x		x	x	x		x			5	56%
Level of empathy	Emphatic		x								1	11%
	Partial						x		x	x	3	33%
	Judgmental	x		x	x	x		x			5	56%
Degree of flexibility	Flexible		x				x			x	3	33%
	Partial	x							x		2	22%
	Rigid			x	x	x		x			4	44%
Problem solving	Solve		x	x	x			x		x	5	56%
	Partial					x	x		x		3	33%
	No	x									1	11%
Confirmation	Give		x			x	x			x	4	44%
	Partial							x			1	11%
	Limited	x		x	x				x		4	44%

Table 4-7: Interpersonal Pattern Analysis profile of supervisors with students in the 70% range shows the number and percentage of therapists in the selected group exhibiting specific IPA traits. However, as students could have more than one

supervisor and supervisors multiple students, depending on the supervisors' workload and circumstances at the hospital, the actual exposure of the group of students to the individual supervisors was unequal. A weighted average IPA profile for the supervisors involved was therefore also calculated based on the exposure to the individual supervisors as actually experienced by the students. In most cases the difference in outcome was slight, but the weighted average IPA is deemed to be the more accurate of the two.

Table 4-8: Weighted average IPA profile for supervisors with students in the 70% range

IPA VARIABLE	CATEGORY	PROFILE
Approach	Circular	28.6%
	Partial	9.5%
	Linear	61.9%
Level of empathy	Emphatic	14.3%
	Partial	23.8%
	Judgmental	61.9%
Degree of flexibility	Flexible	33.3%
	Partial	19.0%
	Rigid	47.6%
Problem solving	Solve	57.1%
	Partial	28.6%
	No	14.3%
Confirmation	Give	42.9%
	Partial	14.3%
	Limited	42.9%

i. Approach

Of the nine supervisors, two (22.2%) had a circular approach, two (22.2%) were partly linear and five (55.6%) linear only. The weighted average IPA shows that of these supervisors 28.6% were circular, 9.5% partly linear and 61.9% linear.

The linear approach was described by the clinical psychologist as follows:

> *She is quick to blame* (Participant X)

> *Probably [linear], due to a limited ability to initiate or mobilise* (Participant O)

She seems to be opinionated, instructive, domineering and blames subtly (Participant B)

She will probably blame the environment (Participant P)

She would seemingly want things done her way (Participant E).

ii.   Level of empathy

One (11.1%) of the nine supervisors showed empathy as she could identify with the students' experiences, three (33.3%) were partly empathetic and five (55.6%) were judgmental. The weighted average IPA shows that 14% of the supervisors showed empathy, 24% partly so and 62% limited empathy.

Supervisors who showed limited empathy were described by the clinical psychologist as follows:

> *She seems to be blaming which indicates limited empathy* (Participant O)

> *Seemingly low, [due to her rigid point of view she will probably be judgmental]* (Participant X)

> *Limited. She can voice an attempt of understanding which does not seem to be effective, but students may explain her as supportive out of fear of intimidation* (Participant B)

> *[Empathy] questionable, she seems to be stuck in routine lowering the empathy* (Participant P)

> *She would probably expect fewer problems and would not want to deal with them if they arise* (Participant E).

iii.   Degree of flexibility

Three (33.3%) of the nine supervisors were flexible, probably owing to their high levels of empathy, two (22.2%) fluctuated between rigidity and flexibility and four (44.4%) were rigid in their approach by wanting things done their way even to the extent of getting impatient with the students. The weighted average IPA shows that 33% of the supervisors were flexible, 19% partly flexible and 48% rigid.

Rigidity was described by the clinical psychologists as follows:

She wants her way (Participant B)

She seems to be set in her ways and routines (Participant P)

Want things her way (Participant E)

She will be more comfortable with clear structure - as she sees it (Participant X).

iv.   Problem solving skills

Five (55.6%) of the nine supervisors were able to solve problems effectively, three (33.3%) did so partially and one (11.1%) was not effective. The weighted average IPA shows that supervisors were effective 57% of the time, partly so 29% and not effective 14%.

Effective problem solving skills was described by the clinical psychologist as follows:

Yes, she probably deals with problems in a calm yet structured and effective manner (Participant H)

Well- developed within her frame of reference (Participant X)

Yes, she knows what to do (Participant B)

Yes, but she can be rigid in her problem solving skills (Participant E)

Yes, her direct and firm style will probably make her quick in assessing, thought and reaction to problems. The latter will probably motivate a student to go to her for help (Participant B).

v.   Confirmation

Four of the nine supervisors (44.4%) gave full confirmation on students' performance, one (11.1%) partly so and four (44.4%) supervisors gave only limited confirmation. The weighted average IPA shows that those supervisors who gave confirmation were 43%, partly 14% and limited confirmation 43%.

Confirmation and limited confirmation had the same weighting and was described by the clinical psychologist as follows:

Will give confirmation within her frame of reference, however, resistance and challenge (from the student) will probably not be accepted (Participant X)

No [limited confirmation], due to her lack of positive regard and tendency to be impatient (Participant B)

Yes, but at times she probably comes across as too direct, but her message will be clear (Participant N)

Her lack of empathy might limit giving confirmation (Participant E).

In summary, the group of students in the 70% performance range was exposed to supervisors with an aggregate IPA profile characterised by being linear rather than circular, judgmental rather than empathetic, rigid rather than flexible, good in problem solving and not prone to give confirmation. The impact of the supervisors' IPA on the high performing students is discussed in 4.11.

4.4.2 Interpersonal Pattern Analysis of supervisors with medium performing students

The five variables of the Interpersonal Pattern Analysis performed by the psychologist on the ten supervisors with students in the 60% range who participated in a focus group or a one-on-one interview, or both, are set out below.

Table 4-9: IPA profile of supervisors with students in the 60% range shows the number and percentage of therapists in the selected group exhibiting specific IPA traits. However, as students could have more than one supervisor and supervisors multiple students, depending on the supervisors' workload and circumstances at the hospital, the actual exposure of the group of students to the individual supervisors was unequal.

Table 4-9: IPA profile of supervisors with students in the 60% range

Supervisor		O	H	X	A	G	B	F	C	D	E	Total 10	%
Approach	Circular		x		x	x			x	x		5	50%
	Partial							x				1	10%
	Linear	x		x			x				x	4	40%
Level of empathy	Emphatic		x		x	x			x			4	40%
	Partial						x			x		2	20%
	Judgmental	x		x			x				x	4	40%
Degree of flexibility	Flexible		x		x	x			x	x		5	50%
	Partial	x					x					2	20%
	Rigid			x			x				x	3	30%
Problem solving	Solve		x	x			x	x	x		x	6	60%
	Partial				x					x		2	20%
	None	x				x						2	20%
Confirmation	Give		x		x	x			x	x		5	50%
	Partial						x				x	2	20%
	Limited	x		x		x						3	30%

A weighted average IPA profile for the supervisors involved was therefore also calculated based on the exposure to the individual supervisors as actually experienced by the students.

Table 4-10: Weighted IPA profile for supervisors with students in the 60% range

IPA VARIABLE	CATEGORY	PROFILE
Approach	Circular	50.0%
	Partial	5.0%
	Linear	45.0%
Level of empathy	Emphatic	40.0%
	Partial	15.0%
	Judgmental	45.0%
Degree of flexibility	Flexible	50.0%
	Partial	20.0%
	Rigid	30.0%
Problem solving	Solve	55.0%
	Partial	20.0%
	None	25.0%
Confirmation	Give	50.0%
	Partial give	15.0%
	Limited	35.0%

i. Approach

Of the ten supervisors five (50%) had a circular approach, one (10%) was partly linear and four (40%) approached students in a linear way. The weighted average IPA of supervisors shows that 50% were circular, 5% partly linear and 45% linear.

The circular approach was described by the clinical psychologist as follows:

> *She is aware of her impact on others* (Participant H)

> *She acknowledges her own input to a situation but might exhibit uncertainty and feeling sorry for students* (Participant A)

> *Her low level of assertiveness and feeling of incompetence would not allow her to be linear* (Participant G)

> *Yes, she identifies accurately with the students' experiences* (Participant C)

> *Yes, she will probably take feedback and implement it* (Participant D).

ii. Level of empathy

Four (40%) of the ten supervisors showed empathy, two (20%) were partly empathetic and four (40%) showed limited empathy and were judgmental. The weighted average IPA of supervisors showed that 40% were empathetic, 15% partly empathetic and 45% showed limited empathy.

Supervisors who showed empathy were described by the clinical psychologist as follows:

> *Her understanding of the contexts is clear and comprehensive* (Participant H)

> *She can place herself in the position of the student but tends to be sympathetic (Participant A)*

> *Yes, too much bordering on sympathy* (Participant G)

> *Yes, her understanding of the students' position and frustration is clear and comprehensive* (Participant C).

iii. Degree of flexibility

Five (50%) of the ten supervisors were flexible, probably owing to their high levels of empathy, two (20%) fluctuated between rigidity and flexibility and three (30%) were rigid in their approach by wanting things done their way even to the extent of getting impatient with the students. The weighted average IPA shows that 50% of supervisors were flexible, 20% partly flexible and 30% rigid.

Supervisors who were flexible were described by the clinical psychologist as follows:

> *She is flexible because of her awareness and empathy* (Participant H)
>
> *Her poor self-confidence as well as the fact that she does not want to upset the students [especially in giving feedback to them]* (Participant A)
>
> *Due to her lack of self-confidence she would be flexible and thus not able to take a stand* (Participant G)
>
> *Yes, due to her awareness of what students go through she adjusts her approach to them* (Participant C)
>
> *Yes, she understands others' frustrations and will probably see the effect of her own behaviour* (Participant D).

iv. Problem solving skills

Six (60%) of the ten supervisors were able to solve problems effectively, two (20%) did so partly and two (20%) were not effective. The weighted average IPA shows that 55% of supervisors were effective, 20% partly so and 25% not effective.

Supervisors with effective problem solving skills were described by the clinical psychologist as follows:

> *Yes, she probable deals with problems in a calm and effective manner* (Participant H)
>
> *Well-developed within her frame of reference* (Participant X)
>
> *Yes, she knows what to do* (Participant B)
>
> *Yes she knows what to do but her ability to communicate these skills can sometimes be limited* (Participant F)
>
> *Yes, she probably deals with problems in a calm yet effective manner* (Participant C)
>
> *Yes, but she can be rigid in her problem solving skills* (Participant D).

v. Confirmation

Five of the ten supervisors (50%) gave confirmation to students, two (20%) partially so and three (30%) supervisors gave limited confirmation. The weighted average IPA shows that 50% of supervisors gave confirmation, 15% partial confirmation and 35% limited confirmation.

Confirmation was described by the clinical psychologist as follows:

She is direct in her feedback (Participant B)

Communicates her understanding (Participant H)

She gives confirmation since she identifies with the difficulty of the situation (Participant A).

In summary, students in the 60% performance range were exposed to supervisors with an aggregate IPA profile characterised by being equally linear and circular, equally judgmental and emphatic, more flexible than rigid, fairly good at solving problems and tending to give confirmation.

4.4.3 Interpersonal Pattern Analysis of supervisors with low performing students

The five variables of the IPA performed by the psychologist on six of the eight supervisors who played a significant role in the fieldwork education of those students who obtained grades in the 50% range and who participated in a focus group or a one-on-one interview, or both, is set out below. Table 4-11: Interpersonal Pattern Analysis profiles of supervisors with students in the 50% range, shows the number and percentage of therapists in the selected group exhibiting specific IPA traits.

Table 4-11: Interpersonal Pattern Analysis profiles of supervisors with students in the 50% range

SUPERVISOR		C	D	E	L	M	N	6	Total %
Approach	Circular	x	x		x			3	50%
	Partial					x	x	2	33%
	Linear			x				1	17%
Level of empathy	Emphatic	x			x			2	33%
	Partial		x			x	x	3	50%
	Judgmental			x				1	17%
Degree of flexibility	Flexible	x	x		x		x	4	67%
	Partial					x		1	17%
	Rigid			x				1	17%
Problem solving	Solve	x		x	x		x	4	67%
	Partial		x			x		2	33%
	None								
Confirmation	Give	x	x		x		x	4	67%
	Partial			x				1	17%
	Limited					x		1	17%

Table 4-12: Weighted average Interpersonal Personal Analysis profile of supervisors with students in the 50% range

IPA VARIABLE	CATEGORY	PROFILE
Approach	Circular	41.7%
	Partial	50.0%
	Linear	8.3%
Level of empathy	Emphatic	33.3%
	Partial	58.3%
	Judgmental	8.3%
Degree of flexibility	Flexible	66.7%
	Partial	25.0%
	Rigid	8.3%
Problem solving	Solve	66.7%
	Partial	33.3%
	None	-
Confirmation	Give	66.7%
	Partial	8.3%
	Limited	25.0%

As students could have more than one supervisor and supervisors have multiple students, depending on the supervisors' workload and circumstances at the hospital, the actual exposure of the group of students to the individual supervisors was unequal. A weighted average IPA profile for the supervisors involved was therefore also calculated based on the exposure to the individual supervisors as actually experienced by the students. In most cases the difference in outcome was slight, but the weighted average IPA is deemed to be the more accurate of the two.

i. Approach

Of the six supervisors three (50%) had a circular approach, two (33%) were partly linear and only one (17%) approached students in a linear way. The weighted average IPA shows that 42% of supervisors were circular, 50% partly linear and 8% linear in their approach.

The circular approach was described by the clinical psychologist as follows:

> *She identifies accurately with students' experiences* (Participant C)

> *She identifies accurately with the students' experiences, and takes responsibility for her own impact on situations* (Participant L)

> *She is aware of her input* (Participant D).

ii. Level of empathy

Two (33 %) of the six supervisors showed empathy, three (50%) showed partial empathy and one (17%) showed limited empathy and was judgmental. The weighted average IPA of supervisors shows that 33.3% showed empathy, 58.3% partial empathy and 8.3% limited empathy.

Supervisors who showed partial empathy were described by the clinical psychologist as follows:

> *Partially, she tends to blame and be limited in understanding, but not to a high degree* (Participant D)

> *Her tendency to be uncertain can limit her empathy* (Participant M)

Fluctuating, but more on the constructive side. She will probably describe herself as empathetic, however her directness and professional clear presentation can be harsh at times (Participant N).

iii.   Degree of flexibility

Four (66.7%) of the six supervisors were flexible, probably owing to their high levels of empathy, one (16.7%) fluctuated between rigidity and flexibility and one (16.7%) was rigid in her approach by wanting things done her way even to the extent of getting impatient with the students. The weighted average IPA of supervisors shows that 66.7% were flexible, 25% partly flexible and 8.3% rigid.

> *Flexible because she is aware of what students go through* (Participant C)

> *Due to her awareness of what the students go through she adjusts her approach to them* (Participant L)

> *She adjusts her approach according to the students' needs* (Participant D)

> *Flexible but professionally so* (Participant N).

iv.   Problem solving skills

Four (66.7%) of the six supervisors were able to solve problems effectively, two (33.3%) did so partly. The weighted average IPA shows that supervisors who were effective were 66.7% and partly so 33.3%.

Problem solving skills was described by the clinical psychologist as follows:

> *Yes, she probably deals with problems in a calm yet effective manner* (Participant C)

> *Yes, she probably deals with problems in a calm yet effective manner* (Participant L)

> *Yes, but she can be rigid in her problem-solving skills* (Participant E)

> *Yes, her direct and firm style will probably make her quick in assessing thought and reacting to problems. The latter will probably motivate a student to go to her for help.* (Participant N).

v.   Confirmation

Four of the six supervisors (66.7%) gave confirmation to students, one partially so (16.7%) and one (16.7%) supervisor gave only limited confirmation. The weighted average IPA shows that supervisors who gave confirmation were 66.7%, partly 8.3% and limited confirmation 25%.

Confirmation was described by the clinical psychologist as follows:

> *She identifies with the students' position* (Participant C)
>
> *Yes, but direct confrontation seems to make her uncomfortable* (Participant D)
>
> *She identifies with others and can communicate it* (Participant L)
>
> *She may sometimes be too direct, coming over too strong* (Participant N).

In summary, students in the 50% performance range were exposed to supervisors with an aggregate IPA profile characterised by being more circular than linear, emphatic, flexible and effective in solving problems and high in giving confirmation.

The impact of the supervisors' IPA on the low performing students is discussed in 4.12.

4.4.4 Summary of the Interpersonal Pattern Analysis of supervisors

The information on five supervisor IPA variables aggregated for three levels of student performance is summarised in Figure 4-3: Summary of supervisor IPA variables for 3 levels of student performanceTo facilitate comparison of the differences between the average supervisor IPA profiles for the three levels of student performance, a simplified graphic presentation is given in Figure 4-4: Graphic presentation of supervisor IPA variables for 3 levels of student performance
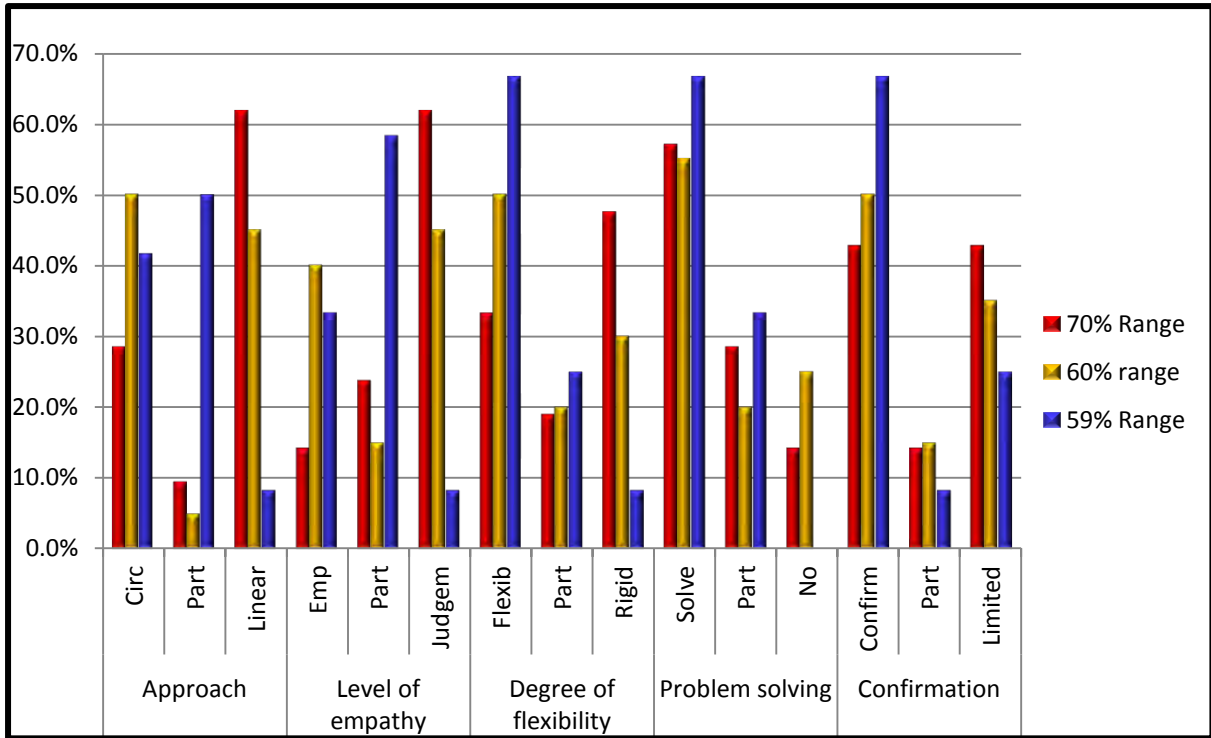
Figure 4-3: Summary of supervisor IPA variables for 3 levels of student performance
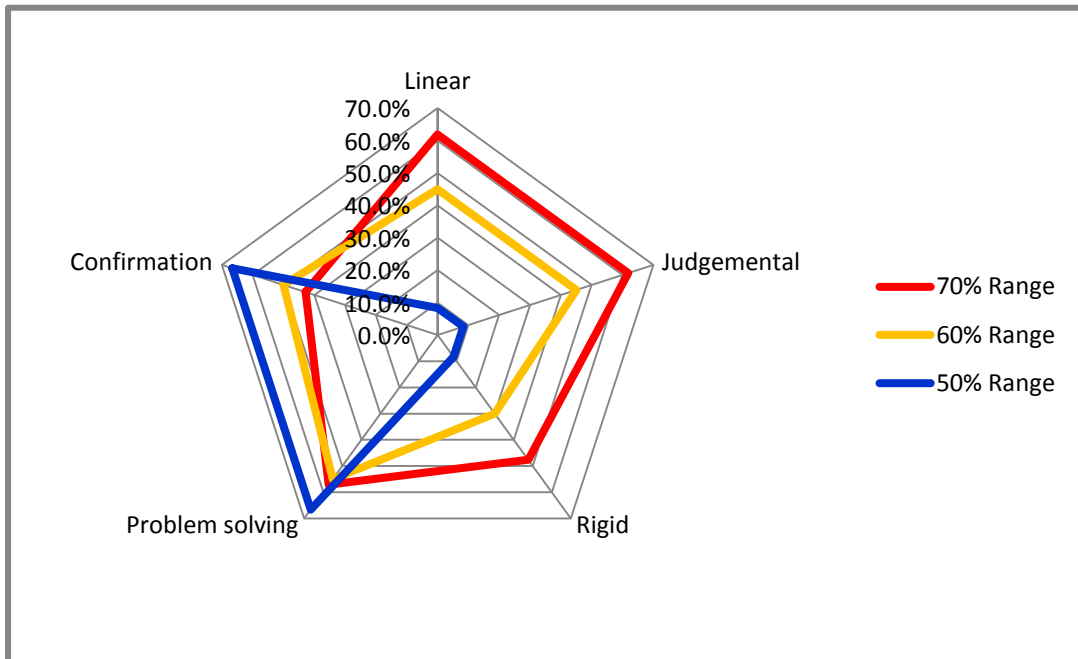
Figure 4-4: Graphic presentation of supervisor IPA variables for 3 levels of student performance

4.5 Students' experience of the nature of their relationship with supervisors

Two independent analyses were performed on the student responses as gleaned from the focus groups and one-on-one interviews.

In the first, three major themes emerged from the content analysis of students' responses about their experience of the supervisors' interpersonal communication:

> The supervisor's style of communication expressed in terms of being more authoritarian (domineering) or more laissez-faire (lenient)

> How the supervisor's interpersonal communication style presented itself in terms of behaviour

The corrective feedback given by the supervisor

The positive feedback given by the supervisor

The supervisor's demeanour as polite or unpleasant

The supervisor's approachability

> Effect of the supervisor's interpersonal communication on the student

The student's learning experience (the transfer of knowledge and skill which determines whether the student learned about clinical reasoning)

The students' respect for the supervisors in terms of perceiving them as authoritative (in having a lot of knowledge).

Learning from the supervisor and respect for the supervisor should not be seen simplistically as being only the effect of the supervisors' style and behaviour on the student. There is an added layer of complexity or dimension to both. Learning is also affected by the supervisors' teaching ability and respect is influenced by the student's perception of the supervisor as being knowledgeable and therefore worth listening to and emulating. Both learning and respect are therefore included in this

broader sense incorporating also the supervisor's perceived ability in addition to her conduct in the analysis of the student's views.

The impact of the supervisors' authority and interpersonal communication on the students is depicted in the Table below.

Table 4-13: Students' perception of supervisors' competency and interpersonal communication and its impact on their clinical reasoning skills

Theme	Supervisors' authority and interpersonal communication	Impact of supervisors' competency and interpersonal communication on the students
Learning	Imparted high-quality information	Students **learned form supervisors**
	Imparted limited information	**Limited learning** from supervisors
Respect	**Authoritative** – supervisors have a lot of knowledge about occupational therapy	Student respected supervisors
	Limited authority – supervisors did not demonstrate their knowledge	Lost most of their respect for supervisors
Style	**Authoritarian** (rigid, strict, domineering)	Students felt apprehensive, anxious and angry
	Laissez-faire (flexible, lenient)	Students felt as ease and relaxed
Feedback - corrective	Gave **corrective feedback**	Although students experienced learning process as stressful, effective learning was facilitated
	Gave **limited corrective feedback**	Limited learning took place
Feedback - positive	Gave **positive feedback**	Motivated students
	Gave **limited positive feedback**	Demotivated students
Demeanour	**Polite demeanour**	Students felt accepted
	Unpleasant	Students felt humiliated
Approachability	**Approachable** (Open)	Felt at ease to approach supervisor
	Unapproachable (Distant)	Students avoided supervisor

A second independent analysis was done in order to ensure that nothing was inadvertently omitted. This analysis, at a high level not suitable for later quantification, yielded the following themes and sub-themes.

- ➢ **Clinical reasoning**

  Guidance

  Evaluation

  Feedback

- ➢ **Other**

  Availability

  Structure

- ➢ **Interpersonal relationships with the students**

  Support empathy

  Trust

  Consistency

  Acceptance

In a critical analysis of the above it was felt that although the approach and emphasis were different in some aspects, no major new element emerged to warrant changing the themes and sub-themes given in Table 4-13 which will now be used in the analysis.

4.5.1 The nature of their relationship with supervisors as experienced by high performing students

Table 4-14: Nature of relationship with supervisor as experienced by students in 70% range

Theme	Category	Rating
Learning	Learned from supervisor	71%
	Limited learning	29%
Respect	Authoritative	75%
	Limited authoritative	25%
Style	Authoritarian	94%
	Laissez-faire	6%
Feedback corrective	Corrective feedback	92%
	Limited correction	8%
Feedback positive	Positive feedback	19%
	Limited positive feedback	81%
Demeanour	Polite demeanour	88%
	Unpleasant	13%
Approachability	Approachable	71%
	Distant	29%

Ten students obtained marks in the 70% range. Of the 10 students data of only nine were captured and analysed. One student's data was lost during the recording process. In total 11 supervisors interacted with students in the 70% range.

Aggregated results of the nine students who obtained marks in the 70% range and their perception of the nature of the relationship with their eleven supervisors are shown in Table 4-14: Nature of relationship with supervisor as experienced by students in 70% range.

These percentages are based on direct observations, comments and perceptions gleaned from the students in one-on-one interviews and focus groups. The salient points and some of the more articulated responses to clarify the ratings are given below.

i. Learning

The students in the group felt they learned from 71% of their supervisors. This is a fairly high percentage and based on comments such as the following:

"The therapist helped me a lot to see ... especially with the specificity of my targets and my grading ... I made a lot of progress with that patient" (Participant ff).

"Sy het nogal met jou gesit en elke dingetjie bespreek. Hoekom jy dit doen…. Dit het baie gehelp." (Participant f) [She would discuss everything with you. Why you did it … that helped a lot]

"As ek 'n sessie gedoen het dan was sy daarso…..sy het vir my baie gewys…" (Participant ppp) [When I did a session she was present … she showed me a lot]

"Ek het baie geleer by haar" (Participant f) [I learned a lot from her].

ii. Respect

Seventy five percent (75%) of supervisors were deemed to be authoritative and deserving of respect. Again a high percentage supported by comments such as the following:

"Sy het baie kennis om te deel" (Participant nn) [she has a lot of knowledge to share].

iii. Style

Ninety four percent (94%) of the supervisors were experienced as being authoritarian and described by some students as follows:

"Toe moes ons elke dag notaţjies ingee van wanneer ons watse pasiënt sien sodat ons opgecheck kan word" (Participant nn). [… then we had to submit notes every day to indicate when and which patient we see so that they could check up on us]

"Daar is net vir ons gesê hierdie is verkeerd… maak dit reg" (Participant r). [They just said to us this is wrong … correct it].

iv. Feedback

Ninety two percent (92%) of supervisors were seen as giving corrective feedback while only 19% gave positive feedback. There was some overlapping in that the

same supervisor could give both depending on circumstances. Typical comments included the following:

> " …if you hand your things in and they mark all the negative things … and then there are a lot of things that are right, but they don't say it is right, they just say what is wrong, and they don't say good if your thing is right … and just once or twice I had a good and it was … wow … it was such a nice feeling." (Participant d)

> "uhm … ek dink tog die kritiek wat 'n mens kry … uhm is ook positief … dat 'n mens daaruit kan leer … Hulle het oor die sessiemikpunte baie kritiek gegee … maar op die ou einde … uit daai terugvoer wat ek gekry het weet ek nou vir die eerste keer regtig hoe om dit te doen."(Participant r) [uhm … I think the critical feedback that one gets … uhm … is also positive … in that a person could learn from it … they gave a lot of criticism about our session targets … however… in the end for the first time I really know how to do it]

> "… ons kry al hierdie negatiewe terugvoer maar daar word nie een keer regtig vir ons gesê jy het nou regtig "effort" ingesit nie." (Participant f) […we get all these negative feedback and not once did they say that you really put effort into (something)].

v.   Demeanour

Most supervisors (88%) were experienced as being polite in their dealings with the students.

> "… hulle was nie lelik nie…hulle het my nie laat dom voel nie." (Participant r) [… they were not nasty … they did not make me feel stupid].

> "Ek dink hulle het die terugvoer sover as moontlik mooi probeer hanteer." (Participant f) [I think they tried to handle the feedback as far as possible in a polite way].

> "Ek het die terugvoer baie positief ervaar. Die manier wat hulle dit gegee het ... het ek gevoel dit is OK." (Participant ppp) [I experienced the feedback as positive. The way that they gave the feedback had been … I felt it was OK].

vi.   Approachability

Seventy one percent (71%) of the supervisors were seen as open and approachable by their students.

"… sy het geluister wat ek gesê het ... sy was oop vir idees (Participant ppp) [… she listened to what I had to say … she was open to ideas]

"You needn't make an appointment to see them. One of them would listen." (Participant ff)

"It was a professional relationship we are not a pain, we are not in the way, we were not an inconvenience" (Participant ff).

The high performing students' experience of the supervisors' interpersonal communication is discussed in 4.11.

4.5.2 The nature of their relationship with supervisors as experienced by medium performing students

Eleven students obtained marks in the 60% range. Of the eleven students only the data of ten were captured and analysed. One student's data was not available. In total fifteen supervisors interacted with students in the 60% range.

Aggregated results of the ten students in this group and their perception of the nature of the relationship with their fifteen supervisors are shown in Table 4-15: Nature of relationship with supervisor as experienced by students in the 60% range.

The salient points and some of the more relevant responses to elucidate the ratings based on direct observations, comments and perceptions gleaned from the students in one-on-one interviews and focus groups is shown below.

Table 4-15: Nature of relationship with supervisor as experienced by students in the 60% range

Theme	Category	Rating
Learning	Learned from supervisor	50%
	Limited learning	50%
Respect	Authoritative	69%
	Limited authoritative	31%
Style	Authoritarian	71%
	Laissez-faire	29%
Feedback Corrective	Corrective feedback	88%
	Limited correction	12%
Feedback Positive	Positive feedback	27%
	Limited positive	73%
Demeanour	Polite demeanour	73%
	Unpleasant	27%
Approachability	Approachable	62%
	Distant	38%

i. Learning

The students in the group felt they learned from 50% of their supervisors. This is based on comments such as the following;

"I mean it is very nice to say blah … I am creative whatever, but it is not really constructive in, in the sense of why I am there… so I would have preferred more, even if it there was not any positive feedback, on my skill or my theory or my application or whatever … I would have liked them to focus more on that as a therapist as a whole …" (Participant bbb).

ii. Respect

Sixty nine percent (69%) of supervisors were deemed to be authoritative and deserving of respect.

"…as jy kyk wat sy doen dan kan jy sien sy weet wat sy doen … sy doen dit met jare se kennis." (Participant a) [… if you observe what she is doing then you know she knows what she is doing … she does it with years of experience]

146

iii. Style

Seventy one percent (71%) of the supervisors were experienced as having an authoritarian style and were described as follows:

"… if you don't know exactly what is expected from you, so you could fit in with how everybody is working, then you are not going to work like they want you to, so the expectations have to be laid out from the beginning, otherwise you are not going to ever get positive feedback from these people … it is not possible" (Participant aa).

iv. Feedback

Eighty eight percent (88%) of supervisors were seen as giving corrective feedback while 27% gave positive feedback. There was some overlapping in that the same supervisor could give both depending on circumstances.

"I found like … if you are going to give feedback, it shouldn't be to break a person down … it shouldn't be totally negative all the time, I found positive feedback helps as well. And even if it is like critical feedback to help you, maybe give an alternative together with it … or you know like a cue, a different method of doing something …" (Participant aa).

"The … the criticism or feedback that I got was very constructive and very helpful … and I appreciated that" (Participant bbb).

v. Demeanour

Seventy three percent (73%) of the supervisors were experienced as being polite in their dealings with the students.

"Terugvoer was op 'n ordentlike manier hanteer." (Participant a). [Feedback was handled in a decent manner].

vi. Approachability

Sixty two percent (62%) of the supervisors were seen as open and approachable by their students.

"I must say the therapist helped a lot with debriefing and stuff …" (Participant b).

The medium performing students' experience of the supervisors' interpersonal communication is a mix between the high performing and low performing students.

4.5.3 The nature of their relationship with supervisors as experienced by low performing students

Nine students obtained marks in the 50% range. Of the nine, only eight students' data were captured and analysed. One student's data was not available. In total eight supervisors interacted with students in the 50% range.

Table 4-16: Nature of relationship with supervisor as experienced by students in the 50% range

Theme	Category	Rating
Learning	Learned from supervisor	23%
	Limited Learning	77%
Respect	Authoritative	17%
	Limited authoritative	83%
Style	Authoritarian	8%
	Laissez-faire	92%
Feedback Corrective	Corrective feedback	27%
	Limited correction	73%
Feedback Positive	Positive feedback	92%
	Limited positive feedback	8%
Demeanour	Polite demeanour	92%
	Unpleasant	8%
Approachability	Approachable	92%
	Distant	8%

Aggregated results of the eight students in this group and their perception of the nature of the relationship with their fifteen supervisors are shown in Table 4-16: Nature of relationship with supervisor as experienced by students in the 50% range.

The salient points and some of the more relevant responses to elucidate the ratings based on direct observations, comments and perceptions gleaned from the students in focus groups and one-on-one interviews are given below.

i. Learning

The students in the group experienced limited learning from 77% of their supervisors. This is based on comments such as the following:

"… I didn't find that they actually … I actually did expect to get more supervision from the therapists there… I expected more input from the therapist …" (Participant j).

ii. Respect

Eighty three percent (83%) of supervisors were deemed to be limited in terms of being authoritative and consequently not really respected.

"… I didn't find that they actually … I actually did expect to get more supervision from the therapists there… I expected more input from the therapist …" (Participant j).

"… ons het baie goed in die department in plek gesit wat nie in plek was nie" (Participant h) [... we put lots in the Department in place that weren't in place].

iii. Style

Ninety two percent (92%) of the supervisors were experienced as being laissez-faire in their style and were described as follows:

"They didn't treat us like students they let us be independent … and, they were very, very nice … very helpful." (Participant jj)

"Ek het haar meer as 'n vriendin gesien … ons kon oor ander goed praat as net die werk." (Participant h) [I saw her more as a friend .... we could discuss other things than work only].

"Ek dink dit het mens nogal baie geleer deur verantwoordelikheid en ook dit het gevoel asof ons inpas en nie net studente is nie ... so dit het gevoel asof ons nie net hierdie studente is nie, maar asof ons deel is daarvan ..." (Participant ccc) [I think it taught one quite a lot through responsibility and we felt that we fitted in and not mere students]

"… in the end they told us … they could see us like therapists as well, we were even working as therapists" (comment was also applicable to Participants ccc and cccc).

iv.   Feedback

Seventy three percent (73%) of supervisors were seen as giving limited corrective feedback while 92% gave positive feedback. There was some overlapping in that the same supervisor could give both depending on circumstances.

> " … I think I wanted more … because we said we wanted feedback so we know what we are doing wrong … I think the feedback was coming at the end instead of every day or weekly … it was given right at the end … I didn't get what I needed." (Participant j)

> "… uhm as sy vir ons, ons mid-terms of ons 'feedback' gegee het, was dit goed maar ek dink dit kon beter gewees het, want … ek sou graag hulle 'input' wou gehad het …" (Participant tt) [When she gave us our mid-term or other feedback, it was good but I think it could have been better as I would have liked to get their input]

> " …dit is lekker om goeie punte te kry maar ek het net gewonder hoe "reliable" is die punte wat ek kry" (Participant h) [it is nice to get good grades but I just wondered how reliable were the grades I received].

v.   Demeanour

Ninety two percent (92%) of the supervisors were experienced as being polite in their dealings with the students.

> "Die terapeute was so motiverend gewees … dit was lekker." (Participant hh) [the therapists were so motivating … it was nice]

> "... as ek nie iets reg gedoen het nie dan het hulle dit op 'n mooi manier gesê... die terapeute het baie vir ons, hulle het mooi met ons gepraat." (Participant ccc) [When I did something wrong then they said so in a very nice way … the therapists spoke nicely with us].

vi.   Approachability

Ninety two percent (92%) of the supervisors were seen as open and approachable by their students.

> "The therapists that were with us were very, very approachable. We were not scared to ask them for help or for guidance or for something like that …they realised that we are students (Participant jj) and yet they didn't treat us like students." (Participant j)

"Die terapeute by ons was baie oop, weet jy kon … net na hulle toe gaan en vra en raad kry en ek dink ook, soos nie net oor die werk praat nie, wat die interpersoonlike verhouding so half versterk …" (Participant hh) [The therapists were very open, you could just go to them and ask and get advice and also not just discussing the work, which strengthened the interpersonal relationship somewhat].

The low performing students' experience of the supervisors' interpersonal communication is discussed in 4.12.

4.5.4 Summary

The three groups of students and the perception they had of their supervisors' interpersonal communication can be summarised as shown in Figure 4-5: Summary of students' experience of the interpersonal communication of their fieldwork supervisors.
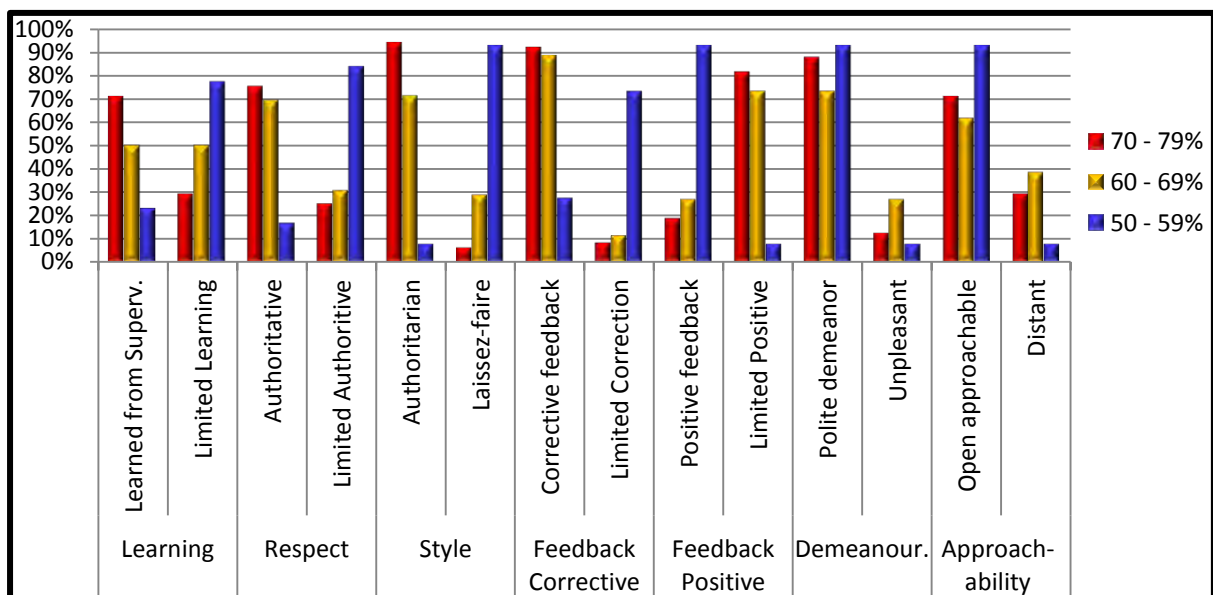
Figure 4-5: Summary of students' experience of the interpersonal communication of their fieldwork supervisors

To facilitate comparison of the differences between the students perception of the interpersonal communication with their supervisors at the three levels of student performance, a simplified graphic presentation is given in Figure 4-6: Graphic

presentation of the student's relationship with their supervisors for 3 levels of performance
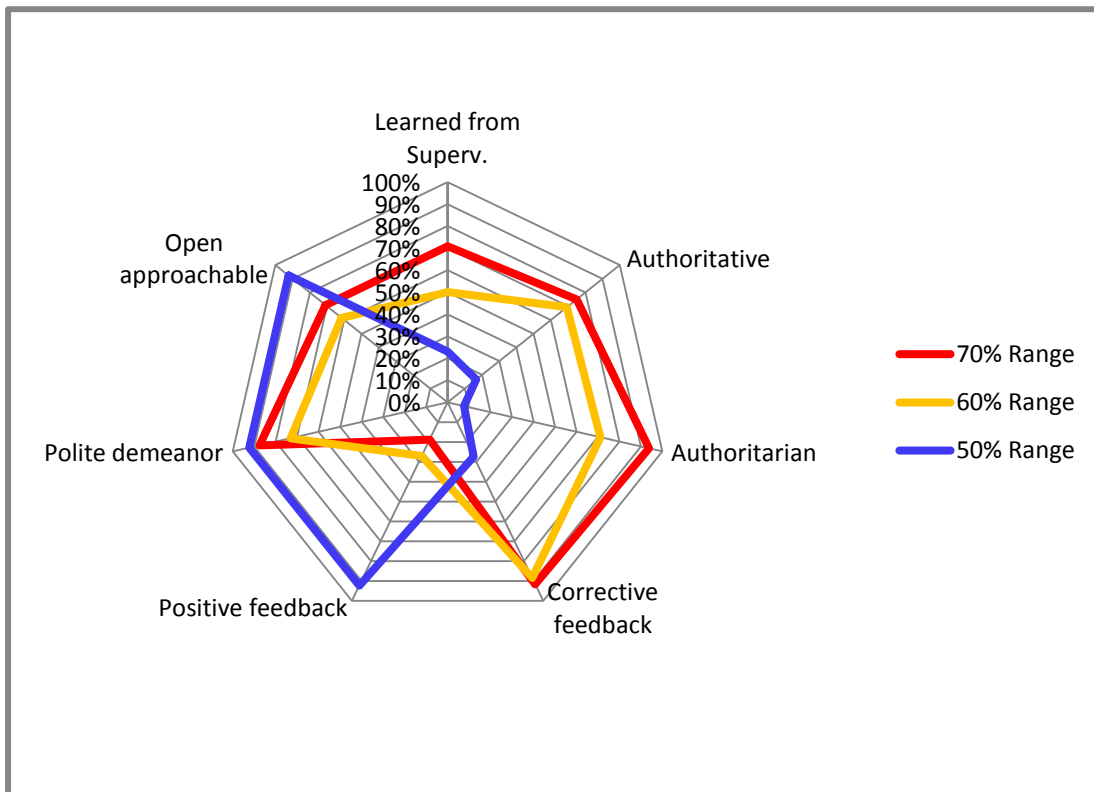
Figure 4-6: Graphic presentation of the student's relationship with their supervisors for 3 levels of performance

The nature of interpersonal communication with individual supervisors, as experienced by all students, is given on a weighted average basis in Figure 4-7: Summary of the nature of interpersonal communication with individual supervisors as experienced by all students.
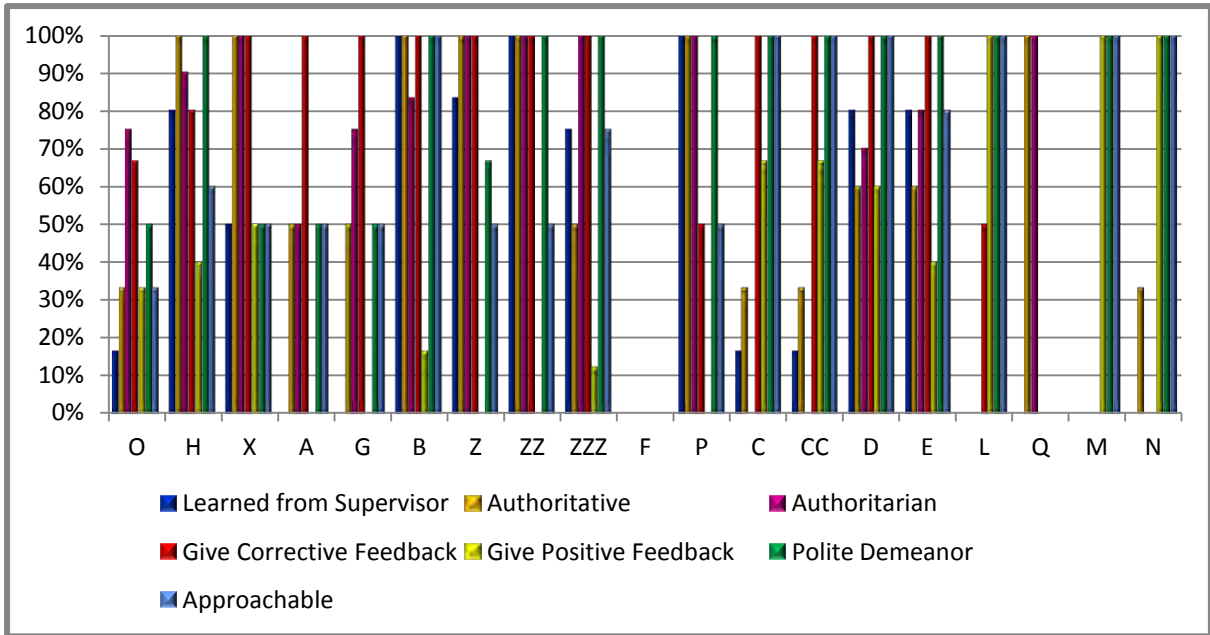
Figure 4-7: Summary of the nature of interpersonal communication with individual supervisors as experienced by all students

A score of 100% would indicate that all students who expressed an opinion rated this supervisor the same on a particular point.

4.6 Nature of feedback given by supervisors based on focus groups and one-on-one interviews

The information in this section was gleaned from one-on-one interviews and only one aspect of the supervisors' relationships with the students evaluated, i.e. whether the supervisor would tend to be more recommending or more commanding in her communication with the student. The results for individual supervisors are shown in Figure 4-8: Nature of supervisors' relationships with students based on focus groups and interviews with supervisors.
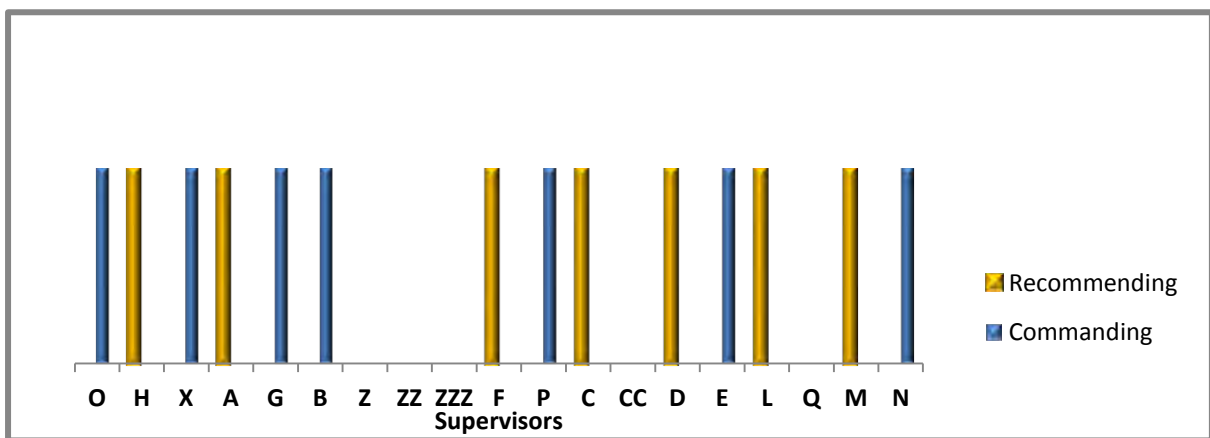
Figure 4-8: Nature of supervisors' relationships with students based on focus groups and interviews with supervisors

As some supervisors had contact with more students than others, the results were weighted to reflect the effect on the three groups of students for easy comparison with other findings. This is shown in Table 4-17: Weighted nature of supervisors' relationships with students from focus groups and one-on-one interviews. The nature of supervisors' relationship with students based on the focus groups and one-on-one interviews is discussed in 4.11 and 4.12.

Table 4-17: Weighted nature of supervisors' relationships with students from focus groups and one-on-one interviews

Data weighted for:	Supervisors	
	Recommending	Commanding
Students in 70% range	32%	68%
Students in 60% range	45%	55%
Students in 50% range	64%	36%
Total	43%	57%

4.7 Grades students received for their clinical reasoning skills from their supervisors on the Work Habits Report

The students were rated twice in terms of their clinical reasoning skills by their supervisors during their practical training at M-T and again at the EoT.

Table 4-18: Students' practical exam grades compared with grades received from supervisors

Student	Exam grade	Mid-Term grade	End of Term grade
f	77	58	65
r	77	50	65
d	76	55	63
ee	73	55	75
n	73	63	75
nn	73	63	55
t	71	65	75
dd	71	60	70
ff	70	50	70
ppp	70	65	70
b	68	53	70
rr	67	73	60
bbb	66	58	68
aa	66	55	65
a	63	55	65
e	63	50	70
cc	62	60	78
c	61	68	80
gg	61	45	50
s	60	68	80
fff	60	50	60
ccc	58	68	80
cccc	57	60	75
ss	57	60	80
h	57	nr	88
hh	57	nr	88
g	55	50	65
tt	53	60	63
j	52	65	75
jj	48	68	75
AVERAGE	**64.07**	**58.93**	**70.60**

A comparison of the EoT grades with the M-T grades is best illustrated by means of Figure 4-9: Comparison of End of Term grades with Mid-Term .
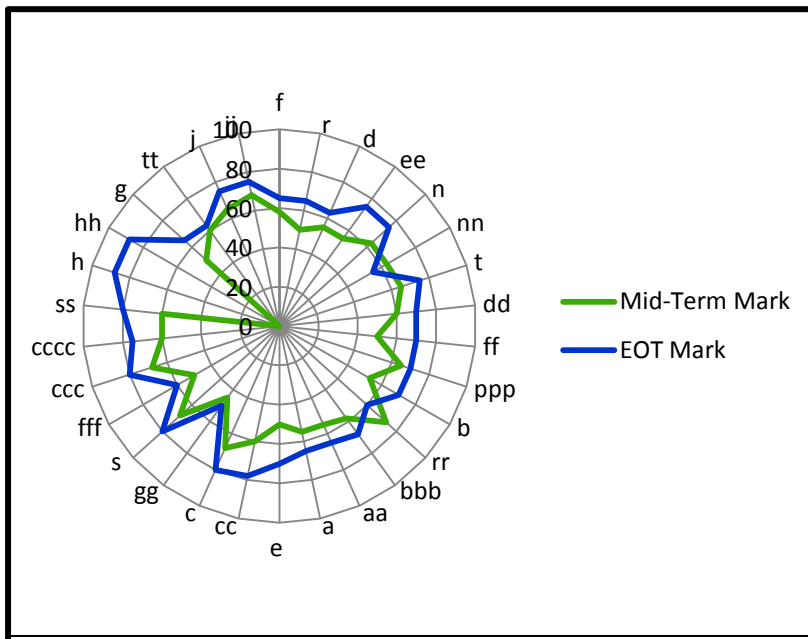
Figure 4-9: Comparison of End of Term grades with Mid-Term grades

It is clear that the above reflects, with only two exceptions, a noticeable growth being perceived by the supervisors. For the group as a whole the difference is 11.7%. Other observations are the following:

Participants h and hh were not given M-T grades by their supervisors.

In the case of nn there was an indication of a symmetrical relationship (characterised by a power struggle) between supervisor and student. In this case the supervisor might have used her power to put the student down by giving her lower grades in the EoT than she deserved.

> "...teen week drie het ons net veskriklik "ge-clash" en van toe af kon ons glad nie oor die wegkom nie" (Participant nn). [Since the third week we clashed and from that time we did not see eye to eye].

Student rr and the supervisor were also to some extent in a symmetrical relationship.

For participant gg the supervisor had prior knowledge of a problem experienced by the student which could have influenced the definition of their relationship.

> "....sy was bang vir alles ... ons het haar regtig "ge-spoonfed" en baie geworstel oor wat ons met haar moet doen ..." (Participant D) [The student was afraid of everything ... supervisors spoonfed her and grappled with this problem].

The impact of such behaviour is discussed in 4.12.

It would seem that there is a belief among supervisors that students should be underrated initially in order to wake them up. Participant B made the following statement in this respect:

> "... especially the M-T feedback ... and generally they don't do so well in the M-T ... that is the point of the M-T ... and you give them this mark of 53% and you can see on their faces all they see is 53% ..."

Higher performing students were rated relatively low compared to other students at M-T. These results can of course be construed as reflecting well on supervisor input.

The practical exam grade compared with the EoT grade in Figure 4-10: Comparison of practical exam grade with End of Term .
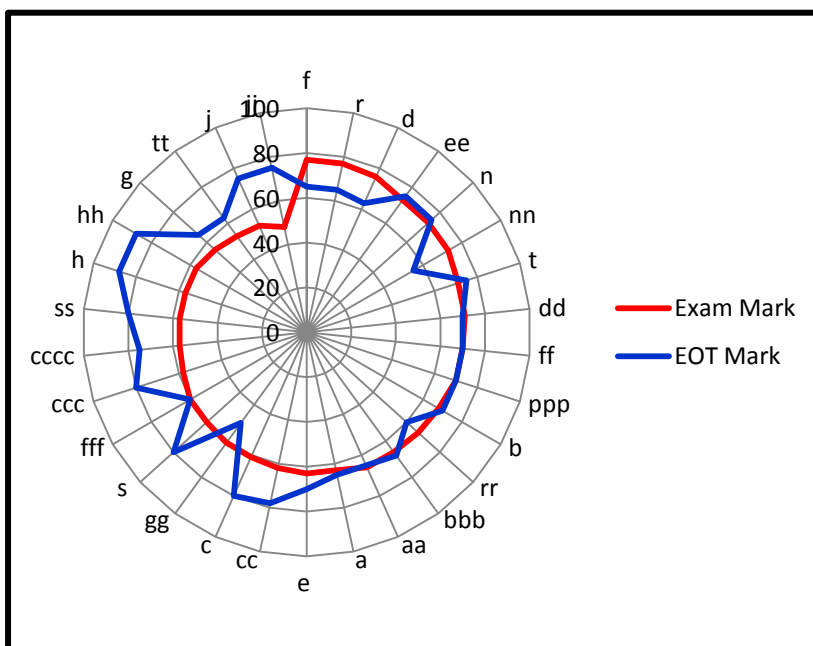
Figure 4-10: Comparison of practical exam grade with End of Term grade

Observations that can be made from this comparison include the following:

➢ In general high performing students in the 70% range were underrated 4.8% by their supervisors with very high performers more so than others.

➢ Medium performing students in the 60% range were overrated 4% on average by their supervisors.

➢ Low performing students in the 50% range were overrated 22% by their supervisors.

The implications of the observations given above will be incorporated in the triangulation phase.

4.8 Nature of feedback by supervisors based on comments in the Work Habits Report

Since matrix supervision was employed, the supervisors all sat together when they wrote each student's report. It was not always possible to identify who made a specific comment as the comments were more collective in nature. In that case the combined comments were assigned to all supervisors present in discussing the WHR and only where it was clear who (which supervisor) made a specific comment about a student is it indicated in the table in Appendix N and taken into consideration in the results presented here.

Similarly to the feedback received from the supervisors in section 4.6, these remarks were distilled to indicate only whether the supervisor was critical or positive in her feedback incorporated in the report. For the individual supervisors the combined results of both M-T and EoT are presented in Figure 4-11: Feedback by supervisors on Work Habits Report.
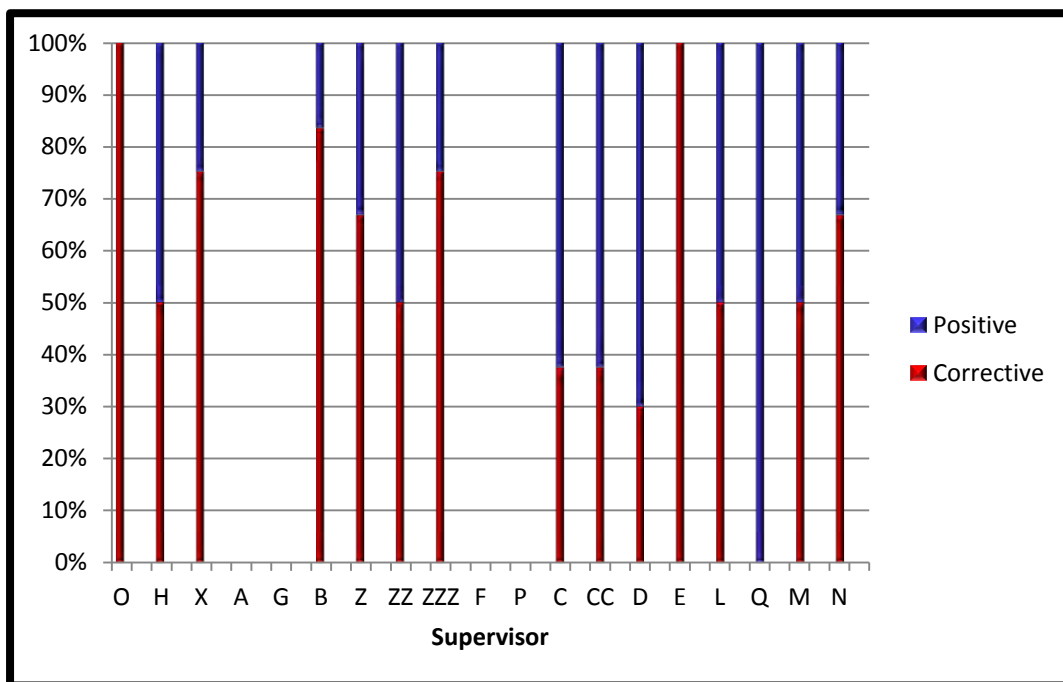
Figure 4-11: Feedback by supervisors on Work Habits Report

Analysing the feedback received by the three groups of students, based on their performance in the practical exam, shows that there was a marked difference between M-T and EoT feedback.

Table 4-19: Supervisor feedback in Work Habits Report for three levels of student performance

Student performance range	Mid-Term feedback		End of Term feedback	
	Corrective	Positive	Corrective	Positive
70%	83.3%	16.7%	45.5%	54.5%
60%	92.1%	7.9%	42.5%	57.5%
50%	81.3%	18.8%	30.0%	70.0%
All	86.5%	13.5%	41.3%	58.7%
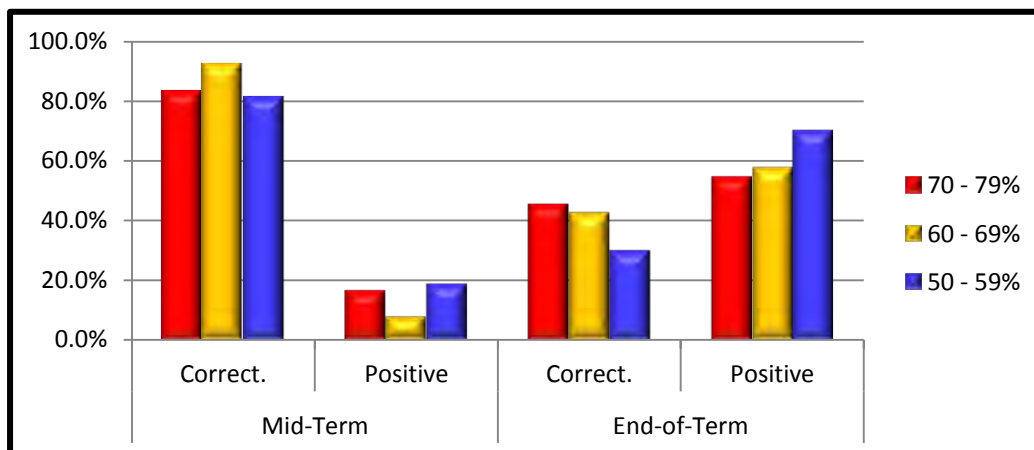
Figure 4-12: Mid-Term and End of Term supervisor feedback in Work Habits Report

4.9 Comparison of students' practical exam grade with general academic performance

Although the students were randomly placed in respect of hospitals and supervisors, there is always a possibility that the results could be skewed through the better students gravitating to those supervisors exhibiting specific traits.

In comparing the practical exam grades of the 30 students with their general academic performance (practical exam contribution excluded) for the year, it was found that the statistical correlation is fairly low at 0.372. The comparison is shown in Figure 4-13: Practical exam grade compared with general academic performance, practical exam contribution excluded.

Some correlation should be expected but the result as shown tends to eliminate the possibility that all the better students ended up by chance with those supervisors exhibiting specific behavioural traits. It would seem therefore that the learning experienced by individual students, as evidenced by their performance in the practical exam, is significantly influenced by the nature of their practical education and not solely a function of academic prowess.
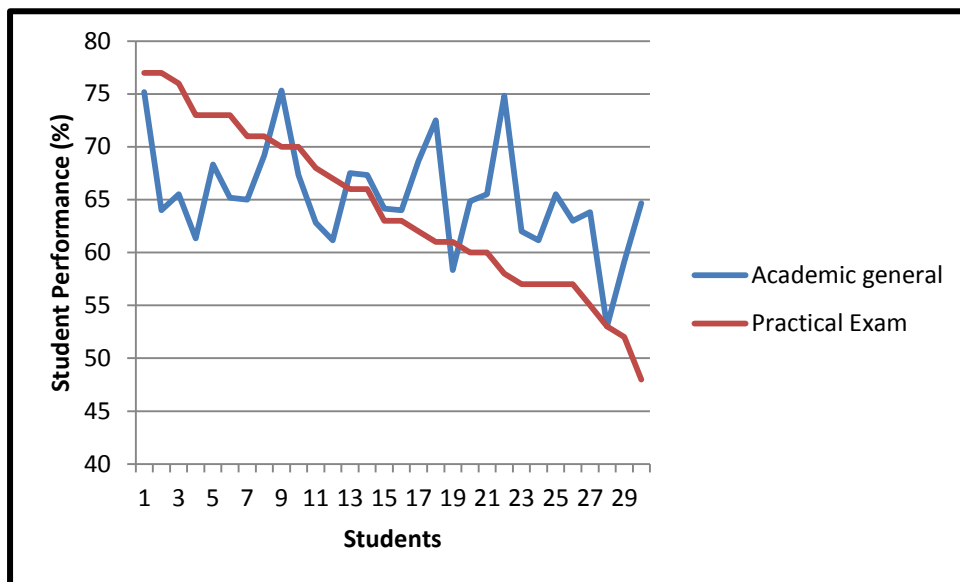
Figure 4-13: Practical exam grade compared with general academic performance, practical exam contribution excluded.

4.10 Triangulating for supervisor' interpersonal communication profiles

4.10.1 Triangulation for profile of supervisors with high performing students
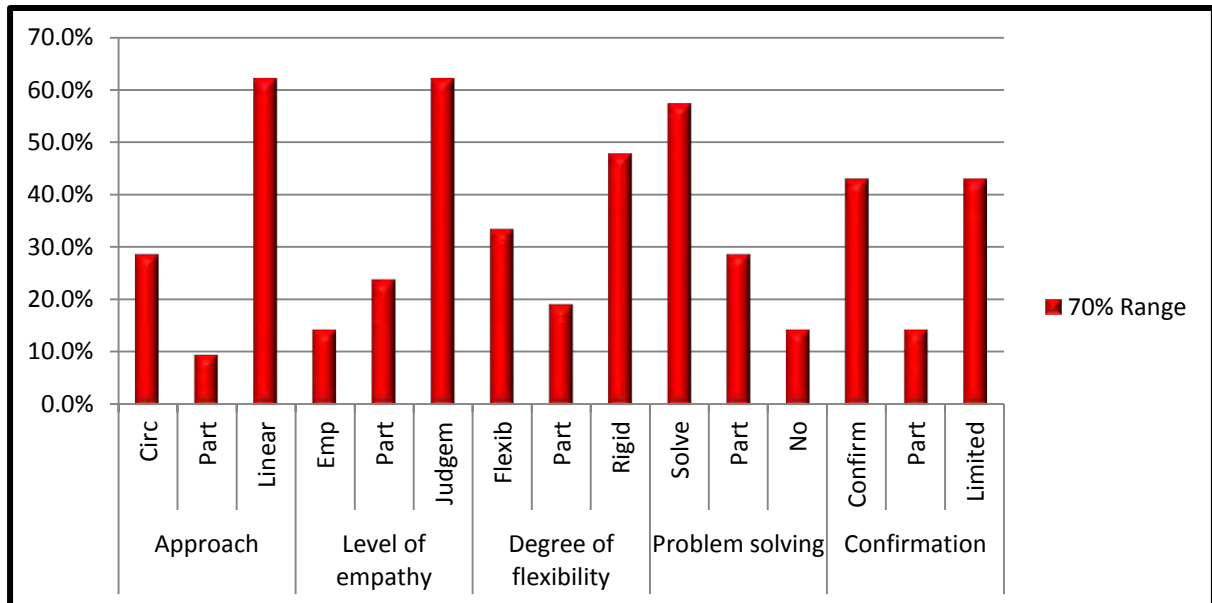
Figure 4-14: IPA Variables of supervisors with high performing students

The IPA, students' experience of the nature of the relationship with their supervisors, personal comments of the supervisors, comments in the WHR and EoT grades are depicted in **bold** just to indicate the connection among the sources which were triangulated.

The findings indicate that students who obtained grades in the 70% range were supervised by supervisors who, according to the **IPA**, were predominantly -

- ➢ linear in approach

- ➢ showed limited empathy to the point of being judgmental

- ➢ rigid in their expectations

- ➢ effective in solving problems

➢ confirmed students to a lesser degree

These findings were supported by the **students' experience** of these supervisors. Although acknowledging that they learned from their supervisors, high performing students experienced their supervisors as -

➢ authoritative (competent and able to solve problems)

➢ authoritarian (linear)

➢ giving corrective feedback (judgmental)

➢ giving limited positive feedback (limited confirmation)

➢ very polite

➢ open and approachable
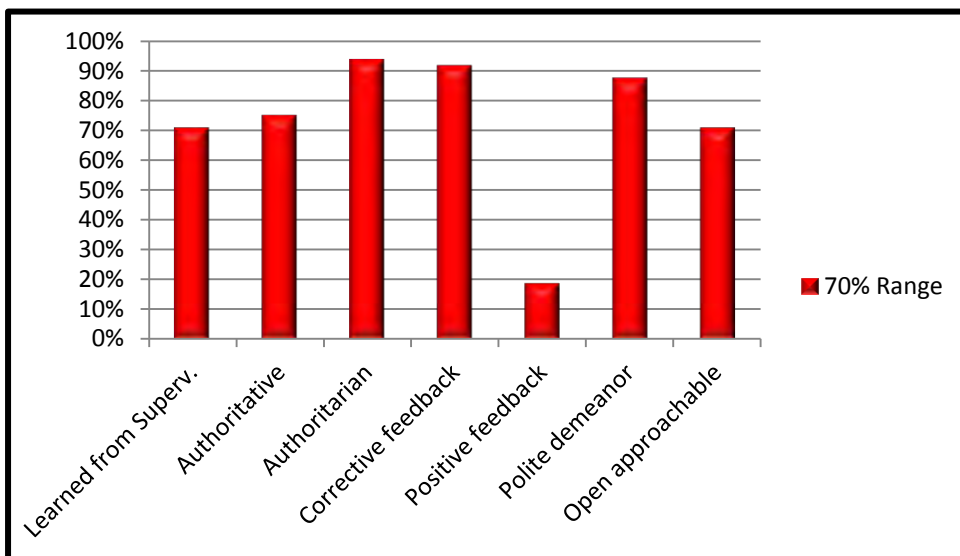
Figure 4-15: Supervisors as described by high performing students

From the **personal comments of the supervisors** in the interviews and focus groups it was observed that they were judgmental and linear in that they came across as commanding rather than recommending.
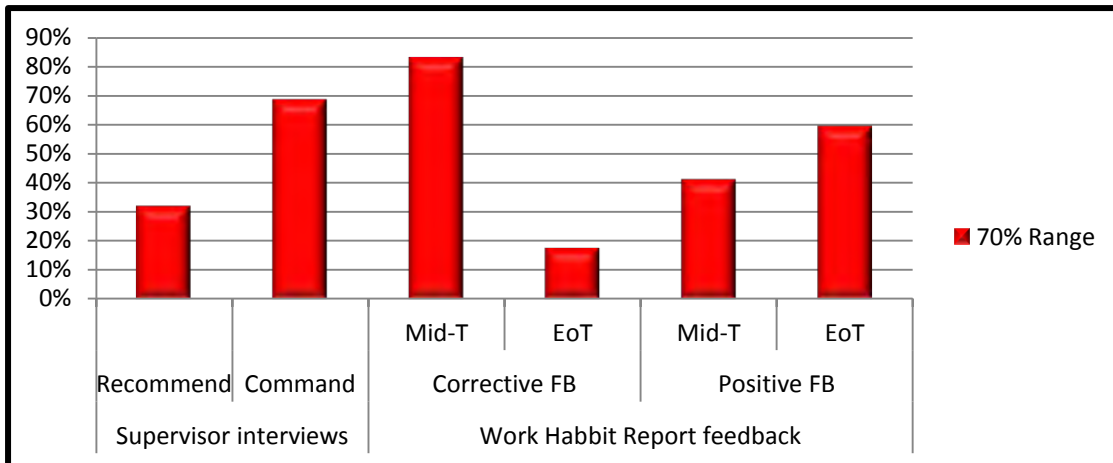
Figure 4-16: Supervisors of high performing students - interpersonal profile from interviews, focus groups and Work Habits Report feedback

From **comments in the WHR** it would seem that supervisors tended to be highly corrective while educating but were much less severe in their final report. No doubt the students improved, especially this group, but there could also be an element of "see how the student progressed under my tutelage".

From the **EoT grades** received by the high performance students in their WHR, which was on average 4.8% lower than their practical exam performance, it is clear that the supervisors of this group tended to be quite critical towards the students.

To exemplify the above with a practical example, the inputs from the various sources for Participant B (whose interpersonal communication profile matches the weighted average group profile in all respects) are given below.

Example

Participant B

IPA with comments from the psychologist

Good problem solving skills, but she is "black and white" not leaving a lot of space for human error.

Linear approach – she instructs in a linear domineering fashion

Limited empathy – she can voice an attempt of understanding which does not seem to be effective, but students may explain her as supportive out of fear of intimidation.

Rigid – she wants things her way.

Limited confirmation due to her lack of positive regard and tendency to be impatient.

Students' experience

"Sy het met jou gesit en elke dingetjie bespreek, hoekom jy dit doen en waarom jy dit doen … dit het baie gehelp" (Participant f) [She would discuss everything with you, she explained why you do certain things ... that helped a lot"].

"Sy het baie gehelp" (Participant ppp) [She helped a lot].

Supervisor's experience

"You tell them 'it is OK to be nervous but you are going to get more nervous sitting in that chair … you need to get there with the patient'" (Participant B).

Work Habits Report

Commanding

"Adapt your assessment to patients' abilities"

"Remember the treatment evaluation"

"Theory and practice needs attention" (Participant B).

4.10.2 Triangulation for profile of supervisors with medium performing students
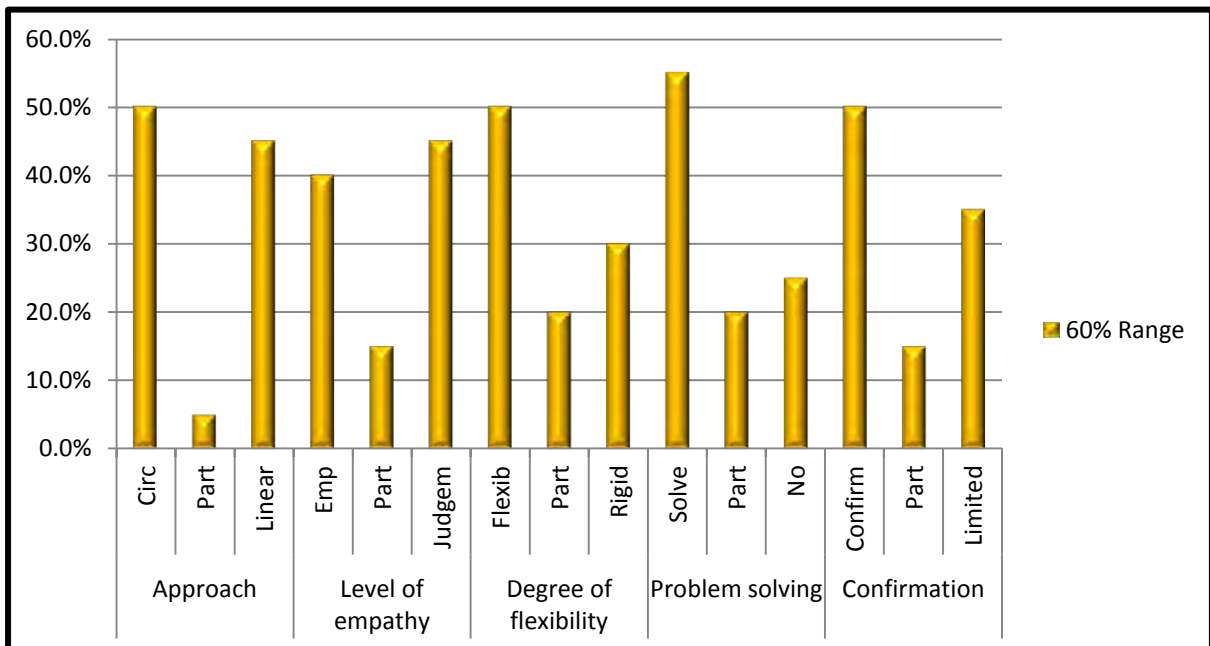

Figure 4-17: IPA variables of supervisors with medium performing students

The findings indicate that students who obtained grades in the 60% range were supervised by supervisors who, according to the **IPA**, were -

> ➢ slightly more circular than linear in approach

> ➢ not predominantly empathetic

> ➢ more flexible than rigid in their expectations

> ➢ effective in solving problems

> ➢ confirming students to a reasonable degree

These findings were supported by the **students' experience** of these supervisors.

Only just acknowledging that they learned from their supervisors, medium performing students experienced their supervisors as

> ➢ authoritative (competent and able to solve problems)

- ➢ authoritarian (linear)

- ➢ giving corrective feedback (judgmental)

- ➢ giving limited positive feedback (limited confirmation)

- ➢ polite

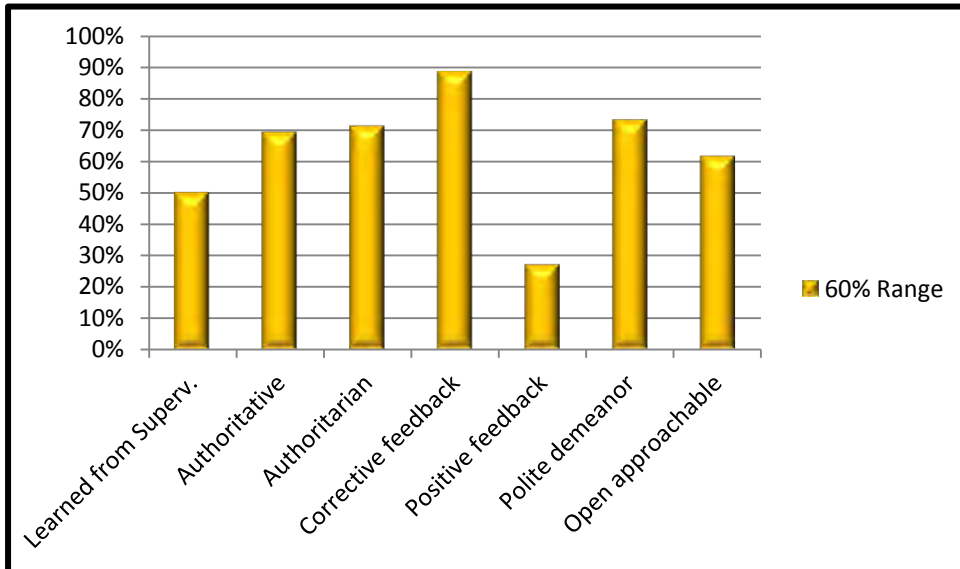- ➢ reasonably open and approachable

Figure 4-18: Supervisors as described by medium performing students

From the **personal comments of the supervisors** in the interviews and focus groups it was confirmed that they were authoritarian in that they came across as more commanding than recommending.
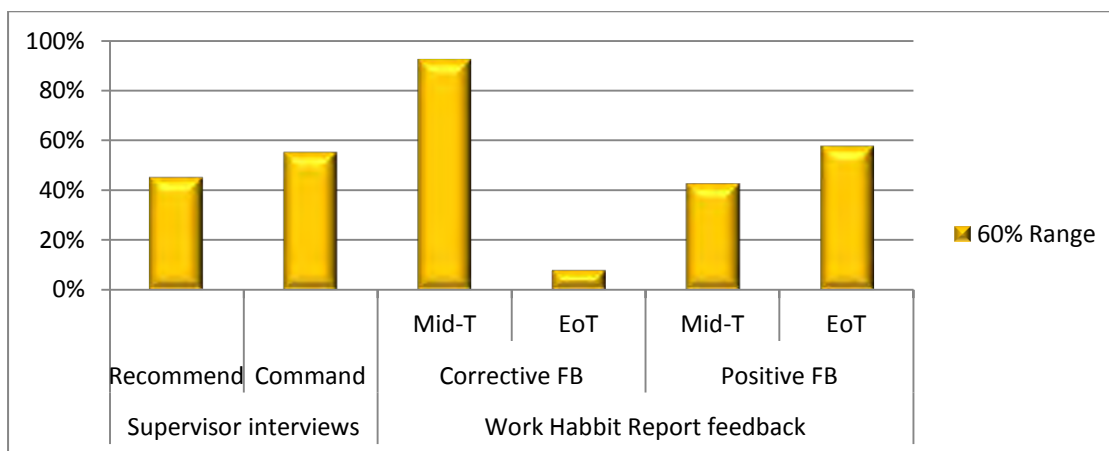

Figure 4-19: Supervisors of medium performing students - interpersonal profile from interviews, focus groups and Work Habits Report feedback

From **comments in the WHR** it would seem that supervisors tended to be highly corrective during the training but were much less severe in their final report.

From the **EoT** grades received by the medium performance students in their WHR, which was on average only 4% higher than their practical exam performance, it would seem that supervisors of this group tended to be realistic and fairly positive towards the students.

To exemplify the above with a practical example, the inputs from the various sources for Supervisor H (whose interpersonal communication profile matches the weighted average group profile in all respects) are given below.

Example

Participant H

IPA with comments from the psychologist

Good problem-solving skills since she is comfortable in her dealings with challenges.

She is circular in her approach to students as she is aware of her impact on others.

Level of empathy – she does not judge and understands students' experiences.

She is flexible - she deals with problems in a calm yet structured and effective manner.

Gives some confirmation as she communicates her understanding.

Student's experience

"... die spesifieke terapeut ... ek het baie by haar geleer ... uhm ... terwyl ... as sy ingesit het by my sessies en dan terugvoer gegee het was dit vir my die heel beste ... want dit was spesifiek ..." (Participant nn) [I learned a lot from her].

Supervisor's experience

"0ns moes heeltyd uitreik na hulle toe ... seker maak hulle is "alright" (Participant H) [We had to reach out to them to ... make sure they are alright].

Work Habits Report

Recommending

"Nice treatment ideas but can work more on grading appropriately" (Participant H).

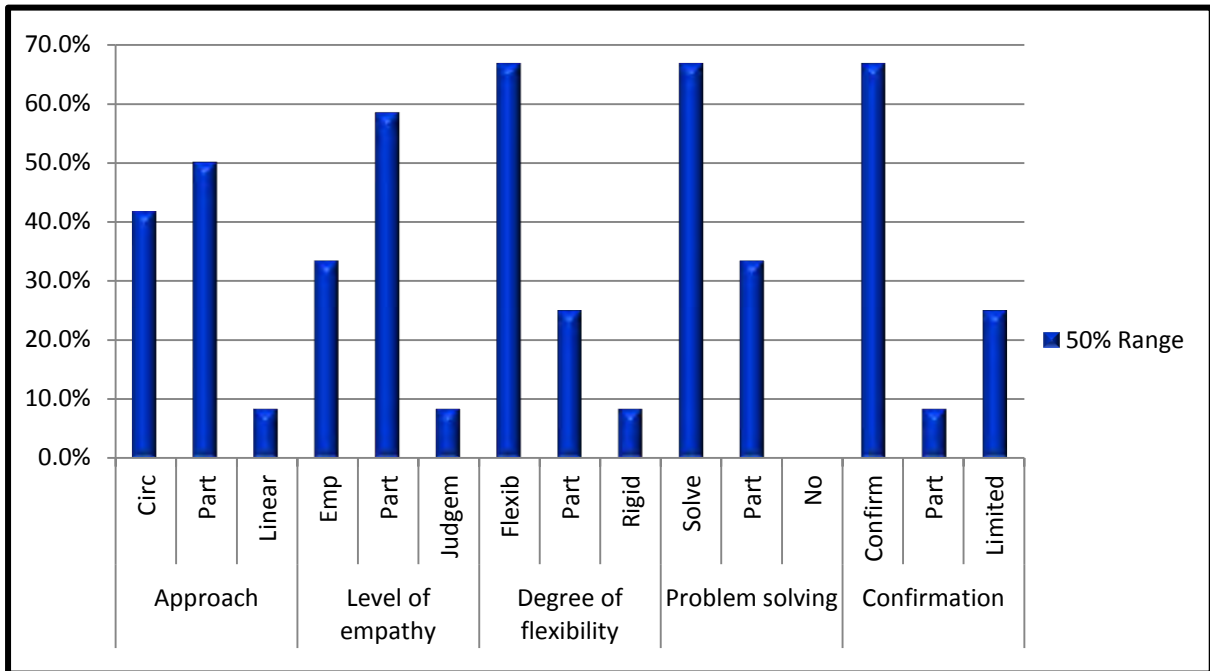### 4.10.3 Triangulation for profile of supervisors with low performing students

Figure 4-20: IPA variables of supervisors with low student performance

The findings indicate that students who obtained grades in the 50% range were supervised by supervisors who, according to the **IPA**, were -

- much more circular or partly so than linear in approach

- predominantly empathetic or partly so

- much more flexible than rigid in their expectations

- effective in solving problems

- confirming students to a high degree

These findings were supported by the **students' experience** of these supervisors.

Not acknowledging that they learned from their supervisors, low performing students experienced their supervisors as

- not authoritative

- limited authoritarian (circular)

> ➢ giving little corrective feedback (empathetic)

> ➢ giving lots of positive feedback (confirming)
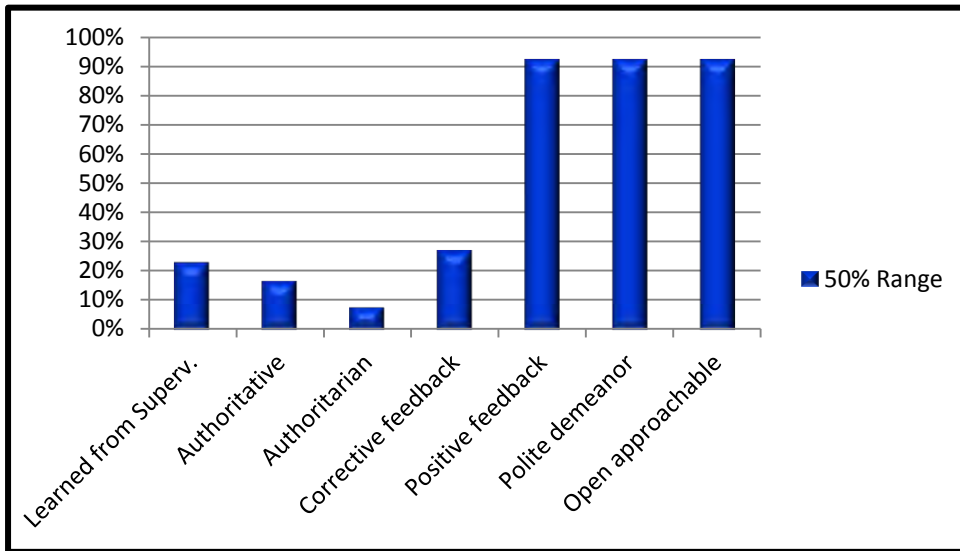
> ➢ very polite

> ➢ very open and approachable

Figure 4-21: Supervisors as described by low performing students

The **personal comments of the supervisors** in the interviews and focus groups confirmed that they were not authoritarian but rather empathetic and circular in that they came across as recommending rather than commanding.
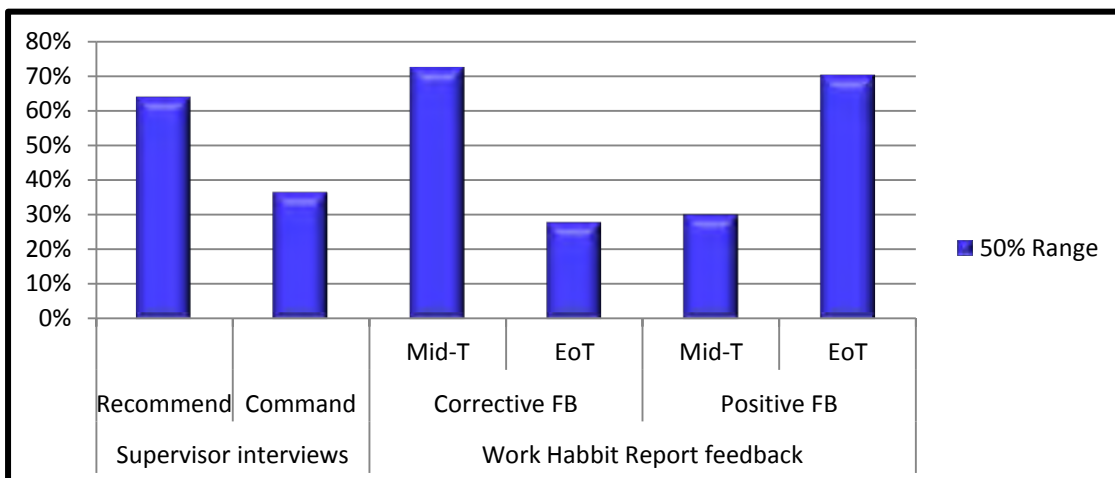

Figure 4-22: Supervisors of low performing students - interpersonal profile from interviews, focus groups and WHR feedback

From **comments in the WHR** it would seem that supervisors tended to be predominantly corrective during the training but were much less severe in their final report. They were also quite positive in their final assessment.

From the **EoT** grades received by the low performance students in their WHR, which was on average 22% higher than their practical exam performance, it would seem that the supervisors of this group tended to be highly positive about their own ability.

To exemplify the above with a practical example, the inputs from the various sources for Participant N (whose interpersonal communication profile matches the weighted average group profile in all respects) are given below.

Example

Participant N

IPA with comments from the psychologist

Partial linear - she can be perceived as direct but she does exhibit an awareness of interactional principles

 Partial empathy, but not cold or judgmental

She is flexible, but professionally so.

Control - she is direct, firm and clear which keeps her in control.

Gives - She may sometimes be too direct, coming over too strong

Students' experience

I didn't find that they actually, I actually did expect to get more supervision from the therapists there, and uhm ... jaa…I think… I didn't expect … because especially in the beginning I expected more input from the therapist

… I didn't quite get what I needed.

In terms of the theory no, because I found that everone had a difference … every one uses different approaches and everyone had different versions of what one should do in terms of the NDT approach I expected to learn a bit more I didn't learn it uhm … very much uhm … but ja so ja [laughed] ja I didn't, … I felt I needed more practical experience" (Participant j).

Supervisor's experience

"Wel ... uhm ... ek is baie positief oor hierdie groep student ... veral aanvanklik het ons verskriklik baie terugvoer gehad vir hierdie groep student ... hulle het regtig terugvoer baie waardeer en goed daarop gereageer ... ... ek het regtig gevoel hulle gebruik ons terugvoer ... dit het vir my dit uhm ... positief gemaak om vir hulle terugvoer te gee " (Participant N).

Work Habits Report

Recommending

"Although self-assertiveness is satisfactory there is room for improvement" (Participant N).

4.11 Characterisation and discussion of the most effective supervisory profile

In the above triangulation of the data generated and analysed from the IPA, focus groups, one-on-one interviews, of both students and supervisors and the WHR relative to the grades students obtained in their final practical exam in the physical field, the supervisory profile which emerged as most effective in terms of student performance is depicted in Table 4-20: Profile of effective supervisors.

Table 4-20: Profile of effective supervisors

Theme	Sub-theme*	Category
Supervisors' level of competency	Clinical reasoning skills	Authoritative - Deep understanding of content. Effective problem solving skills.
	Teaching skills	Facilitates knowledge transfer and learning.
Supervisors' interpersonal communication	Demeanour	Polite - respects and treats student with dignity.
	Approachability	Open and approachable within reason.
	Communication style	Authoritarian / Commanding.
	Approach	Linear.
	Degree of flexibility	Rigid.
	Level of empathy	Limited empathy.
	Confirmation	Limited confirmation.
	Feedback	Critical & corrective (standard-driven), limited positive.
Supervisors' impact on students' clinical reasoning skills	Learning from supervisor.	Clinical reasoning ability enhanced
	Respect for supervisor.	Supervisor perceived as authoritative and worth imitating.
* Note that the themes used in the generation and analyses of data from the various sources that were investigated are now defined as sub-themes in order to put the full picture in context.		

This profile, which would seem to be somewhat at odds with conventional wisdom and contrary to findings in available literature, will now be discussed in more detail.

4.11.1 Supervisor's level of competency

From the results it would seem that supervisors need to be competent in two discrete areas to be effective. First of all, the supervisors should be well versed (authoritative) in the content and process of clinical reasoning and secondly, they should possess the necessary teaching skills to ensure transfer of knowledge.

i. Authoritative in respect of clinical reasoning skills

Supervisors of students who obtained grades in the 70% range were perceived by them as authoritative in their field of practice. Those perceived as professionally authoritative (experts in the modes of clinical reasoning as well as critical and creative in their thinking process) naturally expected students to embrace the same high standards. This finding is in line with the findings of Cristie et al. (1985b) who indicated that effective supervisors are competent and skilled clinicians (Richard, 2008; Hummell, 1997; Christie, Joyce, & Moeller, 1985b).

A causal argument can therefore be made for the competent supervisors having more to offer their students by setting high standards for them, (Mason, 2002), and who, in return (if they have the necessary respect for their supervisors' professional ability), will feel obliged to live up to those high standards.

ii. Teaching skills – facilitation of experiential learning

From the findings and results it is clear that effective supervisors tended to demonstrate patient assessments and treatment first before expecting the students to do it themselves. Once the students were allowed to perform these they would then critique their performances during feedback sessions though not always in a complimentary way. First of all in the written work and then while the students are practising. This teaching approach is in line with the approach as suggested by Barr (1987).

These supervisors would critique the students' performances during feedback sessions

In the focus groups and one-on-one interviews the high performing students often declare "I learned much from her", or words to that effect, about their supervisors. Although they were not keen on the authoritarian style, often displayed by their supervisors, it is clear that the more effective supervisors nevertheless engaged the students actively in a learning process. Authoritative supervisors challenged and guided students to develop their clinical reasoning skills. Although the argument supporting this phenomenon can be described as developmental or mechanical, there is again a strong causal element present.

For students to be creative and critical in their application of clinical reasoning skills they would supervisors who would set an example as a model setting participant, but who would also "convey technical expertise and theoretical knowledge" (Yalom, 2005, p. 548) while facilitating experiential learning. Those students would besides imitating their supervisors also strive to gain their approval by working harder (Yalom, 2005). Supervisors are meant to act as teachers (Chur-Hansen & McLean, 2006) an idea that was already put forward centuries ago by Plato who stated that. "... because the goal of education is to teach the pupil to apprehend the truth himself, does not mean that he is simply to be left alone ..." (Wild, 1946, p. 69). He was also of the opinion that it is imperative to have well developed plans for education when he asserts that students should know what they are doing and why they are doing it. Without proper guidance the students "will be like sailors on a ship, without any pilot, sailing off on a voyage without any well-conceived plan". (Wild, 1946, p. 72).

The clinical supervisor should thus equip the student to practice sound clinical reasoning by imparting knowledge through discussions, demonstrations, observation of the student's skills and by reflective practice. The supervisor must therefore be able to give an account of what they are doing and why they're doing it.

4.11.2   Supervisor's interpersonal communication with student

The general relationship between supervisor and high performing student could best be described as complementary.

i.   Demeanour

This was measured by determining whether the students experienced their supervisors as being polite during the M-T and EoT feedback sessions. Although students in this group did not perceive their supervisors as empathetic, they did experience them as polite and professional in their dealings with them. This finding is in accordance with Hummell's (1997) where students perceived effective supervisors as behaving in a professional manner.

ii.   Approachability

Students in this group experienced their supervisors as open and approachable within reason. It can be argued that supervisors of high performing students were confident in their work, and saw this as an opportunity for the transfer of knowledge.

iii.   Communication style

The vast majority of students in the high performing group experienced their supervisors as authoritarian, and in their comments on the WHRs those supervisors themselves, came across as commanding.

iv.   Approach

The IPA of supervisors of high performing students also indicated that they were highly linear in their approach which was in complete agreement with the view of those students who experienced them as authoritarian. These supervisors were in control, they led and the students followed.

An argument can be made for the competent supervisor knowing what will work and what not, having already gone through the clinical reasoning process in respect of a specific patient and having neither the inclination nor the time, because of a high work load, she does not want to get into a circular discussion with the student. She sees the student as being there to learn and takes the shortest route to impart her knowledge - with good results as can be seen from their final grades.

v. Degree of flexibility

Supervisors of high performing students tended to be significantly more rigid according to the IPA than those of low performing students.

The effective supervisor is norm orientated, expecting results and being standard driven. She knows what will work best for a specific patient, has confidence in her own judgment and is not willing to be flexible about it. The patient's well-being is her first priority and the emotional well-being of the student secondary.

This rigidity might lessen the ambiguity that often occurs in the application of clinical reasoning in the field (Gutman, McCreedy, & Heisler, 1998).

vi. Level of empathy

Supervisors of high performing students were found in the IPA to be highly judgmental.

The first priority of a competent supervisor is the well-being of the patient and she sees the student as being there to learn. As far as the learning is concerned her goal is therefore to impart the required knowledge in the limited time available. The most effective way of achieving this is to involve the student in the clinical reasoning process and then tell her outright what she is doing wrong, the emotional impact of this on the student is not necessarily a high priority for her and though certainly uncomfortable for the students, based however on their performance in the final exam, this approach would seem to be effective. In contrast, a very empathetic attitude towards the students would seem to reduce the pressure on them to perform.

vii. Confirmation

Supervisors of high performing students gave some confirmation but noticeably less so than supervisors of low performing students.

viii. Feedback

High performing students rated their supervisors high ($\approx$90%) on corrective feedback and low (19%) on positive feedback. The supervisors on the other hand, based on their written comments in the WHRs, tended to be highly corrective in their

comments at M-T but substantially less so at EoT. However, ultimately it is how the student experiences the supervisor's feedback that would impact most on her performance and the picture as far as that is concerned is unambiguous.

Arguments that can be put forward to explain the WHR results include the following:

The WHR comments were in writing and often a joint effort of the supervisors at a particular hospital. They should therefore be expected to be more agreeable in nature.

No supervisor would be easily more critical at the EoT than at M-T as this would indicate that the student had not progressed at all under her tutelage.

An argument can be put forward that the corrective feedback given by the effective supervisor can only improve the student's clinical reasoning skills.

4.11.3   Supervisor's impact on student

The effect the supervisor has on the behaviour of the student, and ultimately whether this enhances the students' clinical reasoning skills, is determined by whether she is respected and perceived as a role model worth imitating and to what extent the student actually benefits by learning from her supervisor.

i.   Learning from the supervisor

High performing students generally felt that they learned much from their supervisors. It can be argued that the higher performing students benefited from having a supervisor that demonstrated the clinical reasoning process competently, set high standards and gave clear direction, albeit in a rather authoritarian or commanding manner characterised by being linear and rigid. The effective supervisor is furthermore not strong on empathy and confirmation but rather prefers to give unambiguous critical and corrective feedback.

ii   Respect for supervisor and seeing her as a role model

Supervisors of high performing students were clearly perceived as being authoritative in stark contrast to supervisors of low performing students.

In the majority of cases the supervisor is usually looked upon as the expert and role model. Whether this perception remains depends on the supervisor's conduct. If the supervisor's behaviour reflects respect for the student, and a concern for his/her progress, the feedback to the student will be reinforcing. If the student on the other hand does not regard the supervisor's opinion, the feedback received will lose some of its reinforcing value.

The following five elements of respect are suggested by Egan (2002): Do no harm, be competent, be committed, help (students) place demands on themselves, and assume that (students) want to work more effectively.

4.11.4   Summary

The more effective supervisors, in addition to being professionally competent and good teachers, polite, fairly open and approachable, were also quite authoritarian in terms of setting standards, giving clear instructions, expecting a clearly defined level of performance which was not negotiable and were not averse to correct or criticise. They were furthermore not very empathetic towards the students, gave only limited confirmation and little positive feedback and kept a professional distance.

This is in contrast to the literature. Research conducted by Christie, Joyce and Moeller on American occupational therapy students and fieldwork supervisors found that effective supervisors have excellent interpersonal communication skills, such as flexibility and adaptability to meet the individual needs of their students (Mulholland & Derdall, 2005; Christie, Joyce, & Moeller, 1985b). Hummel (1997) who, at an Australian university, researched the first to fourth year students' perceptions of an effective occupational therapy fieldwork supervisor, found similar results in the way the students experienced their supervisors' interpersonal communication skills. The results also indicated that students valued supervisors who were approachable, flexible, showed empathy and respect, listened to their opinions and ideas, took an interest in them, and were sensitive to each student as an individual (Hummell, 1997). Kumbuzi et al. (2009) found in Zimbabwe that students described effective supervisors as flexible, empathetic, circular, friendly and giving a lot of confirmation and positive feedback. This dichotomy will be discussed in more detail in Chapter 5.

4.12 Characterisation and discussion of the least effective supervisor profile

In the triangulation of the data generated and analysed from the IPA, focus groups, one-on-one interviews, of both students and supervisors and the WHR relative to the grades students obtained in their final practical exam in the physical field, the supervisory profile which emerged as least effective in terms of student performance is depicted in Table 4-21: Profile of least effective supervisor.

Table 4-21: Profile of least effective supervisor

Theme	Sub-theme*	Category
Supervisors' level of competency	Clinical reasoning skills	Not seen as Authoritative Good problem solving skills
	Teaching skills	Limited
Supervisors' interpersonal communication	Demeanour	Polite - respects and treats student with dignity
	Approachability	Open and approachable.
	Communication style	Liassez-Faire
	Approach	Circular
	Degree of flexibility	Flexible
	Level of empathy	Empathetic.
	Confirmation	Gives confirmation.
	Feedback	Gives predominently positive feedback
Supervisors' impact on students' clinical reasoning skills	Learning from supervisor.	Limited learning takes place
	Respect for supervisor.	Supervisor not seen as Authoritative and worth imitating
*It needs to be pointed out that the themes used in the generation and analyses of data from the various sources investigated are now defined as sub-themes in order to put the full picture in context.		

This profile will now be discussed in more detail using the same format as in 4.11.

4.12.1 Supervisors' level of competency

i. Authoritative in respect of clinical reasoning skills

The supervisors of low performing students were not seen by the latter as being authoritative at all. Although not analysed in detail, it was clear that these supervisors on average had less clinical experience than those of the high performing student group.

ii. Teaching skills – facilitation of experiential learning

The students in this group felt they missed out on learning opportunities as they were not able to observe their supervisor's treatment sessions and they perceived their supervisors as not always being able to answer their questions and giving limited and ambiguous feedback on their practical performance. The students also commented that supervisors were not experienced in handling students.

4.12.2 Supervisors' interpersonal communication with student

i. Demeanour

No discernable differences in the demeanor of supervisors of high and low performing student groups were found, while the supervisors of medium performing students were rated almost 20% lower. It can be argued that this discrepancy points to a different dynamic coming into play in the high rating for the supervisors of low performing students. Given the lower competence of these supervisors it could very well be that they were less confident and therefore more polite in their dealings with students.

ii. Approachability

Supervisors of the low performing students were experienced by these students as very open and approachable to the extent where some students saw them as friends to discuss things with, not necessarily work related.

iii. Communication style

Supervisors of low performing students acting more as colleagues and friends (parallel relationship) of the students which could occasion not much learning taking place. A parallel relationship often has a negative impact on giving formative feedback to students as was the case with participants h,hh, j and jj. Barr (1987, p. 319) states in this regard "... when it comes to feedback on her (student's) work performance, they (supervisors) find it difficult to discuss something which they feel she will not want to hear".

iv. Approach

The supervisors of low performing students were for the most part circular in their approach to the students. In the majority of cases they were aware of the impact they had on students which could have prompted a parallel relationship.

In a parallel relationship, on the whole characterised by a laissez-faire attitude by the supervisor, the latter abdicates the running of the Department to the student thus taking a load off her shoulders. The students are seen as a big help which was the case with supervisors L, M, N, Q and to some extent C and CC. In such a situation the student can expect only limited critical feedback.

v. Degree of flexibility

The less effective but flexible supervisor however, will give recognition for effort rather than end product and tends to relax expectations. She might put the students' feelings before the patient's well-being. There is also the possibility that she does not possess the required knowledge, is herself uncertain, and therefore quite willing to let the student proceed with her own ideas, even if they are not optimal. Unfortunately, if this is the case, the student is not going to learn much.

vi. Level of empathy

Supervisors of this group of students were perceived as empathic as they understood and could identify with the students' position and frustrations.

Literature on the conscious use of self in teaching students clinical reasoning skills, among other things, refers to good teaching as "the ability of the teacher to have the

"capacity for connectedness" (Palmer, 1998, p. 11) with the student ... which requires the ability to emphasis with the demands of the student role" (Haertl, 2008, p. 125)

In a four year longitudinal survey from 2004 to 2007 conducted by Kumbuzi, et al. in Zimbabwe with 108 occupational and physiotherapy students on their perception of fieldwork supervision it was found that occupational therapy students experienced effective supervisors as encouraging and supportive both on a social and an emotional level (Kumbuzi, Chinhengo, & Kagseke, 2009).

vii.   Confirmation

According to their IPAs these supervisors were fairly high in giving confirmation as could be expected given their propensity for positive feedback discussed below.

viii.   Feedback

These supervisors tended to give little corrective but ample positive feedback according to their students. Based on their written comments in the WHRs, their supervisors tended to be highly corrective in their comments at M-T but substantially less so at EoT. However, ultimately it is how the student experiences the supervisor's feedback that would impact most on her performance and the picture as far as that is concerned is unambiguous.

It was found that students who did not receive corrective feedback, and who were left to their own devices, didn't know how to improve and therefore had to learn by themselves, often through trial and error.

Learning by means of trial and error causes problems on various levels as a result of this.

➢ First of all, the supervisor does not abide by the ethical principle of beneficence.

➢ Secondly, students don't know how to improve if they are not aware of the mistakes they are making. Constructive meaningful feedback should be given to facilitate students' clinical reasoning and professional development.

> Thirdly, leaving students to work independently without following the proposed teaching stages (Barr, 1987) is misleading, because the students will then often follow their instincts instead of applying clinical reasoning skills.

> Finally, for teaching to be valid and reliable students need supervisors who can give specific feedback based on objective data that is justifiable (marking rubric). Vague feedback place students in a no-man's land doubting their strengths as well as areas to be improved upon.

It would seem that the ability of supervisors to pass on constructive feedback is often founded on their inner strength. "Insecure people often mistrust their own instincts. They are worried about not having the knowledge or experience to make a correct judgment" (Hagemann, 1992, p. 54)

Kumbuzi et al. in their research on *Perceptions of physiotherapy and occupational therapy students' supervision of field attachment in Zimbabwe* found that supervisors tend to overrate student performance as they fear low grades given to students may reflect their own inadequacies (Kumbuzi, Chinhengo, & Kagseke, 2009).

4.12.3 Supervisors' impact on student

i. Learning from the supervisor

This profile of less effective supervisors is based on the clinical reasoning ability of the students exposed to these supervisors in their practical fieldwork. As such the premise that they had not learnt as much as they could have is already included.

ii. Respect for supervisor and seeing her as a role model

Students perceived these supervisors as "not always competent" and by extension therefore not worth imitating.

4.12.4 Summary

The low performing students were exposed to supervisors who were perceived to be less competent, who displayed a laissez-faire style and who were generally high in flexibility, empathy, confirmation and positive feedback.

Again, as elaborated on in 4.11.4, this is not quite what was expected based on the available literature where the qualities of flexibility, empathy, confirmation and positive feedback are rated high as requirements for good supervision.