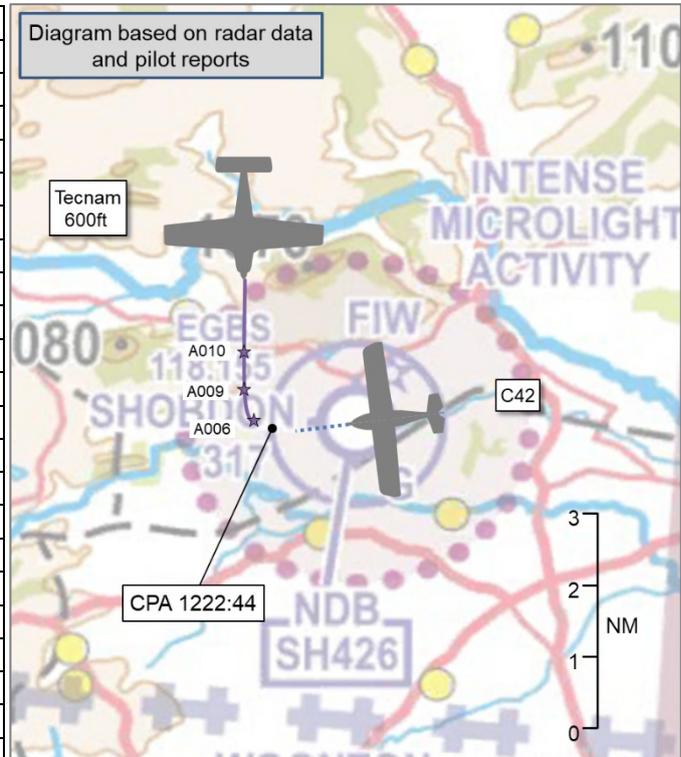


AIRPROX REPORT No 2021199

Date: 15 Sep 2021 Time: 1222Z Position: 5214N 00252W Location: Shobdon

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	C42	Tecnam Sierra
Operator	Civ FW	Civ FW
Airspace	Shobdon ATZ	Shobdon ATZ
Class	G	G
Rules	VFR	VFR
Service	AFIS	AFIS
Provider	Shobdon	Shobdon
Altitude/FL	NK	600ft
Transponder	Not fitted	A, C, S
Reported		
Colours	White	White
Lighting	NR	Strobe
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	~400ft	~1000ft
Altimeter	QFE	QFE
Heading	260°	180°
Speed	65-70kt	80kt
ACAS/TAS	Not fitted	PilotAware
Alert	N/A	None
Separation at CPA		
Reported	300ft V/400m H	NK
Recorded	NK	



THE C42 PILOT reports that at approximately 1330 local time they were circuit training with a fixed wing student, performing touch and go's on RW26 left hand. They were flying a white Ikarus C42 microlight. The weather was good with good visibility. On their third to last circuit they were aware that the pilot of [Tecnam C/S] was approaching from the north and had requested a crosswind join for RW26. Throughout their approach, touch and go and climb-out, they kept a good lookout for the aircraft they anticipated seeing moving right to left joining crosswind at 1000ft. At 400ft on climb-out they caught sight of the aircraft turning left directly towards them at approximately 600ft. The pilot appeared to have turned final for RW08. They pressed the PTT button and said along the lines of "I have visual, the aircraft is coming towards us." They said this to warn the FISO and pilot in the converging aircraft. They briefly took control of the C42 and turned right 20° to avoid a potential collision. The pilot of the converging aircraft, announced over the radio "I'm sorry I've got disorientated" or something similar and then the pilot turned to their right. The C42 pilot delayed turning crosswind until they could see the aircraft climbing away from the circuit. They continued to fly two more circuits on RW26, aware that the pilot of [Tecnam C/S] had announced they were going to re-join overhead. They observed the Tecnam join overhead, however it descended incorrectly and didn't appear to fly the correct main circuit pattern.

After the Tecnam had landed they flew one more circuit and landed. They heard the FISO ask the pilot of [Tecnam C/S] to come to the tower after landing. After they landed the other pilot came over to apologise for their confusion. They claimed it was their first time at Shobdon and they got disorientated. They also claimed they did not like overhead joins because, in their words, "that's where all the aircraft congregate". The C42 Instructor took the opportunity to stress the importance of the standard overhead join, particularly at an unfamiliar airfield. They gave the other pilot a short lesson on the whiteboard, showing them how to approach for a standard overhead join, and the benefits of this procedure. They advised on the importance of planning, reading airfield plates and preparing routes and joining procedures. The other pilot was clearly embarrassed at their mistake and offered to reimburse the student's lesson fee. The C42 Instructor said that would not be necessary.

The pilot assessed the risk of collision as 'High'.

THE TECNAM SIERRA PILOT reports that they were on a recreational GA flight to Shobdon for a lunch stop. This was their first visit to Shobdon and the flight was uneventful, except for being quite busy, with several other aircraft in the vicinity. Visibility was good. They were approaching the Shobdon ATZ from the north, and contacted Shobdon Information on 118.155MHz approximately 10NM out. They were informed of the runway in use and QFE, and stated their intention to join the circuit crosswind for RW26. The FISO asked them to report deadside – they replied that, as they were joining crosswind, they wouldn't be deadside. They were aware at this point that there were other aircraft in the circuit. During the transit, they had reduced their altitude, so that they would be at Shobdon circuit height as they entered the ATZ. They were a bit distracted as they approached the ATZ, from the north, as they weren't expecting the ground to be as high as it was, and they were also aware that could well be gliders operating near the slopes. They increased height and were somewhat focussed on terrain avoidance, whilst also looking for the airfield. As they didn't have visual contact with the airfield on the approach to the ATZ, they had aligned their track with the crosswind circuit on Skydemon, which was some way out from the airfield, due to the wide circuit that Shobdon publishes. They had intended to join crosswind, in a way similar to the later stage of an overhead join, in that they meant to cross the 08 end of RW26 at 1000ft agl. Their earlier distraction and late visual sighting of the airfield led them to follow the circuit outline on Skydemon, meaning they were further west from the 08 threshold than they had fixed in mind. They then compounded the cognitive failure and jumped to thinking they were on the base-leg of the runway. They started to turn towards the RW08 threshold and called final. They then spotted the C42 on climb out from RW26, as the other pilot also spotted them and heard the radio call. They immediately turned to right and headed south, to avoid the C42. They continued south until they had left the ATZ, climbed to 1800ft agl and re-joined the circuit overhead. They then started a left turn to position to cross the RW26 threshold at 1800ft, to begin the deadside descent, to join the RW26 circuit at 1000ft. At the time of the incident, once they spotted the C42 they immediately took avoiding action, stopping their left turn and turning right, so the aircraft was behind and left of them. Their focus was then ahead and they couldn't accurately recall distances or relative heights. The FISO asked them to go the tower after landing and they discussed the incident. At that time the FISO was unsure whether an Airprox would be submitted, so they waited for notification. They also approached the instructor PIC of the C42 and discussed the incident with them. The Tecnam pilot opined that incident was caused primarily by their own loss of situational awareness and their cognitive failure on the approach to the ATZ. They also had not considered the possible drawbacks of joining the circuit on the crosswind leg, when there were other aircraft in the circuit; however, had they not had the lapse of SA on the approach, they would have crossed RW08 over the threshold, flying south, at 1000ft agl and then joined the wide downwind leg, which would have given adequate separation. They understood that a standard overhead join would be preferable at an unfamiliar field. They discussed this with the C42 PIC at the time and agreed that an overhead join would have been the correct approach and would have also made their approach to the airfield higher, removing the terrain distraction. As with any cognitive failure, it is difficult to understand, after the event, why they made the assumptions and mental connections that they did in this situation. They noted that it was most definitely an incident that will focus their mind on planning and choice of approaches in the future.

The pilot assessed the risk of collision as 'Medium'.

THE SHOBDON FISO reports that RW26 was in use with a left-hand circuit. A C42 was flying circuits and a Cessna 152 was inbound from the south. The pilot of [Tecnam C/S] called from the north for joining information. Their intention was to join via the crosswind leg, so the FISO advised them of circuit traffic and asked them to report 1NM to run to crosswind. [Tecnam C/S] reported left-base, the positions of the other circuit traffic were a Cessna 152 downwind and a C42 upwind. The C42 pilot called to say the Tecnam was now flying towards them. Looking at the upwind end the controller could see the C42 on the climb-out and the Tecnam turning in from the crosswind leg towards the climb-out from RW26. Both pilots took evading action, the Tecnam left the circuit to the south and re-joined. The FISO interviewed the pilot, they said they had not flown into Shobdon before.

Factual Background

The weather at Shawbury was recorded as follows:

METAR EGOS 151220Z 23004KT 9999 SCT023 18/12 Q1015 BECMG SCT025 RMK WHT BECMG BLU=

Analysis and Investigation

CAA ATSI

The C42 was flying right-hand circuits to the grassed RW26 located to the north of, and parallel with, the main runway. The Tecnam Sierra (SIRA) was on a recreational flight, inbound to Shobdon to land, (the first visit by this pilot to Shobdon).

At approximately¹ 1213:30 the pilot of the SIRA called Shobdon Information, advising that they were inbound from the north with 15 miles to run at 2200ft. The Shobdon AFISO passed the runway in use (26), the QNH and requested a call “5 miles to run”, which was readback correctly by the pilot.

Between then and 1218:40 the AFISO was occupied with the two aircraft conducting circuits, a C152 flying left-hand circuits to the main runway, the other, the C42, right-hand circuits to the grass runway.

At 1218:40 the pilot of the SIRA reported “5 miles to run for a left hand base er crosswind join for runway 26”.

The AFISO replied with the QFE and requested a report from the pilot as they descended on the dead-side to which the SIRA pilot replied: “I’m looking for crosswind join I’m not going to be dead-side”. The AFISO advised the pilot that “we do have erm two in the circuit so report 1 mile to run to the crosswind leg” which was acknowledged by the SIRA pilot.

The AFISO was then occupied with a previously departing aircraft leaving the frequency and the C42, the pilot of which had called on final approach to the RW26 grass. At 1220:35 the pilot of the SIRA reported “just entered the ATZ from the north”, to which the AFISO replied “roger, traffic is a C42 currently er performing a touch and go, will be climbing out shortly”.

The SIRA pilot acknowledged this and asked: “which runway are we on – are we on grass or hard?”. The AFISO replied “that traffic is using the grass runway”, to which the SIRA pilot responded “er roger. I’ll also use the grass” (Figure 1).

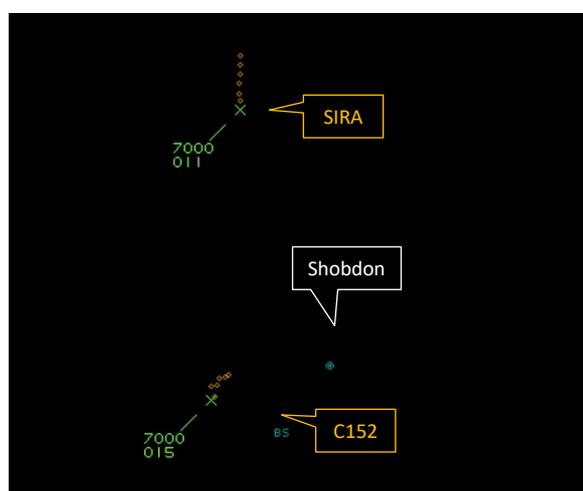


Figure 1 – 1220:35 – note C42 not visible on replay

¹ No accurate timecode available - there is currently no requirement for FISO units to record.

At 1221:05 the C152 pilot reported downwind left-hand for the main runway “to land” and was instructed to report final. At 1222:17 the SIRA pilot reported “one mile to run on left base Runway 26 grass to land”. The AFISO asked them to repeat their position before immediately passing Traffic Information to the C152: “er keep a good lookout for a Tecnam just reported left base” (Figure 2).

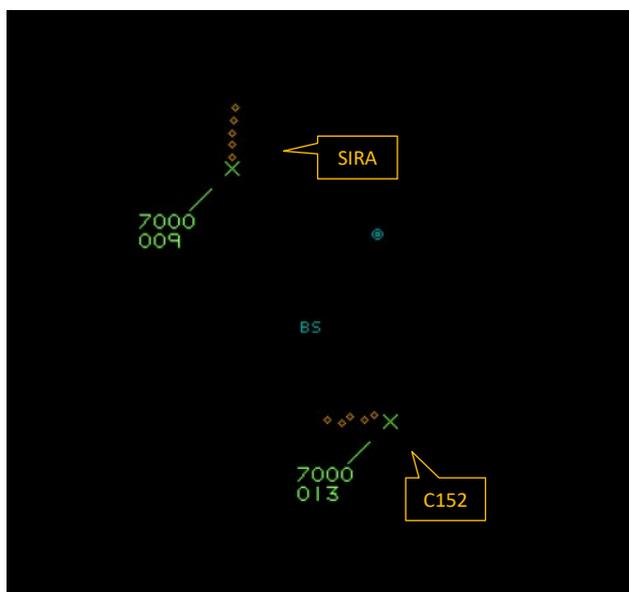


Figure 2 – 1222:17

The pilot of the C152 replied “we’re keeping a good lookout on left base. And er did that traffic, did they just say they were crosswind and then they’re now base is that correct?” which the AFISO confirmed. Immediately following this, at 1222:50, the pilot of the C42 reported “er the Tecnam is visual, he’s flying toward us” and the pilot of the SIRA replied “my apologies, misorientated – leaving the circuit to the south” (Figure 3).

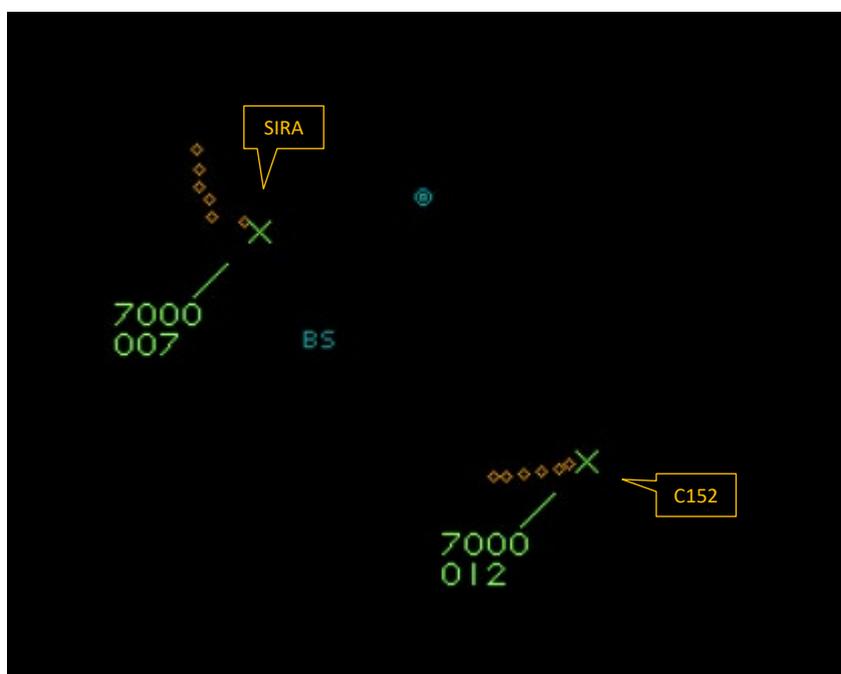


Figure 3 – 1222:50

ATSI reviewed the reports from both pilots and the AFISO, the Shobdon RTF, and the area radar replay. Although the SIRA and the C152 were both visible on the radar replay, the C42 was not.

The pilot of the C42 reported being aware of the presence of the SIRA inbound from the north and that it was positioning for a crosswind join left-hand for RW26. They reported *“Throughout our approach, touch and go, and climb-out, I kept a good lookout for the aircraft. I anticipated seeing moving right to left joining crosswind at 1000ft. At 400ft on climb out I caught sight of the aircraft turning left directly towards us at approximately 600ft. The pilot appeared to have turned final for runway 08”*.

The pilot of the SIRA admitted to having become disorientated and turning finals for RW08. They immediately spotted the C42 on the climb-out and turned away to the right.

The website for Shobdon Airfield does not specifically require arriving aircraft to join from the overhead. Had the pilot of the SIRA elected to do so rather than positioning directly for a crosswind join, it might have afforded them the opportunity to orientate themselves correctly.

Good Traffic Information was being passed by the AFISO to all aircraft, enhancing the situational awareness of the pilots of the C42 and C152, to the point where the pilot of the C42 saw the SIRA in roughly the place they were expecting it, although not necessarily flying towards them.

Based on good position reports by the pilots, supported by timely and appropriate Traffic Information from the AFISO, the pilots of both aircraft were able to visually acquire each other and take action so as to avoid the risk of collision.

UKAB Secretariat

The C42 and Tecnam pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard.² An aircraft operated on or in the vicinity of an aerodrome shall conform with or avoid the pattern of traffic formed by other aircraft in operation.³

Summary

An Airprox was reported when a C42 and a Tecnam flew into proximity in the Shobdon visual circuit at 1222Z on Wednesday 15th September 2021. Both pilots were operating under VFR in VMC, both were in receipt of an AFIS from Shobdon.

PART B: SUMMARY OF THE BOARD’S DISCUSSIONS

Information available consisted of reports from both pilots, radar photographs/video recordings and a reports from the AFISO involved. Relevant contributory factors mentioned during the Board’s discussions are highlighted within the text in bold, with the numbers referring to the Contributory Factors table displayed in Part C.

The Board first looked at the actions of the C42 pilot. They were operating in the circuit and were aware that the Tecnam was joining crosswind, but were not expecting to see it joining for the opposite direction circuit (**CF8**). As they climbed out from RW26 they saw the Tecnam turning towards them as it positioned on base-leg for RW08. The instructor was able to take avoiding action and call an alert on the RT and their actions prevented the situation from deteriorating further (**CF11**). Members commended the pilot for taking the time to explain the merits of the overhead join to the Tecnam pilot after the event.

Turning to the Tecnam pilot, members were appreciative of the pilot’s frank and honest report which highlighted how human factors played an important role when mistakes were made. Nevertheless, they noted that to mitigate against such mistakes pilots should aim to plan thoroughly prior to any flight, but especially when flying to an unfamiliar airfield (**CF7**). Members noted that there was plenty of information available to pilots to ensure detailed flight planning prior to flight and they cautioned against

² (UK) SERA.3205 Proximity.

³ (UK) SERA.3225 Operation on and in the Vicinity of an Aerodrome.

relying on using planning Apps on devices when flying, as this could become a distraction. In this case, as identified by the pilot, they thought the Tecnam pilot would have been better served conducting an overhead join as this would have allowed the pilot to take the time to assess the circuit traffic prior to joining the circuit and would have avoided the problem of the high terrain completely (CF5). Having elected to conduct a cross-wind join, the Tecnam pilot became distracted and proceeded to join on a base-leg to RW08 instead. Whilst conducting the join they made the normal base-leg call, but called base-leg to RW26 causing confusion to the AFISO and other pilots in the circuit (CF4). In joining as they did, the Tecnam pilot did not conform with the pattern of traffic in the circuit (CF3, CF6). The TAS on the Tecnam could not detect the C42 (CF9) and the Tecnam pilot did not see the C42 until the other pilot had taken avoiding action and called a warning on the RT (CF10).

Shobdon operates with an AFISO not an Air Traffic Controller, and as such the AFISO could not tell the Tecnam pilot how to join the circuit. Members noted that the FISO tried to hint that the Tecnam pilot should make an overhead join by asking them to report deadside, but that this was not taken up by the pilot. Once the Tecnam pilot made their incorrect call that they were on base, the FISO passed Traffic Information to the downwind circuit traffic that they thought it would affect. Unfortunately, because the call from the Tecnam pilot was incorrect, the Traffic Information provided to the circuit traffic was incorrect and the C42 pilot did not get any information as the FISO had not realised that the Tecnam pilot had joined for the incorrect runway (CF1). Controlling members noted that the FISO would have been looking for the Tecnam in the area that the pilot had called, in the opposite direction to where the aircraft actually was, and it was therefore understandable that they did not have full situational awareness (CF2).

When assessing the risk, members considered the reports of both pilots and the AFISO together with the radar derived information. Although the CPA could not be seen because the radar did not detect the C42, still members thought that the accounts from all parties were in accordance and described a situation where safety had been much reduced, but that the action by the C42 pilot had prevented the situation from deteriorating further (CF12); Risk Category B.

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2021199			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Ground Elements				
• Situational Awareness and Action				
1	Human Factors	• ANS Traffic Information Provision	Provision of ANS traffic information	TI not provided, inaccurate, inadequate, or late
2	Contextual	• Traffic Management Information Action	An event involving traffic management information actions	The ground element had only generic, late, no or inaccurate Situational Awareness
Flight Elements				
• Regulations, Processes, Procedures and Compliance				
3	Human Factors	• Use of policy/Procedures	Events involving the use of the relevant policy or procedures by flight crew	Regulations and/or procedures not complied with
• Tactical Planning and Execution				
4	Human Factors	• Accuracy of Communication	Events involving flight crew using inaccurate communication - wrong or incomplete information provided	Ineffective communication of intentions
5	Human Factors	• Action Performed Incorrectly	Events involving flight crew performing the selected action incorrectly	Incorrect or ineffective execution
6	Human Factors	• Monitoring of Environment	Events involving flight crew not to appropriately monitoring the environment	Did not avoid/conform with the pattern of traffic already formed

7	Human Factors	• Pre-flight briefing and flight preparation	An event involving incorrect, poor or insufficient pre-flight briefing	
• Situational Awareness of the Conflicting Aircraft and Action				
8	Contextual	• Situational Awareness and Sensory Events	Events involving a flight crew's awareness and perception of situations	Pilot had no, late, inaccurate or only generic, Situational Awareness
• Electronic Warning System Operation and Compliance				
9	Technical	• ACAS/TCAS System Failure	An event involving the system which provides information to determine aircraft position and is primarily independent of ground installations	Incompatible CWS equipment
• See and Avoid				
10	Human Factors	• Identification/Recognition	Events involving flight crew not fully identifying or recognising the reality of a situation	Late sighting by one or both pilots
11	Human Factors	• Perception of Visual Information	Events involving flight crew incorrectly perceiving a situation visually and then taking the wrong course of action or path of movement	Pilot was concerned by the proximity of the other aircraft
• Outcome Events				
12	Contextual	• Near Airborne Collision with Aircraft	An event involving a near collision by an aircraft with an aircraft, balloon, dirigible or other piloted air vehicles	

Degree of Risk: B.

Safety Barrier Assessment⁴

In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

Ground Elements:

Situational Awareness of the Confliction and Action were assessed as **ineffective** because the AFISO was not aware that the Tecnam was on base-leg for RW08.

Flight Elements:

Regulations, Processes, Procedures and Compliance were assessed as **ineffective** because the Tecnam pilot did not integrate with the established circuit traffic.

Tactical Planning and Execution was assessed as **ineffective** because the Tecnam pilot incorrectly executed their plan to join cross-wind and gave an incorrect call to the AFISO that they were left-base for RW26.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **partially effective** because the C42 pilot was not aware that the Tecnam had turned onto base-leg for RW08.

Electronic Warning System Operation and Compliance were assessed as **ineffective** because the EWS on the Tecnam was incompatible with the C42.

⁴ The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).

Airprox Barrier Assessment: 2021199		Outside Controlled Airspace					
Barrier	Provision	Application	Effectiveness				
			Barrier Weighting				
			0%	5%	10%	15%	20%
Ground Element	Regulations, Processes, Procedures and Compliance	✓	✓				
	Manning & Equipment	✓	✓				
	Situational Awareness of the Confliction & Action	✗	✗				
	Electronic Warning System Operation and Compliance	○	○				
Flight Element	Regulations, Processes, Procedures and Compliance	✓	✗				
	Tactical Planning and Execution	✓	✗				
	Situational Awareness of the Conflicting Aircraft & Action	!	✓				
	Electronic Warning System Operation and Compliance	✗	✓				
	See & Avoid	✓	✓				
Key:			Full	Partial	None	Not Present/Not Assessable	Not Used
Provision	✓	!	✗	○			
Application	✓	!	✗	○		○	
Effectiveness							